

Poster Abstracts

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ADVANCED PRACTICE

1 THE ROLE OF PALLIATIVE CARE IN PHASE 1 CLINICAL TRIAL PARTICIPANTS

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There are significant challenges associated with early integration of palliative care in the general oncology setting. Referrals to palliative care are often closer to death than to diagnosis. There is some hope that this pattern will shift as palliative care becomes more integrated into cancer care through initiatives from the IOM, NCCN, and other organizations. These organizations do not specifically address the population of patients enrolled of Phase 1 trials. The challenges of integration of research and clinical care are vast. The purpose of this abstract is to describe an innovative process to provide palliative care simultaneously with a phase one clinical trial. One way to help bridge the gap between research and clinical care is to incorporate Palliative Care Consultation into the enrollment process on a Phase 1 trial. It would take some burden away from the clinical investigator, potentially improve Quality of Life for patients, decrease costs associated with aggressive End of Life care, increase the number of trial participants who have advanced care planning discussions, and provide continuity after trial withdrawal thus decreasing the psychological distress experienced by patients and families near the end of life. Patients with dual enrollment in palliative care and phase 1 trials could live longer lives, remain on trials for longer, have higher rates of advance directive completion, and may be more likely to die comfortably at home. This concept improves the patient experience and the quality of care. Palliative Care consultation upon Phase 1 trial enrollment can could improve the quality of the research being conducted as well as improve Quality of Life for trial participants. Outcome metrics for this project include patient experience, increase in the use of palliative care simultaneously with clinical trials, and the number of patients who receive care concordant with their wishes. This abstract addresses some of the challenges associated with dual enrollment of patients in phase 1 trials and palliative care programs including the ethical and moral dilemmas associated with this critical juncture in the care continuum. This concept has not yet been explored or published and could contribute to the quality of life of phase 1 clinical trial

patients by integrating palliative care into their treatment regimen.

2 ONCOLOGY INFUSION ADVANCED PRACTICE PROVIDERS SUPPORTING PATIENT CARE NEEDS OF NON-ONCOLOGY INFUSION CENTERS

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Oncology ambulatory infusion Advanced Practice Providers (APPs) specialize in the management and stabilization of acute changes occurring in patients and serve as an excellent resource for physicians, APPs, nurses and patients. At Emory Healthcare there are three infusion centers at the Clifton Road Campus treating both Oncology and Non-Oncology patients. Historically there was only dedicated infusion APP support in the infusion center at Winship Cancer Institute of Emory University. In the nearby non-Oncology infusion centers the managing teams would address calls regarding acute patient needs in the infusion center while also managing busy clinic schedules. To improve patient safety and provide more support to the nurses for infusion related patient care needs, a new model was implemented. The role of the Non-Oncology infusion APP was developed and disseminated to the care teams and a monthly coverage calendar with APP contact information distributed. The specialty care teams continue primary management of the patients and the oncology infusion APPs provide expertise to manage real-time emergent needs of patients in the non-oncology infusion centers. The APP makes periodic rounds to the non-oncology infusion centers and is accessible via phone during business hours 8-6pm Mon-Friday to help triage a patient's symptoms during an infusion reaction. The APP is available to walk to the infusion suite, assess the patient and oversee the team response to a reaction and triage next plan of care. The APP manages the patient until the paramedic team arrives for transfer to the ER when needed and is able to determine if and when an infusion should be resumed after a mild reaction. The APP documents the care provided in the medical record and communicates with the patient's care team. The Oncology

APP also serves as an educational resource providing in-services on topics like safe drug handling. Some patients, rheumatology patients getting low dose methotrexate for example, require the nursing staff to be aware of safe drug handling when using hazardous drugs. The Oncology infusion APP serves as a source of clinical expertise providing real-time infusion reaction management and triage support for patients in the on-campus non-Oncology infusion centers. The creation of this new collaborative coverage model has led to increased patient safety and nurse support.

3 GENETICS COUNSELING: CREATING BREAKTHROUGHS FOR LEUKEMIA PATIENTS

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Genetics counseling is creating breakthroughs for Leukemia patients here at MD Anderson Cancer Center. The National Society of Genetics Counselors define genetics counseling as a way of helping people understand and adjust to the medical, psychological and familial implications of genetics contributions to their disease. Furthermore, by providing our patients with genetics counseling allow us to find out their family's medical history and carefully assess the chance of disease occurrences and reoccurrences. While providing counseling to our Leukemia patients, we seek to find information pertaining to the patient's family history or inheritance, perform specific test and give them available resources. During our assessments, we ask pertinent questions, for example; family medical history, childhood illnesses, if they bruise easily, any hair loss, early graying, childhood immunizations, frequent rashes, developmental delays, and early onset of menses. With our leukemia patients, we serve as their advocated and provide the patient and their families with valuable information that helps them as well as their families. Reasons for testing; identify history of genetic conditions, discuss chromosome abnormalities and identify gene mutations that have been passed down throughout the family. The benefits of genetic counseling for our Leukemia patients is to help identify specific gene mutations. It also provides a sense of relief from uncertainty and help people make informed decisions about managing their health. A positive result can help with early detection, disease prevention, and prompt treatment options. We perform a skin punch biopsies, which is used to identify or rule out a specific genetic or chromosomal conditions. In many cases genetics testing is used to confirm a diagnosis

when a particular condition is suspected based on the physical signs and symptoms. The risks, benefits, and alternatives of the procedure are explained to the patient, and the patient verbalized understanding, and at that point the patient signs consent. Our overall goal for Leukemia patients here at MD Anderson Cancer Center, is to help the patient and family determine if they need genetic testing, understand how genetics testing results can assist the healthcare team manage, prevent and reduce risk of cancer. In addition, we also provided the latest and greatest research that is helpful to patients and their families.

4 HARM REDUCTION: REFRAMING PERCEPTIONS AND INFORMING PRACTICES OF HEMATOLOGY/ONCOLOGY ADVANCE PRACTICE PROVIDERS

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Unfortunately, the oncology population is not excluded from the opioid epidemic—including issues with addiction, and prescription misuse and diversion. Patients may present with current or past history of addiction /abuse, and/or they develop these problems during treatment of their malignancy, both of which may interfere with achieving optimal outcomes. The purpose of this project was to reframe advance practice providers' (APPs) (nurse practitioners and physician assistants) perceptions on harm reduction strategies for addiction, including prescription misuse or diversion, in a hematology department at a large cancer hospital. An educational presentation was developed for APP's focusing on addiction, and reviewing harm reduction strategies, including risk assessment, recognition of "red flags", universal precautions and safe(r) prescribing practices to minimize risk. Oncology APPs are unprepared for confronting the opioid epidemic. Providing APPs with the necessary information will allow for the successful execution of a harm reduction program. They are in unique positions to implement these tactics in oncology, potentially improve outcomes for patients, families and communities. The opioid epidemic is spurring a public health approach involving a significant commitment of resources similar to the Acquired Immune Deficiency Syndrome (AIDS) epidemic. Success requires participation from all areas; Oncology must contribute to these efforts. Patients with addiction have two life-threatening illnesses, and their caregivers may also be at risk for diversion. Harm reduction is the public health perspective of

minimizing risk with the goal of decreasing negative consequences. It is not abstinence, nor is it actively treating the addiction. Addiction is a complex, chronic disease involving circuits in the brain. It is multi-factorial and requires comprehensive management, which oncology APPs are not capable of providing. Harm reduction is a feasible alternative to begin addressing this problem.

5 ACHIEVING NURSE READINESS IN THE ADMINISTRATION, MANAGEMENT, AND RECOGNITION OF ADVERSE REACTIONS IN PATIENTS RECEIVING CHIMERIC ANTIGEN RECEPTOR T-CELL (CAR-T) THERAPY

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CAR-T therapy is a revolutionary autologous immunotherapy where T-cells are specially harvested from a patient and then are sent to an outside lab where they are genetically modified with a disarmed virus equipped with specific receptors. These engineered T-Cells are able to seek out and destroy cancer cells that express CD-19 antigens on their surface. The genetically modified cells are able to reproduce into the millions in vitro, and are then sent back for reinfusion to the patient. This novel treatment has enabled patients with a previously poor prognosis and an absence of options, the potential to obtain a complete remission. Cytokine Release Syndrome (CRS) and severe neurotoxicities from cerebral edema have occurred with fatal results with this therapy. Many of the patients who receive CAR-T therapy will require a stay in the ICU during their treatment. In accordance with the Risk Evaluation and Mitigation Strategy (REMS) mandated by the FDA, a multi-disciplinary education task force was created to prepare the nurses of the BMT Unit and ICU of Mayo Clinic, Jacksonville. The goal of this collaborative, interdisciplinary team was to ensure that nurses were prepared to recognize, identify, and manage the early signs and symptoms of CRS and neurotoxic events: (a) Educational Breakfasts on Introduction to CAR-T therapy, (b) Collaboration with Gilead/Kite/Novartis, (c) 4 Hour Core Day, (d) CRS and Neurological Assessment, Recognition and Management, (e) Stem Cell Transplant Review, (f) Simulation Center Mock Run Pre and Post Test, (g) Neurotoxicity and CRS

Assessment Sheet Developed, (h) Cytokine Release Syndrome Quick Reference Pocket Guide, (i) Mock Run of CAR-T infusion, (j) CAR-T infusion Policy Development, and (k) Education of Patients and Caregivers. The nurses on our BMT unit have been able to quickly and successfully identify the signs and symptoms of CRS and neurotoxic events associated with CAR-T therapy. At the time of submission of this abstract, we have completed a total of 3 CAR-T infusions since our first on June 12, 2018. Two patients have obtained a complete remission with clear scans and no evidence of disease. A 3rd patient was recently infused on our unit and is presently in the ICU after exhibiting signs and symptoms of neurotoxicity. A 4th patient is scheduled later this month.

6 NURSE NAVIGATOR: IMPLEMENTATION IN A PRIVATE INSTITUTION IN RIO DE JANEIRO

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The project Nurse Navigator focus on all clinical aspects of the oncology patient care, having its beginning in the screening and developing throughout all treatment process, seeking to overcome system access barriers. The N.N. performance promotes more adherences to planned diagnosis and treatment, care in the appropriated time, besides more quality in cancer treatment, guiding the patients during all stages of the process, providing assistance in overcoming any system barrier. The objective was implementing the navigator system as a differential in cancer patient care, with a fundamental role of the N.N. in the multidisciplinary team, in order to facilitate the decision making and better adherence of the patient since diagnosis, helping through all stages of the process. This is a qualitative study, which will evaluate the results of the implementation of this system in a clinic with ambulatory care in the State of Rio de Janeiro and its impact on the optimization of time between the diagnosis and the start of the treatment. The N.N. conducts the guidelines to the proposed treatment, applies questionnaires such as the quality of life one and the Distress thermometer, which allows a view of the emotional state of the patient and evaluates the adherence to the treatment and any need of intervention from other professionals of the team. Also, the N.N. selects patients to include in prospective studies with COI Institute. In response to the implementation of the project, it is expected

an increase in the number of adherence to diagnosis and proposed treatments, facilitating the access to services offered, strengthening team-patient interaction, reducing the rate of hospitalizations due to low degree of toxicities, enabling to overcome the barriers to access the system, shortening the time between diagnosis and treatment. This proposal brings innovation to the performance of the multidisciplinary team regarding the barriers of the oncology health system, allowing to overcome these obstacles in a personalized way, creating a relationship of trust with the patient, since the diagnosis, facilitating decision making in the team, in addition to increasing focus on quality of assistance, in a system of organized care without fragmentations, enabling a better access to health services.

7 CREATION OF INSTITUTIONAL INSTRUMENT FOR IMMUNORELATED EVENTS MONITORING AND ITS INTERFACE WITH THE NURSING STAFF IN CHEMOTHERAPY OUTPATIENT CLINIC

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One of the biggest challenges of world research centers has always been the search for therapeutic options that had decisive action against cancer and increased the life expectancy of people affected by the disease. With the advent of immunotherapy, new perspectives for cancer treatment emerged as an innovative, more assertive solution, with less collateral and deleterious effect for the patients. This conquest was only possible through increasingly frequent technological and scientific evolution that provided a new look at oncology which, in the past, saw in traditional chemotherapy the greatest ally in the fight against the illness. The great advantage of immunotherapy is that if, before, traditional chemotherapy attacked tumor cells and healthy cells were affected,

triggering several toxicities, with immunotherapy, defense cells are stimulated to fight cancer cells and the collateral effects are much less aggressive, though not less important if not treated right. Goal: Raise the main adverse events triggered during immunotherapy treatment and present improvement action to nursing performance in these events' monitoring. Method: integrative review by summarizing the already finished researches and requiring the same standards of rigor, clarity and replication used in clinical or epidemiological studies. Results: The main adverse events in the immunotherapies treatment are cutaneous eruption, diarrhea, reduction of thyroid hormone and fatigue, as well as inflammation of the lung, intestine or liver, hormonal abnormalities and kidney, cardiac or neurological problems. For the monitoring of these signs and symptoms that may not be perceived by the nurse in the infusion sector, a nursing template was developed with the aim of directing the nurse to the identification of the immunorelated event and its respective graduation according to the Common Terminology Criteria for adverse events (CTC) with signs of this event to the assistant doctor through the Tasy system. Conclusion: This instrument's creation favors a more judicious monitoring by the assistance team and is an important ally in the identification and intervention of the immunorelated events that may incur risk to the patient.

8 THE CLINICAL NURSE SPECIALIST ROLE IN END OF LIFE CARE DECISIONS OF YOUNG AND MIDDLE AGE ADULTS WITH CANCER

Mary Anne Hales Reynolds, RN, PhD, ACNS-BC, Weber State University, Ogden, UT

The purpose of this presentation is to identify and discuss the unique needs and issues of young and middle age adults with cancer, receiving end of life care and the role of the clinical nurse specialist. End of life cancer care is most often associated with the elderly. In 2017, 1.7 million new cases of cancer were diagnosed and over 600,000 people died from cancer. Over 100,000 of those who died from cancer were between the ages of 20–59. Depending on the cancer diagnosis, this young and middle age terminally ill adult may be cared for in many settings including acute care emergency rooms, medical and surgical floors, long term care and hospice facilities and in home care. All along the way, they are experiencing critical diagnostic and treatment information, often requiring them to make important decisions. Based on the life span developmental model, the young and

middle age adult has unique developmental experiences. As a consequence age and life experiences impact their end of life care related to treatments and critical decisions related to that care. Clinical Nurse Specialists are in many of these setting and they have the opportunity to provide important specialized information, coordinate and provide complex end of life care, and facilitate important decisions that must be made by the patient and/or family member/s. By being knowledgeable about young and middle age adults and end of life cancer care issues, the Clinical Nurse Specialist will be able to provide the very best of care to patients and their families during a very critical life experience.

9 ENHANCING PATIENT ADVOCACY THROUGH PALLIATIVE CARE INITIATIVES

**Melinda Taylor, BSN, RN, Xavier University,
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The objective of this capstone project is enhancement of patient advocacy through palliative care initiatives. Through the creation of web-based training in a hospital education system, selected healthcare providers such as nurses, nurse practitioners, physician assistants, social workers, palliative care providers, and chaplain services, will be able to learn about palliative care in a self-paced yet mandated environment. The role of Nurse Practitioner as educator and leader in this project is imperative due to the nature of nursing practice, and it's alignment with the foundations of palliative care. Nurse Practitioners are natural advocates for our patients. Expanding on that advocacy through palliative and end-of-life education is in line with our role as advanced practice providers. Improving awareness, access, and utilization of palliative care is not only an immediate initiative for this project, but a global initiative supported by the Institute of Medicine, the American Society of Clinical Oncology, the World Health Organization, the Institute of Healthcare Improvement, the National Institute of Health, and National Cancer Institute. While efforts are in process to pass a legislative bill improving education, awareness, and research of palliative care, evidence is clear that there are misunderstandings and misinformation with both providers and patients. This is the rationale for implementation of this web-based training in the hospital education system. A review of literature revealed consistent misperception between palliative and hospice care. The influence of the 'End-of-Life-Nursing-Education-Consortium' train-the-trainer program is increasing provider education

and dissemination of knowledge. There is confirmed apprehension with the discussion of end-of-life decisions, and a lack of uniformity between states on advance directive tools. Ethical considerations also come into play with end-of-life discussions. Political advocacy plays a large role in the promotion of palliative care education, awareness, and research. Healthcare providers need to embrace their political influence. Barriers of time and money limit how palliative care is utilized. The initiation of web-based-training should result in enhanced patient advocacy among healthcare providers with their increased understanding of the benefits of palliative care. Outcomes should include increased palliative care referrals, quality end-of-life experiences, improved patient and family satisfaction, and decreased unnecessary and unwanted expenditures at the end-of-life.

10 YOUR HEALTH, YOUR FOCUS, YOUR PARTNER: DEVELOPING A NURSE PRACTITIONER LED CHRONIC DISEASE SURVIVORSHIP CLINIC (CDSC) IN WESTERN AUSTRALIA

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Chronic disease represents a significant portion of the healthcare budget for Western Australian health system. Interventions in primary care, education, and the environment should be implemented to help reduce costs. NPs are positioned to provide cost effective, quality care beyond the acute settings that is patient and family centered. Although there are a number of general practices existing in the area, the region continues to display a below average health profile, suggesting there remains an unmet need. Additionally, none specifically focus on chronic disease survivorship and are led by NPs. This affords the opportunity to improve the management of chronic health conditions through greater access to chronic disease clinics; therefore, our services would complement existing services in the area. The aim was to describe the development of coordinated services for management of chronic diseases using a holistic family centered approach to assessment within the community setting emphasizing patient

empowerment. Interventions: Develop a sustainable program that is cost effective, patient centered and NP led that will improve health outcomes, keep people healthy, and in their communities. Interventions that focus on (1) clinical practice, (2) education opportunities for students, and (3) building an evidence base for models of innovative chronic disease management in primary health care will be described. Expected Outcomes: (1) Establish a new NP led model of chronic disease survivorship that is patient-centric, family centered and technology-enabled that, generates evidence for best practice; (2) Provide services that will meet the current and future health care needs of the rapidly growing community whilst also improving health outcomes through preventative and self-management approaches; (3) Create new research opportunities and NP education in the community setting. Discussion: Taking into account the growing population, aging community, and overall below-average health profile of the area for the clinic, there is a clear unmet need and area of opportunity to bring the management of chronic conditions back into the community with greater access to primary health care. The designed clinic will be an innovative model of care, delivering coordinated services for all chronic diseases, including cancer. It will focus on management of chronic conditions taking a holistic family centered approach to assessment and management (physical, social, spiritual, lifestyle and psychological well-being) within the community setting.

CLINICAL PRACTICE

11

EVALUATION OF THE CLEVELAND CLINIC CAPONE-ALBERT FALL RISK SCORE ON AN ADULT HEMATOLOGY ONCOLOGY UNIT

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Fall prevention for hospitalized patients is an important nursing quality indicator. Currently the Medical Center uses the Morse Fall Risk Assessment Tool to identify patients who are a high fall risk. Despite this,

fall rates in the Cancer Center have been higher than acceptable. Using the Morse Tool produced some challenges including a skewed perspective toward high risk. Patients are rated as High Risk even when they were independent in ambulation and care. Based on a literature review and networking at a national conference, a fall risk assessment tool validated for the hospitalized cancer patient population was discovered: the Cleveland Clinic Capone-Albert (CC-CA) Fall Risk Score. This tool may provide a better discrimination than the Morse Fall Tool in predicting falls among hospitalized cancer patients. The purpose of the project was to evaluate a tool with better predictability risk leading to better interventions and a decrease in falls. The thirty bed Adult Hematology/Oncology Unit piloted the use of the CC-CA tool for 7 months, comparing its reliability in predicting falls to the Morse Tool. All patients were scored on both the Morse and the CC-CA tool. At the end of the initiative the scores of patients who fell were compared. Approximately 500 tools were completed and 27 patients fell, ages ranging from 27 to 86 years old. Twenty of the 27 (74%) patients were rated as High Risk by the Morse tool, while none of them were rated as a High Risk on the CC-CA tool. The CC-CA tool scored solid tumors as a zero risk of fall, while 19 of the 27 (70%) falls were solid tumor patients. The CC-CA tool scored no metastasis as a zero risk for fall, while 13 of the 27 (48%) falls were patients without metastasis. Based on interim data, there was no significant difference between the CC-CA tool and the Morse tool. Preliminarily, it appears that the CC-CA did not capture the fall risk in our population, which did not include BMT patients. Next steps include interviewing the patients who fell, to find their insight into why they fell, as well as continuing to look for a tool that better captures the risk of our population.

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FOOD FOR THOUGHT: NUTRITION SCREENING IN A CANCER CLINIC

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Poor nutritional status is associated with lower treatment response, increased treatment toxicity, lower survival rates, and decreased quality of life for oncology patients. Despite being a common

problem, malnutrition is frequently unrecognized and untreated for this patient population. Nutritional screening is the primary mechanism for identification of patients at-risk for malnutrition that should have a dietary referral. No standard nutrition screening tools are available for ambulatory adult oncology settings. The organization's baseline nutrition screening tool did not provide guidance to clinicians regarding appropriate interventions based on the score generated from the tool. The purpose of this evidence-based practice project was to implement and evaluate an evidence-based nutrition screening tool for ambulatory adult oncology patients. The Iowa Model Revised: Evidence-Based Practice to Promote Excellence in Health Care provided the framework. An interprofessional team composed of nurses, dietitians, oncologists synthesized the available evidence, reviewed existing malnutrition screening tools, and developed a new nutrition screening tool aimed at identifying ambulatory oncology patients at increased nutritional risk. The generated score is linked to applicable interventions (e.g., education by nurses, dietary referral) and was added to the clinic dashboard to make it more visible and meaningful to the care team. Patient/family education materials on nutritional problems were made available for use by nurses. Strategies from the Evidence-Based Practice Implementation Guide were used to increase awareness; build knowledge and commitment; promote action and adoption; and pursue integration and sustained use of the practice change. Pre/post clinician knowledge, perceptions, and current practice questionnaires were completed by nurses and medical assistants. Pre- and post-implementation chart audit data was collected to evaluate frequency of completed nutrition screenings, screening scores, and number of dietary consultations. After a first pilot, modifications were made and a second pilot occurred. Results demonstrated improvements in clinician knowledge, completion of nutrition screening, perceptions of identifying high-risk patients, what scores meant, appropriate interventions based on the score, and number of dietary consultations. Use of decision support and automated functions resulted in an innovative approach to nutrition screening, sharing the scores with the care team, and providing score-based strategies within the screening/documentation tool. Medical assistants and nurses know what to do based on a particular score and document the associated action(s) taken. Automatic dietitian notification regarding high-risk patients decreased nursing workload.

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NUTRITION FOR BREAST CANCER: EVALUATION OF THE WILLOW SAGE WELLNESS PROGRAM

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Those affected by breast cancer and genetic risk see nutrition as a primary way to take personal action against cancer and toward health. Timing of a nutritional intervention soon after a diagnosis aligns with change theory and assisting patients who may be ready to move from contemplation to preparation and action. The purpose was to provide newly diagnosed breast or gynecologic cancer patients and those at high risk with nutritional education and support beginning at the time of such diagnosis, in order to maintain or move toward a healthy weight, better manage recovery from cancer treatment, side effects, or current symptoms, and integrate new nutritional goals for long-term overall wellness. One to four sessions with a master's prepared registered dietitian were offered free of charge. Sessions included body composition and waist circumference measures; intention and goal-setting; symptom and food diary assessments; tailored verbal and written information to include meal timing, food choices, portion control, and hydration. To date, 494 people have been offered the program; 265 (53.6%) were evaluated at least once. Of these, 101 completed a 4-visit, 6-month program; 132 at least 1 visit, and 32 are in process. Reasons given by those declining (n=229, 46.3%) included distance from site, too busy, too overwhelmed, or already seeing a nutritionist. Of those who completed 4 visits, 94% were considered at nutritional risk at baseline, versus 9% at 6-month visits. Self-reported symptoms at initial visit that decreased at final visit included low energy, fatigue, and sleep disturbance. Self-reported changes made included food patterns, hydration, regularity of meals, portion control, and exercise. Overall patient satisfaction was high. One participant commented: "I thought I had healthy habits. (This was) a real eye opener!" Patients noted high value in quality of life and nutritional changes they experienced. As a pilot program supported by grant funds, such an offering may not be feasible if relying upon insurance coverage alone. Participants noted changes in exercise without the addition of an exercise expert. Measures of physical activity and a fitness

evaluation would be valuable additions. This defined nutritional education and support program targeted patients soon after high risk or cancer diagnosis, many of whom were ready for change and desired a focus on long-term wellness.

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CALLING ALL RESOURCES: A NAVIGATIONAL APPROACH TO INPATIENT CANCER CARE FROM DIAGNOSIS THROUGH DISCHARGE

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An inpatient oncology unit had consistently low patient satisfaction ratings regarding patient education. A literature review showed that health literacy and patient education continue to be a challenge across ages, education levels and socioeconomic status. This review suggested to unit staff that more tailored teaching methods were needed to address knowledge deficits of oncology patients navigating chemotherapy, biotherapy, central lines, and/or tubes, drains and tracheostomies. Staff utilized FOCUS-PDCA methodology to frame interventions based on desired outcomes, which included: (a) Improved HCAHPS scores referring to patients' perception of readiness for discharge, perception of education received, (b) Decreased length of stay, (c) Decreased unplanned hospital readmissions, and (d) Increased relationship-based care. Management selected experienced OCN-certified RNs (Resource 2/R-2) to identify goals and develop interventions including specifically-tailored Education sessions, education binders; documented in the EMR. R-2s attended daily Interdisciplinary Rounds with the entire medical team; provided earlier identification of potential discharge barriers, or complex patient dynamics that could lead to increased LOS. R-2s provided discharge phone calls within 72 hours of discharge to troubleshoot gaps in discharge plan, home care, supply requests/receipts that could lead to readmission. Promoted Relationship-Based Care by rounding on Oncology patients housed on non-oncology units to address needs, reach out to care-coordinators less familiar with oncologic issues, ease patient anxiety. For evaluation, compiled data from August 2017–February 2018 were (a) HCAHPS scores re: “nurses listened carefully” and “explained things in a way you could understand” met or exceeded benchmark in 5 of 6 months. (b) LOS decreased by 0.5 in the intervention quarters, the lowest average LOS in nearly 2 years. (c) Discharge callers provided medication education, helped patients fill prescriptions, and

corrected problems with home care agencies, thereby assisting with outpatient clinic workflow and call volume. Data indicated that goals were achieved during the intervention time periods, demonstrating a correlative relationship between interventions and outcomes. R2s changed clinical practice through tailored patient care with uninterrupted education, as well as post-discharge follow up for continuity of care. The R-2 role was discontinued after its pilot timeframe (6 months) due to budgetary constraints. However, the RNs who filled the role continue to discuss how the interventions can be more seamlessly incorporated into daily workflow for ongoing quality improvement on the unit.

15

SIMPLE, SMART AND DOABLE: ONS NURSE CHAPTER CHALLENGE TO EDUCATE AND ENGAGE HAIRDRESSERS IN EARLY DETECTION OF HEAD AND NECK MELANOMA

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While encouraged with recent improvements in metastatic melanoma treatment, we know that prevention and detection at an early stage remain the ultimate goals with this potentially deadly skin cancer. Eyes On Cancer is an established non-profit whose mission is to educate hair and beauty professionals (hairdressers) about skin cancer detection. Who knows your head better than your hairdresser? Eyes On Cancer provides a 20-minute online educational video, a melanoma lesion photo ID card, and an online post-test. When finished, a “certificate of completion” can be printed for display at their salon. If a suspicious lesion is seen, the hairdresser is asked to encourage their client to follow up with a physician. They can also offer to take a photo of the lesion if it is in a place where the client can't visualize it themselves. Eyes On Cancer charges \$10 for each hairdresser to take the class. As a cancer center, we have received a grant (from the Bill Walter III Melanoma Research Fund) to pay for “Hero Hospital” status for 2 years of unlimited use of the online program/video passcode. Our marketing department will publicize this to many local hair salons in our region. We will urge friendly competition between salons and will document the numbers of hairdressers trained at the end of year one and two. “Trained Eyes Save Lives.” Our local ONS chapter (East Central Florida ONS) will work with our hospital to make this a chapter mission project. Our ONS members will watch

the video. Then, they will give a coupon code to their hairdresser for a free registration for the class. Once we have engaged the hairdressers in our region to participate, we will challenge other ONS chapters around the country to participate in their own cities. We will urge them to take photos of their chapter participants or individual pictures of the nurse with their hairdresser to post on our special Facebook page for this event. Facebook page is: ONS Chapter Challenge: ONS Nurses and Hairdressers Fight Melanoma Together. If every ONS chapter member in the United States promoted this program to their own personal hairdresser, look at the change we could affect with very little time and energy expended. We hope to expand on this project in year two.

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COORDINATING CARE THROUGH A MULTIDISCIPLINARY CLINICAL PATHWAY FOR PATIENTS UNDERGOING A ROBOTIC RADICAL CYSTECTOMY IN AN ONCOLOGY SETTING

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Clinical pathways are documented multidisciplinary plans of care that translate the best available evidence and clinical practice, optimizing clinical outcomes and maximizing clinical efficiency. These plans provide the essential steps to various healthcare disciplines in an effort to guide the care of patients with a specific clinical problem. Additionally, they provide facilitation and the optimal use of all resources that are available across the care continuum. The purpose of creating a multidisciplinary clinical pathway was to standardize postoperative care and patient throughput. Outcomes of the pathway were aimed at shortening length of stay, increasing staff satisfaction, and reducing hospital readmissions in postsurgical robotic radical cystectomy patients. The development of the pathway was driven by evaluating patient satisfaction surveys, average length of stay and readmission data. The pathway provides the patient and caregiver a guide to their course of treatment during their hospitalization and adequately prepares the patient for discharge. The pathway was developed to standardize nursing care and medical management from

admission to discharge and allows the bedside nurse and the entire healthcare team to coordinate timely patient care. The cystectomy pathway was developed by a multidisciplinary team of nurses, physicians, and support teams on an 18 bed medical surgical inpatient unit in a comprehensive cancer center. The pathway includes: time dependent nursing and medical interventions; development of patient centered education materials including written materials, videos, postoperative instructions and guidelines with an emphasis on post-hospital care at home as well as Case Management referral to Home Health Care for wound ostomy and intravenous hydration. The clinical pathway was implemented on all patients undergoing a robotic radical cystectomy initiated postoperative day 1. The implementation of the clinical pathway is being evaluated utilizing the current patient satisfaction data, average length of stay, and readmission rates for robotic radical cystectomy patients. Through the collaboration of all healthcare disciplines a comprehensive patient centered clinical care pathway was developed to increase patient and staff satisfaction while improving patient outcomes. Continuously monitoring patient outcomes and staff feedback will be critical to the sustainability of the pathway. Each disease specific patient population can easily adapt the principles developed throughout this process to implement improvements in the delivery of safe and effective care to oncology patients.

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THE 1-2-3 PROGRAM: A NOVEL, STRUCTURED, NURSE-DRIVEN APPROACH TO THE PROMOTION OF EARLY PALLIATIVE CARE IN AN OUTPATIENT CANCER CLINIC

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National oncology organizations support integration of palliative care into the cancer continuum at the time of diagnosis. Key tenets include: aggressive symptom management, promoting quality of life, honest empathetic communication, and clarification of patient values and goals for medically appropriate care. "Primary" palliative care should be provided by the oncology team, augmented via collaboration with an interdisciplinary team of palliative care specialists to address intractable symptoms and/or complex psycho-social issues. To describe a nursing initiative (the "1-2-3" program) developed with supportive care specialists to empower oncology outpatient

nurses at a comprehensive cancer center to leverage the unique patient-nurse relationship to systematize, normalize, and improve primary palliative care. Patients are introduced to the 1-2-3 program at the earliest visits to clinic. Nurses assess patients' preferences for medical information and decision-making (including health care proxy designation), and check understanding of their disease, prognosis and intention of treatment. Patients complete brief symptom assessments at each visit, reviewed by the nurse and trended over time. Patients also articulate core values and concerns in structured discussions conducted by the nurse. The nurse summarizes these conversations in a document for the electronic medical record that patients are encouraged to share with family. These conversations are re-visited quarterly. As discussion of core values and goals may bring up strong emotions for the patient and family, nurses are educated on a framework ("acknowledge, normalize, partner") to respond to these emotions. Respecting personhood through identification/acknowledgment of an individual's core values is imperative to providing quality palliative care. Metrics including symptom burden, quality of communication, patient-centeredness, patient experience, and clinic workflow impact are being analyzed. These upfront, nurse-led values and goals of care discussions are often the first-time patients have the opportunity to explore concepts outside of prognosis and diagnosis in relation to their cancer with their healthcare team. The discussions highlight the patient's individuality and personhood as reflected by strengths, hopes, and fears, and enable the nurse to be a champion of goal-concordant care. The 1-2-3 program is a novel, structured, nurse-driven approach to the promotion of early palliative care in an outpatient cancer clinic. The nurse advocates for "personhood", not "patienthood", leveraging the trust within the nurse-patient relationship to ensure the plan of care aligns with each patient's unique values and goals.

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LET'S START AT THE VERY BEGINNING: AN OUTPATIENT CLINIC EXAMINES CHEMOTHERAPY TEACHING

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Chemotherapy/Immunotherapy education affects the foundation of knowledge, coping skills, and

relationship building with oncology patients and their families. Understanding what chemotherapy is, how it works, and what to expect during administration can lessen patient's fears and anxieties. Effective teaching of a patient's diagnosis and treatment will not only potentially reduce this anxiety, it can help the patient regain a sense of control. This could then potentially lead to the patient formulating realistic expectations. By identifying patient education gaps and decreasing staff's practice variation, we can impact the patient's overall understanding and guide their expectations. Nurses play a significant role educating patients while they are receiving treatment and providing guidance following their infusion. This study is the beginning point in examining chemotherapy/immunotherapy educational practices at a multi-disciplinary satellite clinic of Vanderbilt Ingram Cancer Center. Our goal was to establish baseline perceptions of the clinical staff prior to examining next steps in a redesign of our educational format and delivery. A voluntary anonymous survey assessed staff participation in chemotherapy/immunotherapy teaching, topics covered, timing of initial teaching, treatment cycles, and staff perception of variables that decrease patient comprehension. The findings were evaluated and ranked to determine perceived unmet educational needs of patients. These results will lay foundational guidelines for future research and actions related to consistency in patient teaching. Survey participants (n=19) included LPN (26%), RN (47%), MD (26%) and consisted of a 100% response rate. Those currently providing education 78.9%. Those who discussed safe storage/handling of home chemotherapy/immunotherapy medications 31%. Those including long term side effects 78%, but only 36% included infertility risks. Free text for obstacles to providing patient education revealed the majority identified time (13), followed by patient anxiety/stress (4). Only 13% were aware of American Society of Clinical Oncology (ASCO)/Oncology Nursing Society (ONS) published standards inclusive of teaching guidelines. Our findings reveal most staff perceive only 50% of patients are receiving appropriate education prior to their first treatment. As oncology nurses, we must identify and initiate processes to better equip our patients. Documenting education increases staff communication. Using evidenced based teaching standards could decrease variability in patient education among staff. Identifying and addressing gaps in patient education can increase patient understanding and compliance.

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MANAGING NEUROPATHIC PAIN AND PRURITIS IN THE RADIATION ONCOLOGY PATIENT

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Radiation oncology patients, especially those receiving radiation to the head/ neck and breast, typically experience severe pain and intense pruritis. Managing pain can be difficult as oral pain medications often do not sufficiently decrease the pain or address the pruritis that is associated with radiation therapy. The inflammatory response is activated within the skin causing a histamine cascade to occur which results in pruritis. As radiation treatment progresses erythema and edema creates an environment which is non-conducive to cellular regeneration, resulting in damage to the skin appendages such as: nerve endings, hair follicles and sebaceous glands. Topical over the counter treatments, like diphenhydramine have proven to be ineffective in our patient population which lead us to seek other methods of pain and pruritis control. In a case study, a compound of lidocaine and gabapentin in a topical preparation has proven effective in the management of neuropathic pain and pruritis.

20

CURRENT STATES AND INFLUENCING FACTORS OF SELF-COMPASSION AMONG THE MINDER OF PATIENTS WITH OSTEOSARCOMA

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The objective was to explore current states and influencing factors of self-compassion among the minder of patients with osteosarcoma, as to provide reference for conducting targeted psychological intervention for nursing staff, and relieve psychological stress for the minder of patients with osteosarcoma. Methods: totally 138 minder of patients with osteosarcoma, need to be induced were investigated utilizing self-compassion scale (SCS). The total SCS score of the minder of patients with osteosarcoma was 85.95 ± 5.10 . Multiple linear regression results showed that degree of education, the number of children, time of therapy, treatment expense were the influencing

factors of self-compassion in the minder of patients with osteosarcoma, ($P < 0.05$). The self-compassion in the minder of patients with osteosarcoma is at a moderate level, nursing staff should supervise the minder of patients who were low education level, high treatment expense, single-child family as soon as possible, and strength the psychological counseling, so as to improve their level of self-compassion and respond effectively to psychological crisis.

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KEEPING UP CHEMOTHERAPY COMPETENCY IN INPATIENT NURSES

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The outpatient chemotherapy unit that was attached to an inpatient unit moved in 2017. The outpatient department had been staffed by the inpatient chemotherapy trained nurses. The unit had 22 chemotherapy trained RN who worked both inpatient and outpatient. The new unit would be located on the ground floor and staffed by nurses who worked only in the outpatient setting. The concern was how to keep the nurses competent in chemotherapy administration and nurse satisfaction. Taking feedback from the nurses and looking at inpatient chemotherapy volume, I proposed that we still allow inpatient nurses the opportunity to administer chemotherapy in the outpatient setting. This would help with nurse satisfaction and competency. It would allow nurses who already knew hospital policy to train new hires. It would keep care consistent between the 2 departments. If a patient was admitted it would be a familiar face on the inpatient unit. The outpatient hours would be 8-4:30 M-F. The inpatient nurses work 12 hour shifts 6-6. The inpatient unit was 27 beds that run at max capacity every day. The inpatient nurse still comes in at 6am, assists the unit with taking Vital signs, passing early am meds. The nurse then goes the outpatient department around 7:30 to prep for the day ahead. The nurse works that area till treatments are completed and then returns to the unit to help the inpatient nurses get things done for the day. The night shift nurse requirement was to administer at least 4 chemotherapy treatments a year. This was to remain the same. The inpatient nurses have been very pleased. They are able to still keep their skills up and they enjoy being able to see two different sides of patient care. The outpatient nurses have had more challenge adjusting. This has been in relation to staff assignments and willingness to work with an inpatient nurse. We have developed team building exercises to resolve these issues. Patients and family

members have also commented that it is nice to see friendly face when they get admitted to the inpatient unit. Even if the nurse was not assigned to me, she would stop in and say hello. “It made me feel like my care was important”.

22 DECREASING FALLS IN CANCER PATIENTS WITH THE UTILIZATION OF A HEM/ONC- SPECIFIC FALL ASSESSMENT TOOL

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The national benchmark for hospitals is currently two falls per month, which at the time our unit greatly exceeded. Our institution currently implements a generalized patient assessment tool for falls and the current practice is a daily assessment with this tool. Our institution is a medium-sized education and research hospital in the south-east United States with a 28-bed unit of Hematology and Oncology patients. The objective of this research was to validate a falls tool that was specific to the Hematology/Oncology population and to decrease the number of falls in this patient group. We developed an evidence-based assessment tool specific to Oncology patients to include the Hematology, Oncology, and Bone Marrow Transplant patients that were treated on our unit. We completed a two month pilot program where we assessed the patients with this tool at every shift change, and also discussed the patient’s fall risk score with them. We also documented the patient’s fall score on their whiteboard in their room and on a nursing flow sheet that would be discussed at handoff. During this two month trial period, the unit had significantly reduced falls, with only one fall in each month, and each without patient injury. This result was below the national benchmark. As a unit, it was decided that discussing the fall risk tool, each patient’s score, and the ability to monitor how it changed throughout the patient’s stay was beneficial to the patient outcomes. Our unit plans to proceed with implementing this tool into our current practices. The nurses and patient’s reported that this tool helped lead to improved patient communication regarding fall risks and better understanding that with the Hem/Onc population and treatments, these risks can change for each patient.

23 IMPLEMENTATION OF PUMP INTEGRATION AND ADMINISTRATION STANDARDIZATION

OF CHEMOTHERAPY ACROSS A SYSTEM

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Huntsman Cancer Hospital is an NCI designated Comprehensive Cancer Center at the University of Utah that administers chemotherapy in outpatient and inpatient settings, and at satellite locations throughout the Mountain West. Due to a desire to implement pump integration with chemotherapy administration, to adhere to new USP 800 guidelines, to create a more consistent experience for our patients, and to provide better educational support for increasing affiliate partners, an effort was undertaken to standardize administration, preparation, and handling of chemotherapy and other hazardous drugs across the system. An interdisciplinary committee comprised of nursing, pharmacy, quality, informatics, education, and leadership was formed to discuss current practice, required practice changes, and to create the new standards and policies needed. After months of bi-monthly meetings, the new preparation, administration, and handling practices were created. The informatics and quality department updated the electronic medical record and infusion pumps with outlined parameters to make pump integration possible. A comprehensive education plan and roll out was created which required each nurse to watch online training modules, complete a quiz, and perform competency verification for administration of intermittent, continuous, IV push, and vinca alkaloid administration. The pharmacy department adjusted preparation and delivery of drugs for ease of pump integration, and environmental services were consulted to ensure safe and consistent disposal practices. To ensure compliance with pump integration, an automated report was created in the electronic medical record for managers to review each nurse’s use of the system. A few months after implementation, individual nurse audits began to be performed to reeducate as necessary and to track compliance. The hospital’s incident reporting system is also being utilized to track deviations in administration times, errors with the pump integration software, and any other issues that interfere with successful delivery of the drugs. Following the successful initial implementation, ongoing efforts by the committee to develop policy, address educational

needs, and resolve equipment, process, or user errors that occur are still underway. The committee is also providing support to non-oncologic areas that are administering hazardous drugs to ensure that safe practice and safety standards are being utilized.

24 ONCOLOGY NURSING PRACTICE AND QUALITY SUB COUNCIL: CREATING STRONGER INPATIENT ONCOLOGY NURSING SUPPORT

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The objectives are to (1) Share an innovative approach to team communication of learning needs for inpatient oncology units and (2) Demonstrate formalized inpatient staff communication as making a positive impact on staff engagement and perception of value. According to Green et al. (2017) “Up to 98,000 deaths/year in US hospitals were caused by human error, and many were related to problems within a team.” Green cites a common issue within a team is a hierarchical culture. The purposes were to (1) To create an Oncology Nursing Practice and Quality Sub-Council for an inpatient oncology unit to promote effective communication across the oncology care team and (2) To engage leadership in a team approach by addressing communication on an inpatient oncology unit. The inpatient oncology staff completed a survey to identify needs related to gaps in knowledge related to treatment and care of oncology patients, end of life patient care, and pursuing independent professional development. The survey findings are a resource for topics to be discussed at the Sub-Council and main outpatient Council meetings. The survey results demonstrate identified learning needs for ongoing education and support for staff regarding the inpatient oncology population related to end of life patient care and pursuing independent professional development. This will be communicated to our Council. Our action plan consists of working in collaboration with the Oncology Nursing Practice & Quality Council [ONPQC] at NYU Langone Health [NYULH] that was developed for the ambulatory setting. The newly created sub council unites oncology staff and those interested in oncology practice to improve clinical practice for the inpatient setting. The targeted members of the council are the nurses of Pediatric Oncology, BMT/

Hematology and Adult Oncology at the NYULH main campus. The goal is to expand to all inpatient nurses who work in Oncological departments at other institutions within the NYULH system. To further encourage collaboration, interdisciplinary teams such as Nurse Practitioners, Pharmacists, Physicians will be included. A pre-survey will be sent out and then a post-survey to those who attend the ONPQC sub council, 3 months after the start of the council to see if there have been any improvements.

25 CREATING THE STANDARD FOR SPECIALIZED NURSE TRAINING IN THE PHASE I CLINICAL TRIALS SETTING

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The complexity of phase I clinical trials requires highly specialized nurses dedicated to safe and compassionate care while obtaining quality data collection through a comprehensive understanding of clinical practice. A phase I clinical trial treatment visit consists of safety measures and research requirements including adverse event (AE) assessments, preventative interventions for toxicities, research lab requirements and frequent vital sign monitoring including electrocardiograms. These observations are paired with detailed documentation necessary in monitoring drug activity and patient safety. It is optimal to have a nursing staff who can navigate through complex research protocol requirements in an effective and efficient manner that benefits both patient and research study needs. Having a unit dedicated to phase I clinical trial conduct creates an atmosphere conducive to multidisciplinary collaboration leading to improved communication regarding patient care and research requirements. In the Phase I Unit at Winship Cancer Institute (WCI) of Emory University, each Phase I infusion nurse is required to meet specialized standards of practice including successful completion of the Collaborative Institutional Training Initiative and the Good Clinical Practice Program (GCP), certification in oncology nursing and completion of a Phase I clinical trials specific orientation. This orientation is an in-depth review of clinical trial design, protocol overview, principles of

pharmacokinetics and documentation practices that allow grading of AEs. Nurse patient ratios are reflective of the meticulous care required with a target ratio of 1:2. Deviations from protocol requirements can impact positive patient outcomes and facility integrity as a compliant research site. Deviations can also risk a patient's safety if certain criteria for treatment or withholding treatment are not met. At WCI, once a research coordinator has become aware of a deviation, the report is entered into a database. A comprehensive review of deviation data from 2017–2018, revealed lower deviation rates within the Phase I Unit. This is due to the Phase I team's comfort with trial complexity, patient acuity and specialized training, along with appropriate nurse-to-patient ratios. Specialized nurse orientation and continued training within the phase I clinical trial field is imperative to creating a standard of practice and expertise. Development of acuity scales capturing specialized clinical trial conduct will better inform appropriate staffing in clinical trials units that will positively impact research in the future.

26 **PROMOTING RESILIENT NURSES THROUGH COLLEGIAL SUPPORT**

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The nursing profession has its own unique challenges. One of the greatest challenges is burnout; this is especially true among oncology nurses. The demands of the daily tasks and emotional burden of caring for dying patients are a large contributor to burnout. When nurses feel overwhelmed and unsupported they are more likely to leave their positions and possibly the field of nursing altogether. This can lead to high staff turnovers leading to extra costs for the hospital and increased stress for nursing staff left on the floor. The nurses on the oncology and palliative unit at Froedtert Hospital have proved to be a resilient group. Many studies have already proved that the resilience of nurses strongly depends on collegial support. Oncology and palliative nurses have unique challenges and including increased caregiver burnout. The objective of this project is to identify the positive qualities of the unit and also to discover areas for improvement through surveying staff on the unit. The authors of this project have identified areas in scheduling, team building, council groups, managerial and educational support that contribute to the positive morale among nurses and other staff on the oncology

and palliative unit. An additional intervention that the authors of this project would like to include is a biweekly staff huddle. This would entail a designated leader on each shift to casually round on their peers. They will offer encouragement and support as well as report to appropriate leaders any areas of concerns that could be addressed. The goal of this intervention is to further increase collegial support and morale as well as to identify any problems early. When completed, the information will be displayed in order to help other oncology units strengthen collegial support and therefore resilience and retention. This will demonstrate the positive qualities of a unit thus decrease the staff turnover and increase morale and retention among nursing staff.

27 **LOW INCIDENCE OF TESTOSTERONE MICROSURGE IN PROSTATE CANCER PATIENTS TREATED WITH POLYMER DELIVERED, SUBCUTANEOUSLY ADMINISTERED LEUPROLIDE ACETATE**

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Nurses' responsibilities for administering treatments to prostate cancer (PCa) patients have grown over the years. In prostate cancer therapy, achieving and maintaining effective testosterone (T) suppression to the level attained with surgical castration is the cornerstone of androgen deprivation therapy (ADT). Consistent drug delivery with long-acting leuprolide acetate (LA) formulations is important in providing continuous T suppression throughout the course of treatment without T rising above castrate level (T breakthrough). To assess the stable release of SC-LA and consistent control of T levels in prostate cancer patients, the incidence of microsurgers was evaluated in 4 pivotal trials. Eugonadal prostate cancer patients (age 40–86) who achieved medical castration (T<50ng/dL) while on the first administration of SC-LA 7.5, 22.5, 30, or 45mg, lasting 1, 3, 4, or 6 months, respectively, in 4 open-label, fixed-dose, pivotal trials were evaluated for microsurgers (n=424). A microsurge was defined as an absolute increase in T level of at least 25ng/dL during the 4-week period after the second study dose was administered. T was measured 2–4 times on day 0 and once on days 1, 2, 3, 7, and every week until the next dose through the end of the studies; the 45mg group had an additional measurement

taken on day 2. Across individual studies, 0.9–3.4% of patients experienced a microsurge after the second SC-LA dose. Of the 8 patients who experienced a microsurge, 6 (75%) remained castrated at the peak of the surge. Pooled analysis showed 1.9% of patients who achieved T<50ng/dL before the second administration experienced a microsurge during the acute period after the second dose. SC-LA achieves consistent and prolonged drug delivery, resulting in a very low incidence of T breakthroughs and microsurgings in prostate cancer patients. Limiting the occurrence of T levels above the castration threshold may have clinical implications with respect to prolonged progression-free survival. Understanding and monitoring efficacy and safety of drugs is important for managing an individual patient's disease, which may impact quality of life and long-term physical health.

28 A NOVEL APPROACH TO BEGINNING ADVANCED CARE PLANNING DISCUSSIONS

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According to a national survey by The Conversation Project, 90% of people say talking to loved ones about end of life care is important, yet only 27% have done so. Thus, families are often left guessing about a patient's wishes during a health crisis. End of life care is deeply personal and should be based on an individual's values and beliefs. As members of the healthcare team, nurses are responsible for modeling advance care planning to patients and their families. The purpose of the What Gives Your Life Meaning (WGYLM) project was to provide a unique means to encourage nurses to begin conversations about advance care planning using a non-threatening approach. Providing an opportunity for nurses to explore their own thoughts and feelings around advance care planning can increase nurses' comfort with having these conversations with patients and ensuring the patient's values are part of the shared decision-making process. Nurses were surveyed prior to project initiation and asked whether they had an advance directive and also asked about their comfort level with advance care planning and quality of life patient/family discussions. To encourage self-reflection, a series of weekly bulletin boards were posted in the Cancer Center. After the third bulletin board was posted, huddles were held to introduce the PREPARE pamphlet, a free, publicly-available patient resource designed to help patients in making medical decisions. Nurses were also asked to pledge to complete their own advance directives and to discuss their decisions

with loved ones. Pre-intervention survey results indicated nurses were reluctant to conduct end of life conversations with patients and only 19 (25%) respondents reported having an advance directive. While the number of admitted patients with advance directives on file has not significantly changed, an additional 30 staff members have pledged to complete their own advance directives. Oncology nurses often bear witness to the devastating downstream effects a lack of an advance directive can have on a patient and their family. Nurses represent the largest sector of the healthcare workforce and therefore have a large sphere of influence. As nurses engage in their own advance care planning conversations, they influence family, friends, and ultimately patients to think about beginning conversations of their own.

29 THE NURSES ROLE IN PEPTIDE RECEPTOR RADIONUCLIDE THERAPY (PRRT) WITH LUTATHERA®

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Lutathera® (177-Lutetium Dotatate) was FDA approved in January 2018 for the treatment of adult patients with somatostatin positive neuroendocrine tumors. The main goal of Lutathera treatment is to provide relief of symptoms, to stop or slow tumor progression, and to improve overall survival. This abstract will serve to inform oncology nurses about the complexities and unique precautions necessary in the Lutathera treatment. Specially trained Molecular Imaging and Therapy (MITS) nurses are highly involved throughout a patient's Lutathera treatments. Patients undergo infusions as outpatients approximately every 8 weeks for a series of four appointments. On treatment day, The MITS nurse places two intravenous lines and clinically monitors the patient's vital signs. The patient then receives premedication that includes the antiemetics Palonosetron and Fosaprepitant. For renal protection, a four-hour co-infusion of an amino acid solution is started 30 minutes prior to the Lutathera infusion. Lutathera is then infused on a Grasby pump by the authorized physician with MITS nursing assistance into a separate intravenous site than the amino acid hydration. Biologic lab values are monitored throughout the treatments to re-assess the patients for adverse reactions. Possible common side effects include nausea and vomiting from the

amino acid hydration, carcinoid syndrome, decreased blood counts and increased blood glucose levels. Less common is liver or kidney toxicity, and temporary hair loss. Throughout the process, MITS nurses monitor patients undergoing treatment and educate patients about radioactive isotopes while reducing their fears and misunderstandings. The MITS treatment nurse developed the educational materials and coordinated an educational inservice to inform the multidisciplinary team of this new treatment option. Because Lutathera is both a gamma and beta radionuclide, the principles of time, distance, and shielding along with blood/body fluid precautions are necessary. Lutathera is a promising new drug that offers hope to patients with neuroendocrine tumors and is generally well tolerated. Nurses play a pivotal role in caring for and educating patient contributing to successful treatments.

30 NURSING CARE FOR THE PATIENT RECEIVING HYPO FRACTIONATED RADIATION TREATMENT IN THE MANAGEMENT OF BREAST CANCER

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The standard treatment for early stage breast cancer is breast conserving surgery followed by adjuvant radiation treatment. Whole breast irradiation has been the standard Radiation therapy treatment but with the advancement of technology, patients are now being offered hypo fractionated radiation therapy. Hypo fractionation lowers the number of treatment fractions of radiation by increasing the radiation dose per day. As a result, three weeks of hypo fractionated treatment versus 6 weeks of standard treatment is desirable for patients who meet the requirements. The purpose of this abstract is to inform the oncology nurse on how to educate and manage their patients undergoing this treatment. The radiation oncology nurse manages the symptoms in conjunction with the attending radiation oncologist. Patients are educated from the beginning of treatment and seen weekly for their on treatment visits. Once their treatment is completed, patients are provided a discharge form with instructions on the following: contact information, skin care instructions and one month follow up appointment. The nurse will call the patient the following week for follow up and will coordinate an adhoc nursing appointment if needed to evaluate skin care. For those patients who are unable to come for the adhoc appointment, we ask for them to send

a picture, and decide if they need to come in. The current practice has significantly increased patient satisfaction by alleviating the patient's fear of the unknown. The radiation oncology nurse is empowered to provide important information and is a vital part of the radiation team. Hypofractionated radiation treatment is now the standard of care. Informing the oncology nurse of what to expect from treatment will improve management of skin reactions.

31 EMERGENCY DEPARTMENT MANAGEMENT OF SICKLE CELL DISEASE COMPLICATIONS: PROVIDING RAPID, CONSISTENT CARE

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The objectives were to describe the collaborative efforts between Hematology and the Emergency Department to provide individualized, consistent and rapid care to the Sickle Cell population presenting with emergent complications. An estimated 100,000 people in the US live with Sickle Cell Disease (SCD). A multitude of factors can instigate an acute pain crisis, as well as other complications of SCD including Acute Chest Syndrome, stroke, DVT/ PE, priapism and more. Patients presenting with complications require rapid evaluation and treatment, including adequate pain management. Unfortunately, patients may encounter long Emergency Department (ED) wait times, and inadequate pain management. At The James Cancer Center Hospital—The only current Sickle Cell disease specific Joint Commission Accredited Institution in the United States—patients with SCD presenting with acute crisis are treated in one of three different areas; the James Oncology Emergency Department, the Intermediate Care Center, or Sickle Cell Day Clinic, depending on the acuity level of the patient. To provide individualized, consistent care for these patients, the ED and Hematology team collaborated to create a Sickle Cell Evaluation order set, as well as individualized care plans that are readily accessible in the patients chart. Each care plan briefly describes the patient's disease course, their baseline hemoglobin levels, complications and risk factors, and their pain management plan for the emergent visit. This gives providers easy access to necessary information and the ability to rapidly order required treatment. Pain control is dosed based on prior visits, rather than provider preference, reducing admissions resultant from inadequate pain control. This plan

additionally addresses patients with high volume ED usage, attempting to re-route them to the Sickle Cell Day Clinic, and utilize laboratory qualifiers to help determine chronic pain from acute crisis. ED APRNs and RNS engage in ongoing SCD specific education, to provide tailored care to these patients. This education has improved awareness of SCD complications, compassion and awareness surrounding adequate pain control. The goal time to pain control is sixty minutes in the ED. Nurses have taken on this goal by administering subcutaneous pain medication in the waiting room in times of longer ED wait times. Sickle Cell Disease is complex, requiring a team approach to provide rapid, consistent patient care.

32 DECREASING MORAL DISTRESS IN NURSES ON AN INPATIENT ONCOLOGY UNIT

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Our medical oncology unit merged with surgical oncology to establish one oncology-dedicated unit two years ago. Many of our nurses are new to oncology and/or new to nursing. Staff voiced concerns about patient care that resonated signs of moral distress. Moral distress has been well documented in intensive care but less described in the oncology nursing population. Based on the nature of decisions made with oncology patients, including end-of-life care, these nurses are at risk for moral distress. The purpose was to identify and reduce moral distress and provide interventions and tools to the nursing staff to lessen moral distress. A multidisciplinary team was formed with a CNS (Clinical Nurse Specialist) facilitator to identify moral distress experienced by the staff and implement strategies to reduce moral distress. Using the MDS-R (moral distress survey-revised), a pre-intervention survey was conducted to assess the frequency and level of disturbance for moral distress. MDS-R is a 21-item validated scale that addresses ethical conflicts and moral distress encountered in daily nursing practice. Pre-survey findings will drive incorporation of evidence-based strategies for staff needs over a 3-4 month period. Post MDS-R survey

will then be performed after all strategies have been implemented. Pre-intervention survey results indicate a presence of moral distress reported by our staff. While frequency is low, the level of disturbance in daily practice is great. Implementations of strategies are still ongoing. These strategies and post-survey will be discussed in more detail. Oncology nurses are at high-risk for moral distress that can lead to burnout, low job satisfaction, low retention rates and ultimately lower quality of patient care. These strategies can easily be replicated in other oncology settings and at no cost. Moral distress in oncology nurses warrants further study.

33 USING DATA TO TRACK STAFF HOURLY ROUNDING AND ITS EFFECT ON PATIENT CALL BELL USAGE ON AN INPATIENT ONCOLOGY UNIT

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Hourly rounding helps to proactively manage patient needs therefore minimizing the number of calls from the patients. Data reports indicated if patient needs were being addressed by analyzing patient call bell usage on an inpatient adult oncology unit before and after implementing a system to track hourly rounding. This study investigated whether increasing emphasis on staff hourly rounding decreased patients call bell usage. In July, 2018, data were collected from staff locators about how frequently staff entered each patient room and length of time in each room. Staff were educated about the new data collection procedure and encouraged to adhere to at least the minimum rounding requirements outlined in the staff education and training. Rounds were to be conducted hourly during waking hours and every two hours during the night. All unit staff were informed about the project and expected outcomes, with the ultimate goal to improve patient satisfaction scores, reduce patient falls and reduce call bell use. Call bell data were evaluated for three months prior to collection of the staff locator data and compared to the initial three-month period following the implementation of the tracking system. Four categories of calls were analyzed: total calls, "normal" calls (i.e. bringing water, routine questions, etc.), lavatory assists, and bed exit alarms. Data were compiled on a weekly basis. Due to the low numbers and wide distribution of bed exit alarms and lavatory assists calls, there was

no significant difference in these categories before and after implementing the tracking system. Mean (\pm standard deviation) weekly total calls decreased from 706(\pm 140) from April through June of 2018, to 507(\pm 81) from July through September. Weekly “normal” calls decreased during these time periods from 608(\pm 107) to 472(\pm 72). Attending to patient needs by proactive hourly rounding has been shown to decrease call bell usage and the risk of patient falls and to improve patient and nurse satisfaction. Our data suggests that increased emphasis and staff education on hourly rounding reduces patients’ use of their call bells. As more data are collected, further analyses will determine if decreased call bell usage correlates with decreased fall rates.

34 **GET YOUR MOVE ON! IMPROVING MOBILITY IN AN INPATIENT ONCOLOGY UNIT**

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Mobilizing patients is often a missed nursing intervention. Mobility should be viewed as a priority and part of quality nursing care. After only two days in bed, a patient can have permanent functional decline. Studies show that 83% of patient’s time in the hospital is spent in bed. The purpose was to physically survey an inpatient oncology unit to determine how many patients are getting out of bed every day, and to survey nurses and patient care technicians to determine the barriers to mobility. An initial survey was sent to nursing staff to explore the barriers for getting patients out of bed as well as knowledge of equipment use for safe patient handling. The survey included if nursing staff felt comfortable with specific equipment, and what barriers there are for nurses throughout their shift. Nursing staff was also physically surveyed over a three week period by mobility champions to see how often patients were getting out of bed if needing more than one assist out of bed. Findings show that 67.3% of dependent patients got out of bed every day. Staff reported that there were various knowledge deficits regarding equipment that prompted re-education from mobility champions. Staff reported barriers to getting patients out of bed such as not enough help, not enough time, patient refusing and waiting for physical therapy. The initiation of these surveys has opened up educational points for staff. Nursing staff

will then be educated on the importance of mobilizing patients, the proper use of equipment for safe patient handling, and also encouraged to create individual goals for bed bound and ambulatory patients. This interdisciplinary team effort is projected to show improvement in mobility with follow up surveys.

35 **STOP THE SPREAD: IMPROVING NURSING CONFIDENCE IN EDUCATING HEMATOLOGY/ONCOLOGY PATIENTS ABOUT ISOLATION STATUS**

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Oncology patients are at an increased risk for developing infections during the neutropenic stage. Throughout four hematology/oncology in-patient units (83 beds) at this medical center, it was noted that many patients did not understand the cause or implications of their infection or the need to move to an isolation room. Many patients and family members could not recall being informed about infection prevention during the hospital stay nor correct use of personal protective equipment (PPE). Failure to use PPE correctly can lead to infection spread. Nursing staff verbalized uncertainty and discomfort with discussing infections and the implications with patients. The purpose of this project is to increase nurses’ confidence and compliance with educating patients and their visitors about infections, use of PPE, and isolation status. A literature review identified best practices in providing infection and isolation status education to patients. Additionally, a survey was administered to the nursing staff to evaluate their confidence, comfort level, and current compliance with educating patients on infection and isolation status. With input from the Epidemiology Department and Patient Advocacy Department, talking points for nurses and infection-specific educational handouts for patients were developed. Isolation educational in-services were then performed in order to ensure that all nursing team members were aware of the new resources and tools available to them. When patients test positive for an infectious organism, the medical team and nurses will utilize the new educational materials to educate about the infection and isolation. Throughout patient isolation status, the nurse will continue to provide education to patients and assess patient understanding utilizing teach-back. Pre-intervention surveys will identify trends in nursing confidence in having isolation conversations with patients. Following completion of educational in-services,

post-intervention surveys will evaluate the impact of education tools on nurse confidence and compliance with educating patients on isolation. The use of the educational in-services, materials and talking points can help empower oncology nurses to have conversations with patients and families about their infection and isolation status. Nurses will work alongside the medical team, Epidemiology, and Patient Advocacy Departments to collaboratively discuss infection and isolation concerns and implications with patients and visitors. The oncology nurse has the ability to impact the patient experience during hospitalization and empower patients to better understand their infection and isolation status.

36 A PRELIMINARY RESULT TO EXPLORE EFFECTIVENESS OF EXTREMITIES EXERCISE IN BREAST CANCER SURVIVORS WITH TAXANE INDUCED PERIPHERAL NEUROPATHY

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Taxane is one of the most common chemotherapy drugs for patients with breast cancer. Symptoms of peripheral neuropathy such as numbness, weakness, and impaired functioning have the negative impact on patient's quality of life. Limited evidence of non-pharmacological interventions was effective for chemotherapy induced peripheral neuropathy. However, the extremities exercise was effective in the diabetic with neuropathy population. The purpose of this pilot study was to explore the effectiveness of extremities exercise (Ten Hand Skills and Allen Burger exercise) in breast cancer survivors with taxane induced peripheral neuropathy. The quasi-experimental, pre-post test design was used in this study. Inclusion criteria were women >20 years old, newly diagnosed breast cancer survivors with peripheral neuropathy who completed chemotherapy of taxane between 3 months and 3 years, and able to speak, read, write in Chinese. The one month intervention of extremities exercise included Ten Hand Skills and Allen Burger exercise. Data were collected at baseline and at the completion of the study. Research instruments comprised of objective and subjective measurement of peripheral neuropathy, in terms of Total Neuropathy Score-reduced short form, and

Functional Assessment of Cancer Therapy-Taxane, respectively. SPSS 24.0 statistical software was used for data entry. Statistical analyses included mean, standard deviation, frequency, parentage, and Wilcoxon signed-rank test. Thirteen eligible women have joined this study with a mean age of 50.07 (SD 5.79) years old. A significant decrease in Total Neuropathy Score-reduced short form was detected after the study ($z = -2.595, p = 0.009$). Additionally, the FACT-Taxane score revealed a significant increase after one month extremities exercise intervention ($z = -.347, p = 0.019$). The peripheral neuropathy affects the daily life. Moreover, it may even seriously affect quality of life and safety in breast cancer survivors. Our preliminary results identified that the extremities exercise can improve subjective and objective peripheral neuropathy. In addition, one participant subjectively expressed that "this is the first time I feel that my finger is still alive." Results of our study were limited due to lack of the control group and a relatively shorter intervention period. However, the intervention is feasible based on participants' feedback and may be effective to taxane induced peripheral neuropathy in breast cancer survivors according to this preliminary result.

37 LOW T MICROSURGE

April Chen, Xelay Acumen, San Mateo, CA

Nurses' responsibilities for administering treatments to prostate cancer (PCa) patients have grown over the years, especially with the explosion of new therapies over the last decade. However, there is no accepted, standardized assessment list for navigating to the best hormone therapy option for each patient, which could result in suboptimal disease management and a consequent lower quality of life. The aim of this abstract is to highlight six important elements of patient management that nurses should utilize to personalize treatment for PCa patients: (a) Efficacy and Adverse Events, (b) Mode of Drug Delivery, (c) Classes of Therapy, (d) Advancements in Treatment, (e) Treatment Monitoring, and (f) Pharmacoeconomics. Results: (a) Efficacy and Adverse Events: Understanding and monitoring efficacy and safety of drugs is important for managing an individual patient's disease and potential treatment side effects. (b) Mode of Drug Delivery: Having comprehensive knowledge of treatment delivery options, such as oral dosing, IV injections, and intramuscular (IM) or subcutaneous (SC) injections, and their pros and cons, enable nurses to influence decisions that fit patient preferences and expectations. (c) Classes of Therapy:

Comprehending the wide-range of therapy options such as androgen deprivation, androgen pathway inhibition, immunotherapy, chemotherapy, and other adjuvants enables optimal patient care based on disease stage and individual patient circumstance. (d) Advancements in Treatment: Staying up-to-date with treatment and technology advances related to PCa patient management such as therapy order/combinations, longer acting formulations, etc. allows nurses to consider adoption of the newest technologies and provide the best care. (e) Treatment Monitoring: Recognizing the importance of monitoring patient disease advancement and therapy efficacy via patient interactions, treatment compliance, and timely tests such as testosterone and PSA level measurements, ensures the prescription of appropriate treatment. (f) Pharmacoeconomics: Examining the total costs incurred by treatment options, insurance coverage, travel for treatment, and data from Health Economics and Outcomes Research enables consideration of the most cost-efficient option to enhance each patient's quality of life. As a key member of the medical team, nurses should implement the six important elements mentioned above when personalizing PCa treatment. More importantly, staying knowledgeable about all currently available options to personalize treatment is crucial in providing the highest quality of care to PCa patients in an environment of rapidly changing treatment paradigms.

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ONSET AND MAINTENANCE

April Chen, Xelay Acumen, San Mateo, CA

Nurses' responsibilities for administering treatments to prostate cancer (PCa) patients have grown over the years, especially with the explosion of new therapies over the last decade. However, there is no accepted, standardized assessment list for navigating to the best hormone therapy option for each patient, which could result in suboptimal disease management and a consequent lower quality of life. The aim of this abstract is to highlight six important elements of patient management that nurses should utilize to personalize treatment for PCa patients: (a) Efficacy and Adverse Events, (b) Mode of Drug Delivery, (c) Classes of Therapy, (d) Advancements in Treatment, (e) Treatment Monitoring, and (f) Pharmacoeconomics. Results: (a) Efficacy and Adverse Events: Understanding and monitoring efficacy and safety of drugs is important for managing an individual patient's disease and potential treatment side effects. (b) Mode of Drug Delivery: Having comprehensive

knowledge of treatment delivery options, such as oral dosing, IV injections, and intramuscular (IM) or subcutaneous (SC) injections, and their pros and cons, enable nurses to influence decisions that fit patient preferences and expectations. (c) Classes of Therapy: Comprehending the wide-range of therapy options such as androgen deprivation, androgen pathway inhibition, immunotherapy, chemotherapy, and other adjuvants enables optimal patient care based on disease stage and individual patient circumstance. (d) Advancements in Treatment: Staying up-to-date with treatment and technology advances related to PCa patient management such as therapy order/combinations, longer acting formulations, etc. allows nurses to consider adoption of the newest technologies and provide the best care. (e) Treatment Monitoring: Recognizing the importance of monitoring patient disease advancement and therapy efficacy via patient interactions, treatment compliance, and timely tests such as testosterone and PSA level measurements, ensures the prescription of appropriate treatment. (f) Pharmacoeconomics: Examining the total costs incurred by treatment options, insurance coverage, travel for treatment, and data from Health Economics and Outcomes Research enables consideration of the most cost-efficient option to enhance each patient's quality of life. As a key member of the medical team, nurses should implement the six important elements mentioned above when personalizing PCa treatment. More importantly, staying knowledgeable about all currently available options to personalize treatment is crucial in providing the highest quality of care to PCa patients in an environment of rapidly changing treatment paradigms.

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OLDER ADULTS WITH CANCER ON THE MOVE

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Older Adults (OA) with cancer are challenged with immobility. Hospitalized and immobilized OA can develop decreased functional status, increased falls, and increased length of stay. Muscle mass can decrease up to 5% per day in the OA on bed rest in as early as two days. Approximately 30% of hospitalized OA are discharged with a hospitalization-associated disability. This includes the loss of the ability to independently perform a minimum of 1 basic activity of

daily living (ADL). On average 73% of hospitalized patients able to walk were not walking daily and 83% of their time was found to be lying in bed. Functional decline can be decreased in hospitalized OA by increasing mobility. The goal is to improve care of OA with cancer by increasing mobility using the Bedside Mobility Assessment Tool (BMAT). The mobility of hospitalized OA was examined by measuring functional status and activity documented in the electronic medical record at a Comprehensive Cancer Center containing 217 beds. Administrative support for this project was obtained. Nurses in inpatient units were provided with specialized educational training. Education included: immobility and the OA, age-related changes affecting OA, how to utilize BMAT to assess the level of mobility of patients and appropriate mobility equipment needed with each level. Education was disseminated by an online training module and in-services at nursing staff meetings. Preliminary data extracted from the electronic medical record over a 6 month period includes: functional status at admission and discharge, BMAT level at admission and discharge, BMAT use, equipment use, distance ambulated, length of stay and falls. We anticipate an increase in the mobility of OA with the utilization of the BMAT resulting in the functional status of OA being maintained or improved. We anticipate a decrease in LOS and falls. Immobility of hospitalized OA with cancer may lead to a decline in baseline functional status and increased length of stay, furthermore discharge to home may be delayed due to need for transition to rehab or skilled nursing facility. A tool that allows nurses to assess patient's mobility and equipment needs will provide more opportunity for patients to stay on the move. The BMAT provides an objective assessment utilized to increase mobility of OA and decrease functional decline.

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IMPROVING ONCOLOGY TELEPHONE TRIAGE AT AN AMBULATORY CANCER CENTER

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Telephone triage is an essential component of care in the oncology ambulatory setting. Patients and families

necessarily require skilled assessment while at home during the trajectory of care for cancer. It is essential that a triage system of professional oncology nurses has the clinical capacity to field phone calls with comprehensive clinical oncology skills to assess and identify oncologic emergencies and refer these to the appropriate disposition of care. At an NCI designated comprehensive cancer center, treating approximately 9000 patients each year with many early-phase clinical trial based treatments, nurses in all cancer specialty clinics perform this important role but without a standardized protocol of decision-support tools or training resources. The purpose was to create educational resources and implement a standardized process for telephone triage unique to our patient population across the scope of oncology clinical specialties. A multi-disciplinary team of clinical nurse experts and advance practice nurse educators met to develop tools to guide clinical decisions for oncologic emergencies and management of the most common symptoms reported via telephone calls. A literature review was conducted, and the tools were developed incorporating both local clinical specific standards and national professional guidelines. Components of the tools included standardized format, targeted assessment specific to oncology and criteria for care plan development and disposition based on clinical urgency. Evidence in the literature supports that oncology nurses with access to standard protocols, can safely and effectively perform telephone triage. The complexity of our state of the science oncology protocols, mandated our team create tools that provide a framework to promote critical thinking with stated cues for assessment and prompts for disposition. The new tools provide a methodology to train nurses new to the ambulatory setting as well as help to standardize the process across all existing nurses performing telephone triage. The ultimate outcome is to provide for best patient outcomes for our oncology patients.

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TRANSFORMING TELEPHONE TRIAGE WORKFLOW TO SUPPORT EVIDENCED BASED PRACTICE AND IMPROVE NURSE RESPONSE TIMES

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Evidenced based practice of timely assessment and symptom management supports the success of

registered nurses as the initial responders and managers of triage calls in an NCCN outpatient ambulatory clinic. Historically, untrained support staff answered 100% of triage calls. Caller information was manually transcribed on paper and delivered to the triage nurse, delaying response times to only 16.2% calls returned in 10 minutes or less. The purpose of this project was to create a standard workflow to support evidenced based practice and minimize delays in nurse response times for telephone triage calls. A phone tree was established to connect triage calls directly to the triage nurse. EMR compliant messaging and documentation was also instituted to streamline incoming calls that were unable to be routed directly to the triage nurse. This eliminated paper transference and delays in hand-off. The telephone triage policy was updated to reflect the new workflow process and additional training was provided to triage nurses and support staff. Telephone triage is a complex process requiring urgent and critical decision-making. Untrained support staff as first responders, manual workflows, and hand-offs does not support safe and efficient patient care requiring urgent decision making. Patients also report experiencing frustrations as information is repeated to multiple staff members. Establishing this process where nurses are first responders to triage calls assures timely, quality care is delivered to patients. Since implementing this process, supporting data reveals a 35% increase in calls directly answered by a triage nurse. Support staff and triage nurses have also expressed increased satisfaction as well as decreased anxiety with new workflow and documentation process. Further data collection and implications for this process will assist to ascertain return call times, potential for additional staffing, as well as additional education and training needs for triage staff.

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PLACEMENT OF TANDEM AND OVOID PROCEDURES IN THE PROCEDURE SUITE/CLINIC SETTING FOR HIGH RISK PATIENTS

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Intracavitary High Dose Rate (HDR) brachytherapy in addition to External Beam Radiotherapy with Tandem and Ovoids/Rings is an integral component in the curative treatment of locally advanced cervical cancers. This remains the most commonly used standard

of care for local disease control and improving survival rates. Intracavitary brachytherapy can also be used in the treatment of inoperable endometrial cancers. More recently, we have examined the need to implant the applicators in the procedure suite clinic with the overall goal of achieving equivalent outcomes when compared to the operating room. Our center has seen an increase in patient volume along with other anesthesia risk factors (comorbidities) that were indicators for the transfer of the Tandem and Ovoids insertions to the clinical setting. Using oral analgesics and or benzodiazepines have been successful in pain control and reducing the patient's anxiety. The treatment team maintains a close observation for any possible medication related side effects and or untoward events. The intracavitary applicators are utilized using guidelines from the American Brachytherapy Association without jeopardizing standard of care or compromising patient safety. The classical treatment pattern is of 3–5 procedures within a one week's interval. The intracavitary HDR brachytherapy usually begins after 5–6 weeks of concurrent chemo-radiation. The Radiation Oncology treatment team works together to guide the patient through the procedure and expected adverse effects. The nurse leads the clinical care by following our national and institutional policies for surgical/non-invasive procedures such as reviewing of laboratory findings, signing of procedural consents, monitoring of vital signs, pain management and family engagement/education.

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SPECIAL NURSING CONSIDERATIONS FOR TREATING GATA2 DEFICIENCY PATIENTS UNDERGOING STEM CELL TRANSPLANTATION

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GATA2 haploinsufficiency is an autosomal dominant, genetic combined bone marrow failure syndrome and primary immunodeficiency syndrome, first described in 2011. Patients with GATA2 deficiency present with a constellation of clinical manifestations of multilineage cytopenias; atypical mycobacterial infections; severe viral/bacterial/fungal infections, including advanced human papilloma virus (HPV) disease; lymphedema; myelodysplastic syndrome (MDS); and acute myeloid leukemia (AML). By restoring normal immune and hematopoietic function, allogeneic hematopoietic stem cell transplant (HSCT) is the only definitive therapy for this disease. Oncology nurses caring for these HSCT patients need to be aware of the pathophysiology and course of this disease that may result in unique complications and nursing considerations. The diverse phenotypes of patients with GATA2 requires a complete understanding of their complex situations pre- and post-HSCT that warrant special attention to optimize transplant-related outcomes. GATA2 patients have specialized nursing needs when undergoing HSCT compared to patients undergoing HSCT for other hematological malignancies. Nurses need to be aware of these key differences in order to provide optimal care. We have transplanted over 50 patients with GATA2 deficiency at the National Institutes of Health (NIH), National Cancer Institute/National Institute of Allergy and Infectious Diseases making the NIH the world leader in HSCT for this disease. Nursing staff play a critical role in HSCT for GATA2 deficiency by: 1) counseling patients and family members about the genetic nature of the disease; 2) providing important information about the role of HSCT in this disease and possible complications; 3) providing supportive services for management of lymphedema and maintaining a vigilance for cellulitis; 4) assuring support for mental health; 5) educating patients that certain manifestations (e.g. warts) may initially become inflamed during-immune reconstitution; 6) ensuring that appropriate medical subspecialists evaluate and follow the patients (e.g. gynecology for fertility consideration and HPV, infectious disease for the plethora of infections, pulmonary medicine for pulmonary alveolar proteinosis, audiology for hearing loss, and HSCT team for overall management); and 7) monitoring for development of secondary cancers. When caring for GATA2 transplant patients, oncology nurses are in a unique position to play a critical role in

optimizing care and improving patient outcomes; it is essential that nurses are aware of the unique aspects of care for these patients.

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THE IMPORTANCE OF THE MULTIPROFESSIONAL TEAM IN THE PREVENTION AND EARLY IDENTIFICATION OF HAND-FOOT SYNDROME IN PATIENTS SUBMITTED TO THE USE OF CAPECITABINE IN A REFERENCE ONCOLOGICAL CENTER

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Oral antineoplastic therapy acts an important role in the treatment of different types of cancer and its adverse effects have an impact on the patient's quality of life. Among its complications, the dermatological toxicity defined as "Hand-Foot Syndrome (SMP)" or plantar palmar erythrodysesthesia or erythema acral, is more frequent in patients using Capecitabine. The role of the multiprofessional team is determinant in the prevention and identification of the first symptoms of toxicity. Objective: To describe the importance of the multiprofessional team in the orientation for prevention and early diagnosis of toxicity in hand-foot syndrome (SMP) in patients submitted to oral Capecitabine. Methodology: Cross-sectional descriptive study with active search in electronic medical register, of interurrences generated and graded by CTCAE 4.0 (Common Toxicity Criteria) in a private cancer center in the state of Rio de Janeiro. Results: In this period, 44 patients used oral Capecitabine, and 09 (20.45%) presented Hand-Foot Syndrome. Of these, 05 (11.36%) had a grade 1 reaction, 02 (4.54%) had a grade 2 and 2 (4.54%) grade 3 reaction. All patients received medical, pharmaceutical and nursing guidance regarding prevention of the Syndrome. According to the literature, the hand-foot syndrome (SMP) index ranges from 54% to 63% in patients taking capecitabine. We can observe that the results are below the general index, suggesting that the role of the multiprofessional team in the care, prevention and early identification of SMP is relevant because it determines a critical look at the first signs and symptoms of toxicity. In view of the above, with this work, we can suggest that the patient properly oriented and correctly assisted by the multiprofessional team can

obtain a better adherence to the treatment and possible reduction of the toxicity induced by Capecitabine.

45 NURSING CARE TO THE PERSON IN CHEMOTHERAPY: NARRATIVES OF LIFE

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People with lung cancer are vulnerable to death, to damages and harms to health at different stages of illness and treatment, which refers to the need for attention and follow-up throughout this process. The study aimed to identify the narratives of life of patients with lung cancer in chemotherapy treatment the understanding about the process of illness-care and discuss the adaptation to the new way of life. Method: A qualitative research guided by life's narrative method, with 20 patients with lung cancer on chemotherapy in Oncology institution in Rio de Janeiro, developed from February to June 2017. The interview was recorded and transcribed in full. It was the thematic review process that has led to two analytical categories, one of which, entitled, stages of illness and nursing care. The trajectory of illness presented by the respondents signaled difficulties since the diagnosis, treatment and its toxic effects. From the stories of life, identified that the way understand the illness and nursing care are directly linked to the discovery of the disease, the bewilderment, the first signs such as cough and fatigue, beyond the performed therapy. The understanding is by care medication-related concerns, the central line, the damage caused to the self-image, the immediate and late side effects. The second category, entitled, combating the ill and adaptations to the new condition of life highlights the existence of a work routine, as well as activities with the family, social and cultural. For other patients, the weigh of the disease and some negative effects from the medication don't make them have expectations of good prognosis. The position of nurses can be understood as a potential contributor to the strengthening of positive feelings, helping people could overcome illness less impactful as possible. It was concluded that the narratives of life, expressed difficulties, pain, fear, worry, sadness, nonconformity, perplexity that alone demanded care including chemotherapy from the beginning and during the therapeutic process. The humanist approach adopted nurses comfort care, attention, affection, among others, as the preventive care lest occurred complications and thus predictable patient could follow the treatment safer.

46 LONG-TERM FOLLOW-UP OF SINGLE-AGENT IBRUTINIB IN FIRST-LINE AND RELAPSED/ REFRACTORY PATIENTS WITH CHRONIC LYMPHOCYTIC LEUKEMIA/SMALL LYMPHOCYTIC LYMPHOMA

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Ibrutinib, a first-in-class, once-daily BTK inhibitor, is approved in the US for the treatment of chronic lymphocytic leukemia/small lymphocytic lymphoma (CLL/SLL), including del(17p) disease. Oncology nurses play a pivotal role in supporting treatment continuance critical for maximal treatment benefit. The purpose was to report long-term efficacy and safety of single-agent ibrutinib in first-line and relapsed/refractory (R/R) CLL/SLL with up to seven years follow-up and provide experienced-based recommendations for adverse event (AE) management and concomitant medication use. In the Phase 1b/2 study and subsequent extension, patients were given ibrutinib until disease progression or unacceptable toxicity. Long-term efficacy and safety outcomes were evaluated. Of 132 ibrutinib-treated patients (31 first-line, 101 R/R), after median (range) follow-up of 67 months (0.7+, 87), 17 (55%) first-line and 21 (21%) R/R patients continued ibrutinib. The overall response rate was 89% for all patients (complete response, 15%). Median progression-free survival (PFS) was not reached for first-line and was 51 months for R/R patients; at seven years, estimated PFS rates were 80% and 32%, respectively. Median overall survival was not reached for first-line or R/R patients; estimated rates at seven years were 75% and 52%, respectively. Treatment discontinuations were primarily due to AEs in first-line (23%) and disease progression for R/R patients (35%). The most common AEs (≥ 2 patients) leading to discontinuation were diarrhea, subdural hematoma, and sepsis ($n=2$ each). Grade ≥ 3 AEs were reported in 74% of first-line and 89% of R/R patients, with occurrences of most declining after first year of treatment. Hypertension (27%) and pneumonia (23%) were among the most common grade ≥ 3 AEs. Nurses provide support in the management of AEs and educate patients on

the importance of continuing ibrutinib for maximum efficacy. Per author's experience and institutional practice, diarrhea can be managed with loperamide when infection is ruled out and hypertensive patients are recommended to keep daily blood pressure logs with hypertension managed per JNC-8 guidelines. Nurses should coordinate with care teams on concomitant medication use (eg, CYP3A inhibitors) that may increase ibrutinib plasma concentrations and the risk of AEs. With up to seven years follow-up, single-agent ibrutinib was well tolerated and demonstrated sustained activity in first-line and R/R CLL/SLL. Oncology nurses can support continued treatment through patient education on AE management and concomitant medication use.

47 **IMPROVING THE PAIN EXPERIENCE FOR CANCER INPATIENTS: A QUALITY IMPROVEMENT PROJECT**

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Pain is a significant problem for individuals diagnosed with cancer. Upwards to 50% of persons with cancer report pain, and upwards to 80% of those with advanced disease report moderate to severe pain. Pain satisfaction Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) composite scores on an adult inpatient solid tumor unit within an NCI-designated comprehensive cancer center was 57.7% between May and July 2017, indicating an opportunity to reduce suffering in this vulnerable population. Nurses are in a unique position to impact patients' pain experience, therefore, an evidence-based nursing intervention to improve pain management on this unit was sought. This quality improvement project determined the effect of an evidence-based Pain Stoppers bundled intervention on solid tumor inpatients' HCAHPS pain management satisfaction scores, actual pain intensity scores, and nurses' knowledge and attitudes on pain (KAP) scores using a pre-post intervention design. Evidenced-based strategies for improvement included staff education, improved staff communication, adoption of caring behaviors and timely responses; improved patient education; and various efforts to maintain patients' analgesic levels. The percentage of patients answering "always" to the HCAHPS question "staff did everything they could to help with pain" improved from

61.5% in the pre-intervention group to 90% in the post-intervention group. There were no statistically significant differences between first, last, lowest and highest mean pain scores between the groups. Highest mean pain score was 6.66 in the pre-intervention group and 6.98 in the post-intervention group and median pain scores were 7 and 8, respectively. There was no difference in mean KAP scores between Registered Nurse (RN) groups, but there were statistically significant improvements on individual questions in the post-intervention group. Cancer inpatients' satisfaction with pain management may be improved through implementation of a bundled intervention that addresses staff education, staff behavior, consistent patient education and a focus on analgesic level maintenance. Combining the various techniques supported by evidence from the literature resulted in improvement of the HCAHPS question addressing staff doing everything to help with pain. This quality improvement project supports findings from previous studies indicating that RNs can improve patients' pain experience, even without impacting actual pain intensity scores, and that RNs can lead the effort to increase patients' satisfaction with how their pain is managed.

48 **DA VINCI: ADVANCING THE FUTURE OF NURSING ASSESSMENT AND EDUCATION IN ROBOTICS**

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Robotic surgery was first performed in the 1990's in academic medical centers in Europe. Robotic surgery has evolved across surgical oncology subspecialties in the United States since 2000. Currently there are a limited number of institutions and surgeons that perform robotic surgery. Nurses need to have knowledge of robotic procedures in order to provide quality nursing care to the postoperative patient. At our institution, robotic surgery has been performed for approximately one year in gastrointestinal oncology surgery. The purpose of this project is to educate the nursing staff on a surgical oncology unit about the nursing assessment and management of patients who undergo robotic surgery compared to patients undergoing traditional open surgery. A journal club

presentation with a poster of robotic surgery nursing assessment and care was presented to the staff on a surgical oncology unit. Discussion was held with all members of the health care team during journal club regarding nursing assessment and management of the robotic surgery patient. Evidence-based literature and a post-education quiz were provided to the nursing staff. Results of the post-education quiz were analyzed. The outcome of the quiz was utilized to revise containing staff education for annual surgical nursing competency. Providing evidence-based post-robotic surgical nursing assessment and care is imperative for optimal patient outcomes. Decreased length of stay requires patient and family teaching immediately postoperatively compared to the traditional open surgical approach of waiting several days postoperatively. Early ambulation and feeding are supported by evidence-based literature. Robotic surgery is becoming an innovative procedure for all solid tumor oncology surgery patients. There are basic similarities of postoperative nursing care across all oncology subspecialties. It is important to utilize evidence-based literature to educate all surgical oncology nurses.

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PRODUCTIVITY THROUGH VISIBILITY: IMPLEMENTATION OF A VISIBILITY BOARD TO IMPROVE NURSE ENGAGEMENT ON AN INPATIENT ONCOLOGY UNIT

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An oncology unit at an academic medical center experienced significant turnover as team members transferred to outpatient care. With an influx of highly energized new graduate nurses, the desire to build a culture of excellence and engagement was cultivated. The unit created a mission statement and vision that prioritized excellent patient care and experience, teamwork, and collaboration. Nurses identified areas of opportunity where nursing care could have the greatest impact on key performance indicators (KPIs). The goal of the project was to create a standardized method of communication among the staff and patients, highlighting the team values and desired outcomes to promote engagement of the front-line nursing team. A “visibility board” (VB) was created and displayed in a high-traffic area to stimulate engagement and education. Utilizing principles of Lean methodology, the VB allowed for transparency, problem solving, and engagement with

the KPIs among patients and the team. Unit council members and unit champions designed standard sections including Recognition, Safety, Patient Experience, and Quality. The visual presentation of the board allows viewers the opportunity to learn about work on the unit in real-time. At shift change, nursing, ancillary staff and nurse leaders convene at “huddle” in front of the VB to discuss KPIs and review progress towards set goals. The VB has afforded the entire team the opportunity to be involved and feel connected to the overall values of the institution. The staff has voiced feelings of uniformity, inclusivity, and improved morale by developing teamwork and recognition. Huddle became an opportunity to self-reflect, recognize team members, feel appreciation, and take ownership over projects. Patients and visitors were able to read highlights and verbally provided feedback to nursing staff about data and information on the VB. Engagement survey scores from 2016–2018 were tracked to identify improvements in quality, recognition, and professional growth. Positive trends with KPIs have been observed as a secondary effect after the implementation of the VB. Creating a standardized, transparent tool to communicate progress on KPIs has proven to be a strategy that positively facilitates team engagement. The institution used the Oncology VB to implement VB hospital wide, allowing each unit to take ownership of their KPIs, patient care, and facilitate nurse engagement.

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WHAT DOES IT MEAN TO HAVE A BALANCED LIFE?

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Magnolia Pediatrics, Johnston, RI**

Purpose: What does balancing life mean to a parent who has a child living with a complex chronic medical condition(s)? Design: Mixed Methods, survey and focus group. Sample: Convenience Sampling (35 parents). Content: Research. Findings: A paucity of parents felt as though their life is balanced. Parents reported what a balanced life “looks” like for someone who does not have a child living with complex chronic medical conditions. Parents reported what a balanced life “looks” like for someone who does have a child living with complex chronic medical conditions? Identified things parents do to balance their life (i.e. exercise, journaling, maintain friendships and sense of humor). Identified challenges to balancing their lives (i.e. guilt, lack of support, money, and time). Conference Learning Gap: The learners will gain an understanding and identify the challenges that

impact how parents balance their lives when caring for a child living with complex chronic medical conditions. This knowledge can then be integrated into the plan when addressing the self-care of the parent(s). Learning Outcomes: The learner will be able to do the following: (1) Identify the challenges that impact how parents balance their lives when caring for a child living with complex chronic medical conditions. (2) Identify what parents can do to balance their lives.

51 TRANSITIONAL CARE: SUPPORTING THE PATIENT ON THE CANCER JOURNEY

Anne Delengowski, RN, MSN, AOCN®, CCCTM, Thomas Jefferson University Hospital, Gloucester, NJ

The cancer journey continues to become more and more complicated and assisting the patient and family navigate this new norm is essential in providing quality care. Many factors contribute to the complexity of this new journey. The purpose of this transitional care project was to identify these factors in a structured way and to collaborate with the interdisciplinary team across the care continuum to address these issues and to allow for a more seamless transition from inpatient care to the outpatient areas. These unique processes address the goals of both IHI's Triple Aim and the CMS Oncology Care Model. The concept of transitional care originated through the American Academy of Ambulatory Care Nursing. The core curriculum, "Care Coordination and Transition Management" gives a foundation to this process, but for the most part centers on ambulatory care. The oncology nurses on a 58 bed oncology unit identified the need for improvement of the transitional process and developed what was a mostly outpatient process to include the inpatient area. The basic concept is not to see the inpatient experience as an ending (discharge), but a beginning (transitioning care) with the need to assist the patient and caregiver on this new journey. Often the inpatient experience is the beginning of the cancer experience (new diagnosis) or a period when disease progression has occurred, both needing a more structured approach to care. This presentation will discuss the utilization of certified transitions of care (TOC) nurses (Certified Care Coordination & Transition Management-CCCTM) during the acute care stay to improve patient satisfaction, decrease length of stay and decrease 30 day readmissions. The presentation will address the interdisciplinary approach utilized. Additionally, the presentation will address tools used in the process, the use of EMR for communication throughout the continuum and the establishment of

a clear post discharge follow up utilizing telehealth and early appointments with care providers, all vital concepts in Care Coordination and Transition Management. This innovative program was highlighted in a session as the institution applied and received its third Magnet Recognition Program® certification.

52 SEPSIS IN ONCOLOGY: THE CHALLENGES CONTINUE

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Morbidity and mortality related to sepsis in the cancer patient can be devastating. The unique characteristics of cancer patients secondary to the disease process, treatment of the disease and barrier deficiencies lead to the need to be both vigilant and proactive in the care of these patients. Many inflammatory responses from cancer and its treatment may present with a picture similar to sepsis, such as cytokine release syndrome and differentiation syndrome in the treatment of promyelocytic leukemia. Improved survival has been identified with early initiation of antibiotic therapy especially in the patient with neutropenia and the utilization of sepsis bundles. The Oncology Clinical Nurse Specialist (CNS) of a 58 bed inpatient unit identified a need for such vigilance and proactivity. It was noted through various committees that the oncology unit, composed of general care unit and a telemetry unit, was found to be the consistent top trigger (the oncology telemetry unit) for the modified early warning score (MEWS) throughout the hospital and the medical oncology unit always triggered second or third highest. Initially, the assumption was that there was an over alarming, but upon further identification, this was found not to be true. The CNS worked closely with the sepsis and MEWS committees to highlight the needs of the oncology population. Education to the professional and ancillary staff is ongoing (including the emergency department) with oncology nurses presenting annually at the sepsis interdisciplinary conference. A subcommittee, consisting of a bedside nurse, chief resident and medical chair of the MEWS committee, identified areas to improve with day to day care of this population. Some targeted projects included peer to peer education of nursing and physician residents related to the unique needs of cancer patient with potential sepsis and the need to follow the MEWS protocol and daily huddles related to patients triggering yellow or red MEWS alert. The purposes of this presentation are to discuss the issue of sepsis in the cancer patient, identify challenges to

meet the needs of this population, describe innovative interventions to improve the quality of care in the cancer patient with possible sepsis, future endeavors to go beyond the scope of inpatient care to outpatient areas and discussion of outcomes.

53 CYTOKINE RELEASE SYNDROME (CRS) AND NEUROTOXICITY IN CAR-T CELL THERAPY PATIENTS

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Seattle Cancer Care Alliance (SCCA) has treated over 300 patients with CAR-T cell therapy since 2013. In the fall of 2016, SCCA opened the Bezos Family Immunotherapy (IMTX) Clinic, an ambulatory clinical facility designed specifically to provide CAR-T cell therapies. CAR-T cell therapy is an emerging treatment, early phase research endeavor and symptom management is vital for safely managing patient care. CRS and neuro-toxicity represent an oncologic emergency mandating immediate recognition and intervention. The purpose of the project was to develop a precise process and tool for early identification of CRS and neurotoxicity in the Car-T cell patient population. An IMTX nurse led multidisciplinary team evaluated incidence and management of the serious adverse reactions of CRS and neuro toxicity. A review of literature, state of the science analyses with the IMTX physicians, APPs, research teams, pharmacy, nutrition, intake department, chaplaincy and social work guided the development of specific policies, procedures. Competencies to support the management of CRS and neurotoxicity include: (a) Orders and practice guidelines review and vetted through multidisciplinary, collaborative institutional research and clinical Standard Practice Committees, (b) Standardized Nursing assessment of CRS and neurologic toxicities (daily X21), (c) Multidisciplinary patient rounds 3x per week with CRS, Neuro toxicity assessment, (d) All IMTX Clinic nurses proficient in CRS and neuro assessment, (e) Dedicated 24/7 triage line for patients to consult with IMTX trained nurse or provider, (f) IMTX nurse coverage triage on weekends and holidays, and (g) Patient Transition coordination between hospital to ambulatory IMTX clinic. IMTX nurses have successfully created standardized policies and procedures with tools to effectively care for Car-T cell patients and monitor for

CRS and neuro-toxicity. Evaluation is ongoing for the assurance that best practices are in place for addressing these potential oncologic emergent events. Early phase clinical research inherently brings new risks for patients receiving oncology care. Nurse play a crucial role in responding to these implications of research to promote the best outcomes for patients and to advance the science of oncology care.

54 CHARGE NURSES TAKE THE LEAD DURING DISCHARGE ROUNDS

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On a busy in-patient surgical oncology unit there have been various rounding processes utilized by each surgical team. This has contributed to lack of participation by bedside nurses. The registered nurses (RNs), nursing leadership, and other members of the multidisciplinary health care team met and after completing a literature review, developed a new process. Morning discharge rounds for two surgical services would be led by the bedside nurse and facilitated by the Clinical Nurse Specialist (CNS). A template was also created to ensure each discipline has the opportunity to address their concerns/needs regarding the plan of care. The purpose of the project was to provide nursing staff and members of the healthcare team a daily platform in which they can address questions related to patient care with everyone present. Recently, leadership and management have encouraged the charge nurses to take ownership of facilitating nurse led rounds. This process modification will be discussed at a scheduled charge nurse meeting. It will be an open forum where questions and concerns will be addressed. A few of the charge nurses will onboard the rest of the charge nurse group and help implement the change as well as provide support and encouragement to all the staff. An anonymous electronic survey will be distributed prior to the implementation and at periodic intervals following the implementation. This will evaluate staff satisfaction and the effectiveness of the new process. Results of this survey will be compared to the surveys that were collected during the initial rollout of nurse led

rounds. Nurse led rounds has helped increase nursing knowledge as well as communication with all members of the healthcare team. In turn, this has helped nursing communicate the plan of care and individualized goals for patients. Transferring the responsibility to the charge nurse to facilitate nurse lead rounds will make rounds more consistent. It will be a great advantage to have the charge nurses who are the “eyes and ears” of the unit, facilitating nurse led rounds. This will help maintain a collaborative relationship with the healthcare team as well as promoting and improving teamwork.

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IMPACTING PREVENTION AND EARLY DETECTION THROUGH SCREENING: A COMMUNITY BASED CANCER PROGRAM INITIATIVE

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Efforts had been made to encourage participation in health promoting activities that increase one’s knowledge to make behavioral modifications that lead to healthier lifestyles. The same initiatives are the focus across the cancer community around education on prevention and early detection measures to reduce risk of cancer and mortality associated. Breast cancer continues to be number one for incidence in women with colon cancer ranking 3rd for men. Respectively overall deaths continue to rank 2nd and 3rd in these two disease processes. The same data is consistent for Delaware County which is located in the Columbus, Ohio metropolitan area. In an effort to impact cancer incidence, several screening events were held in the community in collaboration with Source Point, a community based program for those 55 and over and at OhioHealth’s Grady Memorial Hospital which serves central Delaware, Ohio residents and the ambulatory site of the comprehensive cancer center. Over the last 2 years several education events have taken place with the focus on Breast or Colon cancer screening and prevention. Each event was staffed with oncology nurses who were able to provide education on screening guidelines, primary care information, resources in the community such as imaging sites and mammography services. The events also provided for on-site scheduling for mammography and colonoscopies. An initial breast screening event was held in October of 2016 at all three sites, total participants was not captured at the time however six mammograms were completed, with no abnormal findings. The following year more structure

and resources were included in the screening event which yielded 105 participants with 53 mammograms scheduled, with no abnormal findings. In addition to breast screening a colon screening event was added in March of 2018 with 113 participants and 7 colonoscopies being scheduled with one abnormal finding. Cancer education interventions increase knowledge about cancer risks; including appropriate screening guidelines, modifiable behaviors, and resources to aid in access to care and/or diagnostic options. Preventative and early detection measures continues to be an area where healthcare organizations and clinicians can make an impact through community based initiatives, decreasing the incidence of cancer overall.

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CREATING A CULTURE OF SAFETY: SAFE HANDLING OF HAZARDOUS DRUGS

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Updated recommendations from the U.S. Pharmacopeia (USP) 800 regarding requirements for safe-handling of hazardous drugs have led to a need for a change in policy in our ambulatory oncology infusion center. The current policy at our institution follows the Oncology Nursing Society’s recommendations for use of personal protective equipment (PPE), but is not required at this time. The goal is to promote a culture of safety, accountability and responsibility for the well-being of all nurses and patients with the upcoming required use of PPE when handling hazardous drugs. A survey was sent to the outpatient oncology infusion nurses in April 2018 to identify knowledge gaps and potential obstacles for the use of PPE. Results showed that nurses were aware of the dangers of exposure, but felt using PPE would take up too much time. Since the survey was sent, nurses who served as informal champions have already started the conversation on PPE use to encourage others to follow the recommendations. Our Unit Practice Council (UPC) then formed a sub-committee for safe-handling to address how to change this practice. A new system-wide policy was written and is

currently pending approval by the both the UPC and the oncology nurse practice council. Once approved, nurses will be formally educated to the change in policy and PPE Champions will be utilized to facilitate the culture change on each unit. At the monthly UPC meeting, the safe handling sub-committee is a standing agenda topic. Since increasing awareness and providing education during these meetings, we have seen an increase in staff wearing appropriate PPE. Following formal education and competencies, we will send out a follow up survey to see how many nurses deem themselves compliant with the new change to policy. Education will continue with our outpatient infusion nurses and will also incorporate our inpatient colleagues. Our PPE champions will increase accountability and empower nursing staff to use proper safety procedures. Promoting a culture of safety is necessary due to unknown long term effects of exposure. Maintaining an interdisciplinary effort is essential to ensure appropriate stock of necessary supplies and disposal methods. As new evidence and additional recommendations are published, we will continue to investigate and acquire equipment to promote safest handling techniques.

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PUTTING A LID ON UNSAFE CHEMOTHERAPY PRACTICE—PATIENT WASTE HANDLING

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According to the Occupational Safety and Health Administration (OSHA), chemotherapy is a hazardous drug (HD) causing genetic damage, chromosomal abnormalities, teratogenic effects, and secondary malignancies. Healthcare workers who are chronically exposed to HDs put themselves at risk when they do not use the correct personal protective equipment (PPE) or follow safe handling guidelines. Our current practice protects nursing personnel during the administration and disposal of chemotherapy; however our team identified a knowledge and practice gap when handling patient waste (excreta, urine, and emesis) in the 48 hours post-chemotherapy administration. The purpose of the project is to provide nursing personnel with the education and resources to practice safe handling of patient waste post chemotherapy administration on a 20-bed adult inpatient Hematology/Oncology unit. A literature review compared our current practice and protocol to national benchmarks. A gap analysis revealed a knowledge and practice deficit in handling patient waste post chemotherapy administration. A pre-survey demonstrated

insufficient staff knowledge (average score of 57%) related to chemotherapy safe handling, particularly regarding proper use of PPE. Educational sessions were created on proper safe handling practices and post surveys will be sent 1 month and 3 months post educational intervention. We collaborated with Environmental Health and Safety, Environmental Services, and Pharmacy departments to create and implement a policy across all services. Chemotherapy precaution signage was created and placed on the patient bedside communication whiteboard. By administering surveys post educational intervention and performing monthly audits on chemotherapy precaution signage using a Champion model, we will be able to use measurable data to determine an increase knowledge on safe handling of patient waste. Oncology nurses provide direct patient care; administering chemotherapies safely and managing symptoms related to HDs. Handling waste post administration is not enforced and there is currently no equipment available (PPE and chemotherapy bins) to encourage nursing personnel to handle waste safely at the episode of care. Our next steps include incorporating important best practices into our policies and procedures and providing nursing personnel with the proper resources. These changes will be implemented across the oncology service line, using educational interventions and our interprofessional partnerships with other departments. Oncology nurses are imperative when implementing changes to clinical practice, impacting patient outcomes and supporting our institutional initiative of zero harm.

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#NURSESTOO

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The #MeToo movement, an online campaign where women from all walks of life shared their personal stories of sexual assault and harassment went viral in October 2017. In 2018 the movement remains strong as victims of sexual assault speak out after decades of silence. The World Health Organization (WHO) estimates that the prevalence of sexual violence and harassment affects one third of women worldwide. A 2018 survey of U.S. academic faculty members found that 30–40% of women in health care experienced

sexual harassment and that most did not report the incidents. Sexual harassment as defined by WHO and its partner organizations is “any unwanted, unreciprocated, and unwelcome behavior of a sexual nature that is offensive to the person involved, and causes that person to be threatened, humiliated, or embarrassed.” Studies show nurses are reluctant to report incidents of sexual harassment, especially when it involves patients. Unfortunately, nurses lack the tools and resources to act when they are confronted with sexual harassment situations. The purpose of this poster presentation is to present the results of a survey about the prevalence of sexual harassment on our inpatient hematology/oncology units, particularly from patients. Results about other unwanted sexual harassment in the work place will also be reported. All nursing staff (NPs, RNs, HCAs) who work on the inpatient hematology/oncology units were invited to participate in an anonymous self-administered survey comprised of select questions from the Sexual Experiences Questionnaire related to their experiences with sexual harassment. Open-ended questions were also included to allow staff to share their own personal stories. The survey is currently in process but the goal of this survey is to explore the experiences of sexual harassment among our nursing staff both from patients and in the work place. It is our aim to refine and expand the survey into a research study to learn about our nurses experiences with sexual harassment institute wide. We recognize that this topic is risqué but we believe it is a timely and relevant topic if we are going to learn from the experiences of nurses impacted by sexual harassment. In learning about these experiences we can foster a safe environment for nurses to report harassing and unwanted behavior without fear of retaliation.

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DEVELOPING A CLINICAL PROGRAM FOR CONTINUOUS SUBCUTANEOUS INFUSION AT END-OF-LIFE IN A COMMUNITY HOSPITAL

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Patient-controlled analgesia for patients at end-of-life is commonly used for palliation and symptom management. Without a central venous access device, maintenance of vascular access in these patients is often challenging due to underlying disease or dehydration. Repeated attempts at peripheral IV placement can cause discomfort and increased stress

for both the patient and their loved ones. Although use of subcutaneous infusion is considered an effective and evidence-based practice commonly utilized in the hospice setting, the process had not been implemented within our community inpatient hospital setting. The purpose of this project was to implement a process for initiation of subcutaneous access for the administration of comfort medications or infusion of patient-controlled analgesia for patients at end-of-life without adequate vascular access within the hospital setting. Collaboration between the inpatient oncology department and the palliative care service occurred to develop a process of implementation of subcutaneous infusions at end-of-life. A comfort management and patient-controlled analgesia order set was created based on palliative medications deemed safe for the subcutaneous route of administration. Research regarding needle selection was performed and a model was selected. A decision was made that the palliative care team, nursing house supervisors, and inpatient oncology nurses would be trained as superusers. Education was provided regarding the proper subcutaneous needle placement, troubleshooting lines, and appropriate medications. After several successful subcutaneous infusions, the oncology nurses demonstrate competence in placement and maintenance of subcutaneous infusion catheters and report ease of use. Patients and family members report improved symptom management, as well as, and patient’s families express relief that their loved one “won’t be poked anymore.” Subcutaneous infusion is used for care of patients at end-of-life in hospice. Expanding our definition of “comfort” care in the hospital to include this treatment improves the manner in which nurses can provide safe and quality patient care at this critical time. By developing a team of superusers made up of palliative care and oncology nurses, a procedure traditionally reserved for hospice to palliate patients at end-of-life has been implemented throughout the inpatient setting of our community hospital, improving the patient experience.

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REDUCING FALLS THROUGH THE USE OF COLORED PLACARDS TO IDENTIFY HIGH-RISK PATIENTS

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Reduction of fall rates continues to be a priority in patient safety goals. Patient falls can lead to a myriad of unwelcome consequences including: increased cost, risk of patient harm/injury, loss of independence/

autonomy, increased length of hospital stay, and in some cases, death. These potential complications make preventing patient falls in the clinical setting a matter of the utmost importance. The objective of this project was to evaluate the mobility practices of patients on a Medical-Oncology inpatient unit. This included identifying fall risk through the use of colored placards and assessing the impact on patient fall rates. In 2017, there were a total of 17 falls on the inpatient oncology unit. As part of the initiative to decrease this number, tri-colored placards were developed and placed on each patient door: green for independent ambulation, yellow for moderately-assisted ambulation, and red for non-ambulatory/heavily-assisted ambulation. In addition, these cards were laminated to allow practitioners to further indicate level of assistance (i.e. walker, cane, stand-by). The goal of this intervention was to create a quick reference for staff, unfamiliar with the patient, to use when immediate assistance was needed. During the evaluation of this tool, we noted that current documentation practices allowed for poor differentiation regarding the circumstances surrounding patient falls making it difficult to evaluate contributory factors. While it is difficult to determine the impact of this specific intervention due to a lack of secondary coding data, there has been a significant amount of positive feedback from staff, who have increased confidence assisting patients, following its implementation; allowing patient needs to be both evaluated and met sooner. The enactment of a facility-wide “no pass zone” policy necessitated further intervention to alert staff to high fall risk patients as well as their level of mobility. When used in conjunction with other methods (i.e. fall identification bands, bed alarms, and fall alert signs), this intervention generated greater opportunities for improved patient safety through fall prevention.

61 **DEVELOPMENT OF A FREE ONLINE TOOL FOR SAFE HANDLING OF HAZARDOUS DRUG EXCRETA**

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Despite a wealth of published material for the safe handling of hazardous drugs (HDs), relatively little has been published on handling excreta. USP chapter <800> provides a new standard for HD safety. However, most of the information pertains to compounding and administration. Handling of excreta is mentioned as a risk for exposure but no nursing guidance is provided, nor is there information

on specific drugs. Published references such as the ONS *Safe Handling of Hazardous Drugs* 3rd Edition devotes a page to handling excreta, with a table for specific drugs. But due to the static nature of print and the timeline required for publication, it cannot be updated when new drugs are approved and more information becomes available. This topic continues to be a regular source of discussion in the ONS Communities, indicating a need exists to develop a more comprehensive, easily updatable guide for handling HD excreta. The information should include recommended personal protective equipment (PPE), proper disposal, and the timing of drug excretion through various routes for all FDA-approved oral, IV and subcutaneous HDs. A web-based tool is being developed, utilizing information from published sources (e.g., MicroMedex[™]), prescribing information, and national guidelines. Publishing the tool online will allow it to be updated monthly or as often as necessary. Information will be listed alphabetically by drug name. It will be offered free of charge, without corporate sponsorship or advertising to avoid perceived conflict of interest. A launch timeline has been set for the second quarter of 2019. The goal of this ongoing project is to create an easy to use, nurse-friendly tool that can help drive policy and procedure development for healthcare organizations, and function as a meaningful resource for oncology nurses worldwide. This novel website will be the first of its kind. A link for offering feedback will be provided on the web-page.

62 **IMPROVING CARE FOR THE “OLDER” YOUNG ADULT IN THE ADULT ONCOLOGY WORLD: THE POWER OF ONE**

Jean Ellsworth-Wolk, MS, APRN, AOCNS[®], Cleveland Clinic Cancer Center at Fairview Hospital, Cleveland, OH

Over the last decade, the clinical care of the Adolescent and Young Adult (AYA) cancer population has been in the spotlight and has improved due to the tireless work of a small group of passionate advocates. The majority of the advancement in care has been in the 15–25 year old range in the Pediatric oncology arena with the addition of AYA navigators and specialized physical spaces within institutions. The age range of AYA according to the National Comprehensive Cancer Network Guidelines (NCCN) is between the ages of 15–39, which leaves a large number of AYA (26–39) patients that are outside of the benefit of this increased focus. This older young adult population has actually been increasing due to recent trends in

cancer incidence in this age range. Although not high volume, these patients can be high risk and high need in terms of their overall care and are found in every clinical setting in which adult oncology nurses work. Areas of concern include oncofertility, psychosocial status, financial need, survivorship care and age appropriate resources. Formalized programs would be ideal but what is essential is a champion with passion who wants to make a difference in this age group. The purpose of this poster is to outline interventions which can be utilized by oncology nurses in adult clinical settings to improve the care of the younger adult oncology patient. These interventions will be categorized by level; patient, population or program. By collaborating with existing institutional and community resources a significant improvement in care for this population can be made by even one person. Teen Cancer America is but one example of such a resource available to any institution. The material presented in the poster will give those self identified advocates encouragement and tools to take a step toward action in making a difference in the care of the younger adult oncology patient. A discussion of available resources will also be included. The author's institution will be used as an example for outcomes.

63 QT PROLONGATION IN CANCER THERAPY

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Cardiovascular disease is the leading cause of death in the United States, followed by cancer. In many cases, the side effects of cancer treatments and supportive medications leads to cardiovascular disease. QT prolongation on electrocardiography (ECG) is a cardiotoxicity rising in incidence with increasingly newer, more targeted cancer therapies. QT interval prolongation is caused by abnormality in myocardial repolarization that can lead to torsades de pointes and sudden death. Other common cancer medications implicated are arsenic trioxide, tyrosine kinase inhibitors (TKIs), antiemetics, H2-blockers, proton pump inhibitors, antimicrobial agents, and antipsychotics. QTc interval is considered prolonged at >430ms in adult male and >450ms in adult female patients. This presentation will provide an overview of QT interval prolongation, the most common cancer-related drug treatments implicated, risk factors, monitoring and nursing care strategies. Incidences of QT prolongation varies greatly with different medications but can be as high as 93% as with arsenic trioxide. Knowledge of the risk factors and etiology of QT interval prolongation

can guide nursing assessment, enhance patient education and improve care management. It is essential to conduct a thorough assessment of the patient's risk by reviewing past medical history, medication list and cancer drug therapy. Prior to initiating therapy as directed by the physician, a baseline ECG should be evaluated in addition to serum potassium, calcium, magnesium, and creatinine. Any electrolyte abnormality should be corrected prior to initiating treatment. If QTc interval is >500ms on monitoring, consideration of therapy discontinuation is warranted. Early recognition of patient's risk factors along with medical history, electrolyte levels, and knowledge about the side effects of the patient's medications can help prevent this potentially life-threatening arrhythmia. Patients will need continued monitoring while on treatment—vigilance of changes will allow for early intervention thereby preventing sudden cardiac death. As more novel treatments are approved for cancer treatment, risk of cardiotoxicity persists even with the targeted therapy. It is imperative to recognize the potential cardiac effects, such as QT prolongation. Early recognition and management of toxicity is essential in preventing sudden cardiac death.

64 ALL AND OBESITY: IS THERE A CONNECTION?

Estee Ephron, MSN, RN, Columbia University School of Nursing, New York, NY

Acute lymphoblastic leukemia is the most common cancer in the pediatric population, with 3 out of 4 leukemias among children and teens diagnosed as ALL. Advances in treatments over the past decade have successfully increased the rate of survivorship, however this improved prognosis has raised new concerns about long term survivor complications. Combined with the pre-existing history of ALL, studies have shown these children to be at greater lifetime risk for comorbid conditions. Obesity continues to be a significant problem in the United States, with an estimated 13.7 million children and adolescents affected, and is a serious health concern that puts children at risk for poor health outcomes. Research has shown that ALL survivors have obesity rates 2 times the general populations, with findings revealing up to 36% of patients found to be obese 5 years post treatment. As nurse clinicians, it is important to understand this crucial connection, and individualize appropriate care for these patients by implementing early interventions and education. Smartphone and mobile application usage is ubiquitous across ages and socioeconomic

lines, creating an accessible and engaging way to involve children and families in their healthcare. This easy to access technology can provide a connection to these children at their fingertips, providing vital monitoring, nutrition and activity counseling, and improved adherence to follow up. This presentation will discuss the prevalence of obesity and co-morbidities faced in patients with a history of ALL, with a focus on strategies for follow up, education, and resources using mobile applications to connect to patients in a unique and innovative way.

65 OPTIMIZING ORAL CHEMOTHERAPY COMMUNICATION AND EDUCATION FOR PATIENTS IN AMBULATORY ONCOLOGY SETTINGS

Robin Esposito, RN, OCN®, Yale New Haven Hospital
Smilow Cancer Care Network, New Haven, CT

In recent years, there has been an exponential increase and focus on the utilization of oral chemotherapy agents for the treatment of numerous oncologic diagnoses. These agents are essentially administered by the patient directly at home outside of the direct supervision of the nurse. This autonomous utilization has led to increased call volume from patients with questions and concerns regarding their medication and supply, insurance coverage, safe handling, and general concerns. At Smilow Cancer Hospital, a large academic, NCI designated cancer center with 10 community locations, a standardized, centralized process for oral chemotherapy prescription management ensures safe administration to patients. However, patient feedback revealed delays from time of prescription to time of dispensation resulting in increased anxiety due to lack of understanding and knowledge of the process. Phone calls back and forth between the pharmacy team, the patient, and provider often lead to time lost and confusion with the patient, which in turn, may lead to loss of adherence and poor patient experience. The goal of this project is to improve patient safety and communication in an easy to use, easy to distribute manner to promote patient understanding regarding oral chemotherapy administration and adherence. Qualitative and quantitative information was compiled from practice and infusion nurses as to the type of phone calls they most often receive on patient oral chemotherapy prescriptions. Input from unit leadership was utilized, and a review of the institutional policy on oral chemotherapy order processing was conducted. The pharmacy team was consulted to discuss the workflow and how they are

handling patient follow up to identify potential gaps in communication and opportunities for improvement. Utilizing this knowledge, a patient information tool was developed to standardize education provided and clarify patient expectations regarding the overall process. Reduction in overall number of oral chemotherapy phone calls was noted concerning clarification of administration, and communication on safe handling and side effects was standardized. Physicians and staff have felt the tool was easy to utilize and was well received by patients. To improve patient safety and patient satisfaction scores, utilization of a communication tool for oral chemotherapy prescribing proves to be necessary to promote comprehensive understanding of a complex process.

66 THE EXPERIENCE WITH THE TECHNIQUE OF ULTRASOUND-GUIDED MICRO-PUNCTURE FOR IMPLANTATION OF CENTRAL VENOUS CATHETERS OF PERIPHERAL INSERTION (PICC) IN A CHEMOTHERAPY OUTPATIENT CLINIC

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Peripherally inserted central catheters (PICC) are intravenous devices inserted a superficial or deep vein of an upper or lower extremity and advanced to the distal third of the superior vena cava or proximal third of the inferior vena cava. Can be used for infusion of therapies with vesicant substances and in continuous or intermittent therapy. The catheter can be inserted by trained nurses who know the indications of the use of the device in order to guarantee the quality of the procedure and the well-being of the patient. The cost to place this catheter compared to the fully implanted catheter is lower because it does not require a surgical center and surgeon for its placement and removal. This study aimed to report the experience of the authors with the technique of ultrasound-guided micro-puncture for implantation of central venous catheters of peripheral insertion (PICC) in a chemotherapy outpatient clinic. The study's focus is the description of the technique and its results in the aforementioned location. The study

was conducted between March 2017 and September 2018, and a total of 76 catheters were implanted. From the 82 attempts to implant these catheters, 76 were successful. From these, 50 were maintained throughout the therapy and were withdrawn only at the end of treatment, 10 remained until now, and 4 were replaced by a fully implanted catheter because they would have prolonged treatment. A total of 4 patients with the catheter presented thrombosis, 4 catheters were withdrawn due to suspicion of infection, 2 were removed by exteriorization, 1 patient died from the disease and 1 was transferred from the clinic, therefore access to more information was not possible. It provides greater safety for the professional who performs the administration, as well as comfort for the patient, since it avoids multiple punctures and it is more discrete, given the fact that the implantation occurs in the inner part of the upper third of the arm. The ultrasound-guided technique utilized helps in the visualization of the chosen vein and increases the rate of success of the procedure. It is believed that this technique can bring benefits and comfort to the patients treated with outpatient chemotherapy and facilitates the work of the professional promoting with safety treatment.

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FLUSHING OUT THE OPTIMAL SOLUTION FOR INTRAPERITONEAL PORTS

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Intraperitoneal (IP) ports are placed in the peritoneal cavity for delivery of chemotherapy to select gynecologic oncology patients. Current manufacturer directions, with no supporting research, recommend using a heparinized saline flush (HSF) when de-accessing the IP port. HSF is used to prevent occlusions in vascular devices; however, the IP port is non-vascular. Institutional nursing standards regarding flushing practices differ widely throughout the country. The purpose of this innovative project was to determine the evidence-base for NSF compared to HSF for maintaining IP port patency. This Evidence-Based Practice Internship project used The Iowa Model Revised:

Evidence-Based Practice to Promote Excellence in Health Care as the framework. An extensive, systematic literature search revealed a lack of research supporting either HSF or NSF in IP ports. Synthesis of evidence shifted to other sources, including retrospective chart audit reports, policy/procedure vendors, professional organizations' guidelines, benchmarking with NCI-designated sites, scientific principles, and existing patient experience with port patency, to determine if sufficient evidence exists to guide practice. Retrospective chart audits from healthcare organizations, e-vendor policy/procedures, guidelines from professional organizations, and external benchmarking with NCI-designated sites revealed differing practices for flush solution, volume, concentration, and frequency. Scientific principles related to peritoneal fluid components and heparin pharmacokinetics were reviewed. Peritoneal fluid contains clinically insignificant concentrations of clotting factors to create occlusion. Fibrin is present in the peritoneal fluid and common factor in vascular port occlusions. HSF has not been proven to effectively prevent fibrin sheath development. Heparin half-life is 30–150 minutes, yet these ports are most commonly flushed weekly or monthly. Electronic health record audit at this institution revealed port complications (n=2/15) which were unrelated to occlusion or flush practice. Considering the insufficient evidence to recommend a flush for IP ports, further research is needed. Any future studies should consider costs and patient risk in determining the optimal flush solution. Due to the small number of IP therapy patients and the short port duration, a professional organization-led multi-site research study would be invaluable to establish a standard IP flush practice for oncology nurses.

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MANAGEMENT OF INFUSION REACTIONS RELATED TO DARATUMUMAB: NURSING CARE

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Multiple Myeloma is a more mature malignant disease of B-lymphocyte, the plasma cell. These plasmocytes release immunoglobulins, which are necessary for the production of antibodies, which fight infection. In myeloma plasmocytes produce a greater amount of specific immunoglobulin, which is not functional. Daratumumab binds to the CD38 protein, which is expressed at high levels on the surface of multiple myeloma tumor cells, as well as in other cell types. It

has direct and indirect antitumor activity and several mechanisms of action, such as induction of apoptosis, immunomediated actions, including complement dependent cytotoxicity and immunomodulatory functions that target and destroy CD38-positive regulatory immunosuppressive cells. Objective: To evaluate the infusion reactions observed and recorded in an outpatient chemotherapy service in a private clinic in the state of Rio de Janeiro and describe the main nursing care. Methodology: Quantitative evaluation of the interurrences generated from the computerized hospital management system between June 2017 and August 2018. Results: During this period, 40 patients started the treatment protocol with Daratumumabe. Of these, 92.5% had infusion reactions on the 1st day of cycle 1. In the second infusion, 8.10% of the patients presented infusion-related reaction. The most frequent reactions were cough, oro-pharyngeal discomfort, respiratory discomfort, hypertension, erythema (face and trunk), tachycardia. Regarding the classification of the reactions, it was observed that 27.02% were of grade 1, followed by 21.62% of grade 2 and 10.81% of grade 3. The specialist nurse knows the mechanism of action of daratumumab, as well as yours adverse reactions. Thus, it has its clinical perspective aimed at prevention and early detection of these reactions. It is part of the nursing care to administer the pre-infusions medications, respecting the interval times between them and the onset of daratumumab; monitor the patient at the first infusion; administer the antibody staggered according to the manufacturer's recommendations; guide the patient to report any different symptoms. Conclusion: for nursing interventions to be more consistent, it is important that the nurse has the skills to systematically evaluate the impact and effects of immunotherapy on the patient's health conditions.

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PHASE 1 RESEARCH NURSE REAL TIME DATA COLLECTION AND COLLABORATION FOR PROMPT AND PRECISE QUERY RESOLUTION

Lauren Finaldi, RN, BSN, OCN®, Hackensack University Medical Center, Hackensack, NJ; Morgan Finlay, RN, Hackensack University Medical Center, Hackensack, NJ Within Hackensack University Medical Center, one of the most comprehensive clinical care teams in the United States, the John Theurer Cancer Center (JTCC) has an expansive oncology clinical trials program. With clinical trials in Phases I–IV, patients have access to novel therapies with an opportunity to receive potentially lifesaving therapy. At JTCC, there

are over 350 ongoing clinical trials, and the phase 1 research division has 43 open investigations. Phase I trials aim to determine safe dosages, routes of administration, and physiologic effects on the body. Phase 1 is the first step in the human clinical drug development. There are many complexities in starting, implementing, collecting and interpreting data for these trials. In a 2014 analysis of data query parameters and quality, it was determined that “Data queries per page for phase I were more than phase II, III, IV... and data queries from oncology studies were significantly different and more complex to resolve than from other genres of research.” The most common data queries were lab data, physical examination, study assessments, and concomitant medication; all of which need interpretation by the research nurse in order to enter timely and accurate data. In January of 2018, the JTCC phase I research department identified a trend of consistently high data queries. The phase I division implemented a charge nurse to manage the nursing team in all areas of research practice; especially in the area of resolving data queries. The nurses and data team coordinated to initiate a live data collection method. The goal was to resolve data queries, while improving lines of communication within the interdisciplinary team. Formerly, the data management entered data several days after the patient visit and sent emails or telephoned to resolve queries generated. This created an environment of resentment amongst team members and unresolved queries. The charge nurse assigned a nurse daily to assist in the studies with the highest number of queries and pending database locks. By August of 2018, the data query count has decreased to 110, as opposed to 222 in January of 2018. September of 2018, the team has resolved an average of 73 queries per week. The remaining results will be presented at the 43rd Annual Oncology Nursing Conference.

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BRIDGING THE GAP OF UNCERTAINTY TO COMPETENCY: A TAILORED INNOVATIVE ORIENTATION MODULE IN THE RADIATION ONCOLOGY DEPARTMENT

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The goal of this project is to provide a standardize orientation process for newly hired nurses to enhance their knowledge and confidence with competency. Our Radiation Oncology Department collaborated

with the Nurse Educator to create a formative orientation program that will empower the newly hired nurses to maximize the resources available to them. Evidence-based has shown that a standardized nursing orientation program assists the newly hired staff transition in the department's flow. Thus lessening confusion and uncertainty, leading to staff increase in competency of job performance and job satisfaction. In addition, Nurse Preceptors play an integral role by providing direction, supervision and positive feedback to help and guide them throughout the transition process. At the conclusion of the orientation, Orientees are able to perform the learned unit-based specific skills independently, adhering to the institution visions, goals and missions: To deliver a patient-centered care and provide the highest and safest care to our patient using the state of the art technology. Methods, Intervention, Analysis: Designates preceptor throughout the orientation period. Creates a streamline program for a clinician based on their level of experience. Orientation to a different service per week. Familiarize with the department's policies and procedures. Knowledgeable in various patient education materials according to treatment sites. Ensures appropriate Epic documentation according to treatment sites. Evaluation between the Manager, Nurse Educator and Preceptor every 4th, 6th, 8th and 12 weeks of orientation to discuss progress. Distribution of survey assessing learning needs of nurses with the goal of developing educational classes that will meet professional development. Findings & Implications: 6 month and 1 year assessment period. Peer review and 1 year evaluation. Improved patient outcomes. Promotes effective professional development. Improves staff retention and decreases staff turnover. Builds confidence of clinician in delivering highest patient quality care. Promotes professional advancement to increase job satisfaction. Creation of a positive environment that aims to have a balance of work-life in order to have a healthy living and fulfilling career.

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IMPROVING HOSPITAL ADMISSION WAIT TIMES WITH A COLLABORATIVE PROACTIVE APPROACH

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Inpatient oncology units can reach capacity frequently, leading to beds being unavailable for patients who must receive chemotherapy in the hospital and on a specific

unit due to training of the staff. This causes delays in admitting patients, which leads to dissatisfaction of patients and staff as well as poses safety concerns. Baylor Scott and White Vasicek Cancer Treatment Center (BSWVCTC) frequently experienced delays in getting patients admitted to the hospital to receive inpatient chemotherapy. The extended wait time led to patient and staff dissatisfaction and caused the patient's chemotherapy to start later in the day. The delay in the chemotherapy being administered was a safety concern because, at times, the chemotherapy was initiated at shift change. Communication was identified as the largest barrier to this process. Once determined a patient needed to be admitted for inpatient chemotherapy, the oncology clinician places the bed request immediately. The nurse then notifies hospital admissions and the clinic nurse manager. The nurse manager then notifies the inpatient unit manager the week prior to the admission to ensure a bed will be ready and held for the patient. This also allows the inpatient unit to plan for appropriate staffing. BSWVCTC nurses assessed outcomes by measuring the time a patient waited from their doctor appointment to the time the nurse was notified the bed was ready. Initially the average wait time was approximately four hours. After implementing earlier notification to the hospital admission office and the hospital unit of planned admissions, the average wait time has decreased to less than one hour for each admission. Implementing earlier notification to the hospital admissions department as well as the inpatient unit can decrease the admission wait time for patients thus improving satisfaction of both patients and staff. This process change can also impact patient safety by allowing the inpatient unit additional planning time to ensure appropriately trained staff are on duty as well as ensure complex chemotherapy regimens are initiated during times of the day when necessary resources are readily available.

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PATIENT EDUCATION: A CHANGING PARADIGM

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Cancer diagnosis and treatment is stressful. Literature on stress and coping indicates that patients cope more effectively when they are adequately educated about their diagnosis and treatment. Effective teaching benefits our patients by improving quality of life through side effect management, decreasing anxiety, promoting

adherence and empowering them to be involved in their care. The International Council of Nurses has maintained that the nurse's role as educator is an essential component of nursing care. Development of standardized processes that help nurses educate patients positively impacts on the delivery of quality nursing care. A number of accrediting organizations such as Joint Commission and NCAQ, as well as the updated ASCO ONS Guidelines identify patient education as a vital issue in quality care. This project was designed in part to increase patient satisfaction scores. After review of current patient satisfaction scores we identified a need for improved patient education surrounding medication, specifically chemotherapy and side effect/self-care management. We also opted to support the physicians using the part time APN to assure that the patients had all necessary testing prior to chemotherapy as well as post treatment antiemetic protocols. A folder was developed and translated into Spanish. This was designed to highlight important issues surrounding self-care during chemotherapy along with measures to address these issues and provide the patients with vital information regarding contacting their health care team members. Weekly schedules were developed for two education groups, one in Spanish and one in English with the APN. The APN was given the patients charts at 8Am the day of the education group to audit for appropriate testing and to prepare the appropriate chemotherapy specific educational materials. Post chemotherapy prescriptions, as appropriate were provided for the participants of the program. The baseline patient satisfaction scores were compared to satisfaction scores three months post intervention to evaluate the success of this project. Patient education impacts on both satisfaction and quality care, so it is imperative that institutions standardize patient education prior to treatment in order to meet the needs of their populations. This program was designed to maximize the effective use of our part time APN and improve both patient and physician satisfaction.

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ONCOLOGY TOBACCO TREATMENT: HOW MANY VISITS ARE RECOMMENDED FOR SUCCESS?

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The ongoing use of tobacco increases risk for recurrence of primary cancer and development of a second primary cancer; as well as causes suboptimal cancer treatment response. Yet, about one third of patients continue to smoke or use tobacco following their cancer diagnosis. Since a Tobacco Dependence Treatment Team is an integral part of oncology care, the Wilmot Cancer Institute of the University of Rochester in New York implemented a Tobacco Dependence Treatment Program in 2015. The aim of this program is to treat patients within the Cancer Institute who have a cancer diagnosis (whether on treatment or in survivorship after receiving curative treatment); pre-cancerous findings; hematologic diseases or a spouse or family member of a patient under the care of the Cancer Institute. From July 2015 to April 2018, a total of 629 patients were referred to the program, and 324 patients (52%) came for an initial visit. Of these patients seen for initial visit 299 were smoking combustible cigarettes at the time of the first appointment. A physician and a nurse practitioner provide the treatment based on the principles of Self-Determination Theory, which supports patient autonomy and perceived competence to stop smoking, along with clinical guidelines for treating tobacco dependence that has been tested in clinical trials. We utilized FDA approved pharmacotherapy (i.e. nicotine replacement therapy, bupropion and varenicline) in conjunction with behavioral therapy as per the United States Preventative Services Task Force (USPSTF) Guidelines. From July 2015 to April 2018, we assessed quit rate using the seven-day point prevalence abstinence at 3 and 6 months from first visit by using medical records from patient visits, phone calls, surveys and medical chart review. We determined abstinence rates for each time point for those having 1–3 visits and patients who had more than 4 visits. Our results show a quit rate of 15% at 3 months and 12% at 6 months for 1–3 visits. Patients with ≥ 4 visits had a quit rate of 35% at 3 and 6 months. Based on these results we recommend 4 visits or more visits for patients willing to participate.

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WORTH THE RISK? STEM CELL TRANSPLANTATION TO PREVENT RECURRING LYMPHOMA CAUSED BY WISKOTT-ALDRICH SYNDROME

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Wiskott-Aldrich syndrome (WAS) is a rare genetic disorder that causes immunodeficiency via

thrombocytopenia. WAS is diagnosed at a young age and the only curative treatment is a stem cell transplantation (SCT). Without transplant, most people with WAS die before they reach adulthood. This patient is a rare example of an individual who survived well into his 50's before requiring a transplant. In the course of his life leading up to the match unrelated donor (MUD) transplant, this patient experienced many of the hallmark clinical manifestations of WAS, including eczema, splenomegaly resulting in a splenectomy, and lymphadenopathy ultimately diagnosed as stage IVB diffuse large B-Cell lymphoma (DLBCL) in 2006. His lymphoma went into remission after standard treatment. In 2017, he was again diagnosed with DLBCL. After undergoing the standard treatment for a second stage IVB DLBCL, his lymphoma again went into remission. As WAS was the likely cause of the recurrent lymphoma, he decided to enroll in a SCT clinical trial for primary immunodeficiencies in an attempt to cure the disease. When the patient arrived for transplant conditioning in September of 2017, he had no evidence of lymphoma. His post-transplant course was made challenging by reactivated cytomegalovirus, electrolyte imbalances, frequent loose stools, and his underlying history of depression. With a SCT comes great risks and sacrifices: some of which may seem worse than the recurrence of lymphoma. We require patients receiving a BMT stay in the immediate vicinity for at least 100 days. The patient's wife stayed with him through the course of transplant. The patient expressed on numerous occasions his fear of having made the wrong decision in being transplanted. When the patient began experiencing constant loose stools—and with it the fear of Graft Versus Host Disease (GVHD) of the gut—he became nearly despondent. It was the responsibility of the nurse, through therapeutic communication techniques and other nursing interventions targeting depression and social isolation, to help guide the patient through the tribulations of an extended hospital stay and preparation both for a life after transplant, as well as the possibility of graft failure or GVHD. Ultimately, the stem cells engrafted and the patient continues to remain free of DLBCL and is no longer thrombocytopenic.

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QUANTITATIVE SURVEY WITH HOME TUBE FEEDING PATIENTS AND CAREGIVERS

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Under nutrition and the present tube feeding systems for oncology patients are complex. The high sugar

content and artificial ingredients may not be optimal for 24/7 nutritional intake. Trovita Health Science plans to introduce a single-step, real food ingredient, closed system for home enteral tube feedings. This product seeks to offer quality of life advantages while maintaining a cost neutral impact for providers. The purposes were to (a) Obtain survey answer from home TF patients and caregivers, in reference to the home tube feeding experience and how it could affect nutritional intake, (b) List challenges associated with the current home tube feeding experience, and (c) Describe the patient consequences of the home tube feeding experience. An independent research company conducted a blinded online survey among homecare patients and caregivers receiving/assisting with TF. Recruitment of eligible survey participants were coordinated by the Oley Foundation, a national, independent, non-profit 501(c)(3) organization. This organization strives to enrich the lives of those living with home tube feeding. Evaluation: Online 10-minute survey. N=250 (patients 47%/ caregivers 53%). Performed Nov–Dec 2016. How common are nutritional barriers, such as missed/incomplete feedings and why, today? Key findings were (a) 89% of respondents: private payer patients or had private insurance, (b) Patients face barriers to reaching their nutritional goals, and (c) 21% of patients claim they always meet nutritional goals, vs. 44% of caregivers. Discussion: Mobility constraints. Gastrointestinal discomfort (Upper—residual, Lower—diarrhea, abdominal pain). Feeling crummy. Feeding tube/feeding set disconnections common. Issues with meeting nutritional goals (Formula not tolerated, Difficulty opening formula, Unable to complete a feeding because of time required, equipment issue, lack of privacy). 35–54 yo patients; difficulty completing feeding due to equipment. Could be their independence vs. young & elderly patients cared for with nursing/family assistance. Not meeting nutritional needs, losing weight, potentially resulting in hospital readmission. Innovation: Patient issues with gravity/bolus tube feedings are numerous and unaddressed with current feeding systems. Current system issues can reduce nutritional intake and impact quality of life. Study substantiates an unmet nutritional need in the non-acute TF patient resulting in not meeting nutritional requirements & potential risk of malnutrition and potential hospital readmissions. Issues identified with standard TF support the patients desired interest in better home TF product & product design alternatives.

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DEVELOPMENT AND APPLICATION OF DOSI-FUSER PATIENT EDUCATION TOOL

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A need was found in the ambulatory oncology setting for instructions when patients are being connected to a Dosi-Fuser®. Recently the institution where I'm employed transitioned from using an ambulatory infusion pump to the Dosi-Fuser. Many of the chemotherapy regimens administered in the ambulatory setting require patients be connected to an ambulatory pump or Dosi-Fuser that administers chemotherapy over varying time frames. Oncology nurses in the ambulatory infusion center at my institution were giving patients and their caregiver's verbal instructions upon connection to the Dosi-Fuser and there was lack of consistency noted. Several potentially harmful incidents occurred after patients were connected to the Dosi-Fuser that could have been prevented if the patient had been provided detailed verbal and written instructions prior to discharge with the Dosi-Fuser. We also instituted a dual verification of Dosi-Fuser connections verifying connections are secure and the clamp on the Dosi-Fuser is unclamped which addresses patient safety concerns. The purpose of the Dosi-Fuser patient education tool is to provide consistency in patient education amongst oncology nurses in the ambulatory setting and to provide the patient with an education tool to refer to once in the home setting for any questions that could potentially arise with the patient's Dosi-Fuser. A Dosi-Fuser patient education tool was created and the instructions are part of the electronic medical record (EMR). The Dosi-Fuser patient education tool is verbally discussed with the patient and their caregiver at time of connection. The patient is also provided a written copy in the patient instruction section of the EMR, so the patient leaves the clinic with verbal and written instructions. These instructions are part of the patient's EMR. Additionally, these instructions are viewable in MyChart which is accessible by the patient from their home computer. Since institution of the Dosi-Fuser patient education tool and dual verification function at the time of Dosi-Fuser connection, no incidents have been reported. Oncology nurses in the ambulatory setting could benefit from the patient education tool and use the tool as developed or modify it based on the needs for their institution. With emerging products in the field of oncology, institutions must keep current on patient education material to enhance patient compliance and safety.

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ONCOLOGY PROGRESSIVE CARE: A NEW NURSING SPECIALTY TO ADDRESS THE UNIQUE NEEDS OF CRITICAL CARE ONCOLOGY PATIENTS IN A PROGRESSIVE CARE SETTING

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New outpatient oncology facilities created to support less acute patients, resulted in an increase in the overall number of total patients being treated at one time and an increased acuity inpatient. A need was identified to serve critical oncology patients on acute care units who could not be accepted to the twenty intensive care unit (ICU) beds. The Specialized Advanced Care Unit (SACU) was opened in 2010 for postoperative oncology and ventilated patients whose care requirements surpassed the abilities of nurses on acute care units carrying a high patient load. In 2018, the unit expanded to medical oncology patients and is now a medical surgical progressive care unit. Previously office space, thirty-six telemetry monitored beds were created to accommodate SACU patients with a cap of five ventilators. SACU admissions come from multiple disciplines including: acute care units, post-anesthesia care unit, ICU and rapid response calls. Commonly seen surgeries include: hepatic resections, whipple procedures, colon resections, gynecologic surgeries, and urology procedures. Examples of SACU admitting diagnoses are: high risk chemotherapy, tumor lysis syndrome, pulmonary embolism, hyponatremia, anti-thymocyte globulin, troponinemia, nSTEMI, rapid atrial fibrillation, anemia, gastrointestinal bleed, acute coronary syndrome, respiratory distress, sepsis, pneumonia, leukapheresis, and ventilator management. Three to one nurse to patient ratios are consistent on both day and night shifts. Patients are still under the care of their primary attending, but daily care is managed by the SACU advanced practice nurse (APN). Ventilated patients are further managed by a medicine or critical care attending physician. The unit is 100% bachelors prepared staff with a variety of bedside experience. Certifications are encouraged. 70.1% of nurses are certified in oncology and/or progressive care. The APN staff have certifications as nurse practitioners and as oncology, progressive or critical care nurses. Nurses are required to maintain advanced

cardiac life support certification. Other mandatory training classes include: dysrhythmia management, oncology foundations, critical care skills, managing oncology emergencies, and end of life. Transdisciplinary care includes collaboration with respiratory, rehabilitation, social work, and supportive care. Since opening, there were 3334 total admissions to SACU. 417 of those patients required mechanical ventilation. These patients would have otherwise been cared for on already stressed acute care units or the ICU where only the most critically ill should be admitted.

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LET'S TALK ABOUT IT: NURSE NAVIGATOR EXPEDITES COMPREHENSIVE CANCER CARE THROUGH IMPLEMENTATION OF A TUMOR BOARD

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The Gastrointestinal (GI) Oncology group at an outpatient cancer center experienced an increase in new patient referrals for multidisciplinary care. Due to the complexity of care and high volume of patients, a noticeable gap in communication between providers resulted in delayed care. The Oncology Nurse Navigator (ONN) identified the need for improved communication and facilitation of referrals to ameliorate the gap and improve the quality of patient care. The purpose was to facilitate communication and expedite decision making when formulating an individualized treatment plan for patients with cancer. The ONN proposed a weekly tumor board and in collaboration with the primary GI Medical Oncologist, developed the conference format and recruited staff. Secure web and teleconference access was established to increase participation and accessibility for providers at other sites in the county. Attendees include medical oncology, surgical oncology, radiation oncology, interventional radiology, pathology, dietitians and nursing. Additionally, the meeting is extended to general GI physicians and surgeons at an independent hospital whose patients we provide cancer care. A patient's case is presented and all disciplines provide input on the best plan of care. The ONN contributes psychosocial considerations, highlights potential barriers to care and facilitates scheduling. Further, the ONN updates patients on the revised plan of care based off decisions made at the conference. Implementation of the tumor board has resulted in improved communication and increased timely access to care. Patients have voiced feeling

reassured that a multidisciplinary team has reviewed their case to provide exceptional care and innovative treatments. The program has contributed to a more cohesive team as evidenced by the formation of a Duke Raleigh GI Oncology Research Committee and development of a regional GI Oncology Symposium. The conference has propelled community outreach by creating rapport with community surgical and gastrointestinal medical groups. Creation of the GI tumor board demonstrates how a nurse-led initiative can contribute to improved culture change, widespread program development and expedited comprehensive cancer care. This model may be implemented with other cancer disease types and institutions by tailoring it to meet the needs of the specified patient population and care team.

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A SMARTPHONE PHOTOGRAPHY GUIDE FOR HEAD AND NECK CANCER PATIENTS TO HELP TRACK POST TREATMENT RADIODERMATITIS

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Radiotherapy results in severe skin toxicity for the majority of patients with head and neck cancers (HNC). When developing the protocol for a nurse-led pilot clinical study investigating a skin care ointment to reduce radiodermatitis, a solution was needed for collecting weekly post-treatment reaction area photographs without inconveniencing patients with additional travel for clinical photographs. Literature on clinical photography focuses on high quality digital photography and the use of smartphones for clinical photography by clinicians. Examples of patients sending their own smartphone photos to clinicians, particularly to assist with tracking healing post treatment did not feature in the literature. A novel, innovative solution was needed. The purpose of developing the 'patient photography guide' was to educate the study's HNC patients on how to take and send weekly photographs of their radiation treatment area post treatment, thereby enabling

standardized collection of weekly photographs for 4 weeks following treatment. A photography guide was developed and tested with 3 nurses and 5 HNC patients at different stages of their radiotherapy treatment. The nurses were asked how confident they felt about using the guide to educate patients. Patients were educated using the guide and asked if they felt they would be able to take and send photos as described. Nurses who were regular users of smartphone technology reported they were confident in using the guide to deliver the education to patients. Patients were engaged and enthusiastic about taking and sending the photos. All were able to successfully adhere to the guide when taking and sending photos, including 2 patients with no prior experience. Further insights about the use of the guide will be gained from September 2018 to January 2019 as post-treatment photographs for the parent study are collected. Although the guide was developed to collect data for a pilot study, there are many clinical applications for educating patients how to take and send photos with their smartphones. Patients living in remote areas and those with limited access to transport could benefit from this guide, which supports nursing assessment and intervention planning. Clinical photography has been used extensively by professional photographers and clinicians. This initiative aims to demonstrate that with appropriate education, patients with smartphones can provide photographs for research and clinical applications.

80 CHEMOTHERAPY IV TUBING SELECTION PROMOTES OPTIMAL PATIENT TREATMENT WITH DECREASED DRUG WASTE

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Riverside Methodist Hospital in Columbus, Ohio inpatient and infusion center RNs identified that 17 mL of medication was left in IV tubing after each dose of chemotherapy and biotherapy was administered. Medication remaining in the tubing was then disposed in the hazardous waste trash. In some cases, this was as high as 40% of the total medication dose that was wasted. For the 3,900 doses of chemotherapy and biotherapy administered at the hospital infusion Center from July 2017–July 2018, this amounted to 66,300 mL of wasted medication. Patients were not receiving the dose ordered and the volume in the tubing generated a significant amount of bulk hazardous waste, which is more expensive to dispose. To ensure patients were receiving the medication dose ordered and

to decrease drug waste, different types of IV tubing and sets ups were evaluated including short secondary tubing, long primary tubing, and short primary tubing. A short primary tubing was chosen to trial, which decreased the amount of waste to 0.97 mL. In addition, the short primary tubing set up permitted a mainline IV to infuse at the same time, thus diluting and flushing the medication through the tubing. Nursing collaborated with the oncology pharmacists, who are responsible for attaching and priming IV tubing to hazardous medications. The tubing was trialed, evaluations from nursing and pharmacy were collected. All evaluations were positive. The short tubing was implemented at five system hospitals in both inpatient oncology and infusion centers. For Riverside Methodist Hospital, this change decreased medication waste from 66,300 mL per year to 3,783 mL. A nurse driven project to decrease drug waste created a significant impact by ensuring that patients receive the amount of chemotherapy and biotherapy that is ordered.

81 PICC SECUREMENT AND CLABSI PREVENTION

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Central line (CL) blood stream infections (CLABSI) in oncology patients can have serious consequences including prolonged length of stay, higher level of care, and death due to sepsis. CLs are stabilized in a variety of ways to prevent complications including pistoning of the catheter in the vessel. Pistoning can lead to phlebitis and allow bacteria a direct pathway into the bloodstream. CL securement devices include sutures/staples, adhesive based, or subcutaneous anchoring. Within a 96-bed cancer hospital located in a North Texas multi-hospital healthcare system, CLABSI events were increasing and above National Database for Nursing Quality Indicators (NDNQI) mean. A system initiative addressed multiple issues surrounding CL care including insertion, maintenance, and standardization of products. Stabilization devices were not evaluated during the initiative. The purpose of this intervention was to measure and compare patient and nurse satisfaction with two products: the current adhesive based stabilization device and subcutaneous anchoring. The Vascular Access Team was trained in the application of the subcutaneous anchoring device during PICC insertion. Staff on the hematology unit were inserviced on care and removal

of the device. The subcutaneous anchoring device was trialed for a 3-month time frame. Prior to implementation of the trial, the adhesive based stabilization device was evaluated by patients and nursing staff. Elements evaluated by patients included pain during placement, maintenance, and removal. Additionally, placement sensation was evaluated (pulsing, tugging, burning, pins and needle). The nursing evaluation included ease of placement, maintenance, and removal and presence of prolonged bleeding. Overall patient satisfaction was higher with the adhesive based product. Patients experienced pulsing, tugging, burning, and pins and needles sensation during placement with the subcutaneous anchoring device. Burning and pins and needle sensation continued during maintenance. One patient had early removal of the anchoring device due to discomfort. Evaluation of nursing indicated higher satisfaction with the adhesive based device. Concerns expressed by nurses included patient dissatisfaction, bleeding at PICC insertion site, and increased dressing changes. Two other units within the healthcare system trialed the product. Based on results of the trial, the system adopted the use of the device for select populations. A subcutaneous anchoring device has clinical implications for decrease in pistoning but patient factors in the thrombocytopenic population need to be addressed for successful implementation of the device.

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NURSING IS FROM MARS, NUCLEAR MEDICINE IS FROM VENUS: TWO MODALITIES UNITE FOR PEPTIDE RECEPTOR RADIONUCLIDE THERAPY FOR TREATMENT OF NEUROENDOCRINE CARCINOMA

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Gastroenteropancreatic neuroendocrine tumors are rare gastrointestinal cancers that have a poor prognosis when initial therapies are exhausted. Peptide Receptor Radionuclide Therapy (PRRT) is a unique therapy that targets these neuroendocrine cancer cells with a radioactive drug called Lutathera. Nuclear medicine is not routinely performed on an ambulatory infusion unit, and this therapy required intense supportive care from the nursing staff who were uncertain regarding side effects of PRRT and management of potentially serious carcinoid crisis. Initiating this type of therapy

in the ambulatory setting required collaboration of ten different departments. Aligning a group this diverse demanded meticulous communication to achieve safe, patient-centered care. What we found was that each department spoke “different medical languages” and finding a synonymous dialogue was vital. Several meetings were needed to coordinate this unique therapy involving ten departments. The important discussion topics included location of treatment to decrease radiation exposure to staff and other patients, method of drug administration, logistics of transporting radioactive drug, discussion of clinical trial monitoring, and working with radiation safety to determine appropriate patient education. Nursing needed to have radiation safety training and education on how to manage patient symptoms in an unfamiliar patient population. Nursing and nuclear medicine had to consider and prioritize all concerns in order to confidently prepare for patients to receive treatment. At weekly teleconferences, representatives from each department shared updates, processes were reviewed, and opportunities for process improvement were discussed. Through these collaborations, our specialized oncology staff was pivotal in getting this groundbreaking therapy initiated. To date, over 100 administrations have been given to more than 50 patients at the James. The success of this treatment will open the door for a new niche of targeted cancer treatment. Institutionally, we have to re-evaluate our space for the treatment of these patients, as the number of patients needing these types of treatments will be greater than our current capacity. This therapy has been administered in Europe for 15–20 years and was FDA approved in January 2018. Multiple sites across the US have struggled with getting this treatment option available to patients due to the difficult collaboration. We will continue to work closely with the Nuclear Medicine teams as new therapies emerge.

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UTILIZING DESIGN TO IMPROVE PATIENT CARE

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Outpatient oncology clinics often provide services with nursing staff designated into distinct expertise

in either clinic nursing (e.g. care coordination) or infusion nursing (e.g. medication administration). In a new innovation for practice, an NCI designated Comprehensive Cancer Center is designing a new clinic building with co-location of all services. By co-locating the multidisciplinary team and services to the patient in a “care neighborhood”, the goal was to improve patient satisfaction and care. This clinic design requires the re-evaluation of all clinical roles and workflows. The purpose is to describe the strategies used to engage oncology nursing staff and the multi-disciplinary team in the complex process of envisioning a better way to provide integrated care to patients. Multiple strategies were leveraged to address the complexity of envisioning and developing a new care design. All Staff participated in Lean methods training (value stream, multiple ways, evaluation of current and future state, integrated functional design) to design new workflows and define nursing roles. “To scale” 3D models of the new space were built to test workflows and inform design changes. Opportunities were created for all staff to express concerns with job satisfaction. Transparency in decision making was achieved through frequent communication. Feedback was elicited through focus groups, email, local area staff meetings, All Staff Town Halls, and tours of a “to scale” 3D model. The “Care Neighborhood” model affects the entirety of clinic operations, therefore a prototype will be built and tested by the Gastrointestinal Oncology Clinic. Evaluation Metrics include patient, clinician, and staff satisfaction and team efficiency. Ongoing clinic wide communication and opportunities for feedback will continue. Testing the prototype will provide for design adaptations before clinic-wide adoption. Essential to the achievement of a work culture change of this magnitude is the engagement of entire clinic staff and commitment to best oncology care practice.

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NURSES CREATE A PILOT PROGRAM TO REDUCE CHEMOTHERAPY INFUSION CHAIR TIME

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Reducing chair time for chemotherapy is affected by multiple variables. At the Central Jersey Division of Regional Cancer Care Associates, patients are seen

by their providers prior to receiving their treatments. During the visit, the chemotherapy orders are approved on the EMR if the patient is to proceed with chemotherapy that day. Even though it should be a seamless process, there are multiple variables that occur. The nurses of CJD RCCA developed a pilot program where infusion chair time was compared with patients whose orders were approved during the visit versus those who weren't. CJD RCCA is a busy multi-location practice where over 30 patients are treated daily with treatments. Nurses are staffed based on nursing acuity in which the duration of the infusion is a determining factor. Therefore any delay in the infusion directly affects the nurse's patient assignment. The providers were educated on the importance of approving orders while reviewing labs, vitals and plan of care. The pilot program included logging the time of when the patient entered the infusion room and time logged when the patient started their treatment infusion. If the treating nurse was required to find the provider to approve orders then the time was logged. The pilot program was in effect for one month at one location estimating 500 patients. The overall infusion chair time was decreased by an average of 5 minutes when the orders were approved. Other factors continued to arise despite the approved orders; such as patient emotional support, filling out depression screening tools and education. These factors are addressed during their office visits but the nurses provide the final assessment prior to treatment. Majority of the providers always approve treatment orders during their visits which confirmed the approval process is a positive outcome of the pilot program. Due to the minimal delay of starting a treatment by providers approving orders during their office visit, the nurses of CJD RCCA confirmed their current process is effective. There continues to be factors that cannot be avoided but having a same day office visit with a provider does reduce the chair time. The nurses of CJD RCCA continue to identify other ways to improve infusion chair time.

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IMPLEMENTATION OF PATIENT SELF-DISCONTINUATION OF 5-FLUOROURACIL PUMPS IN THE OUTPATIENT INFUSION SETTING HELPS OPTIMIZE CLINIC SCHEDULING AND INCREASE PATIENT SATISFACTION

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Increasing volumes of lengthy treatments in the outpatient oncology arena has led to challenges

in chair availability and timely patient scheduling. Colorectal cancer is one of the most common malignancies in the United States. Many chemotherapy regimens (i.e., Folfox, Folfiri, Folfirinox) available for this population necessitate a minimum 4-hour appointment, and follow-up two days later to discontinue the 5-fluorouracil pump. Closure of our clinic on weekends and holidays mandates that patients start treatment Monday through Wednesday, thereby impacting pharmacy throughput, chair availability, and nursing workload. A multidisciplinary workgroup identified the concept of patient self-discontinuation of the 5-fluorouracil pump as a viable solution. The objectives for this initiative were to 1) increase appointment capacity and flexibility; 2) provide consistent pharmacy and nursing workload; 3) and improve patient satisfaction. Initial steps of the workgroup involved identifying appropriate patient selection, potential challenges for implementation, and essential resources for staff and patients. Patients with a history of drug abuse and study participants who required pump discontinuation in clinic were excluded. A policy/procedure was developed to define the process and provide standardized materials including: 1) patient instruction sheets on discontinuing the pump and safe handling of chemotherapy at home; 2) checklist for patient teaching and supplies; and 3) nursing documentation. Patient instruction was introduced at the initial appointment and return demonstration attempted with the first pump discontinuation. Sixty-three patients were approached, 92% agreed to participate and only two patients were unable to perform independently, one due to emotional stress and another based on cognitive issues. Ninety seven percent of patients were able to perform port discontinuation after either the initial or second cycle of treatment. None of the patients experienced any issues with complications (e.g. chemotherapy spill, pump malfunction). This intervention led to greater flexibility for appointment scheduling and more balanced workflow throughout the workweek. Patients expressed that they appreciated having less clinic appointments, especially those with transportation issues. Patient self-discontinuation of 5-fluorouracil pumps leads to decreased number of total patient visits and increased overall appointment availability resulting in improved clinic workflow and patient satisfaction.

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IMPLEMENTATION OF A TEACH BACK METHOD FOR MEDICATION AND NUTRITIONAL

EDUCATION FOR PATIENTS WITH HEAD AND NECK CANCER

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Head and neck cancer is the sixth most common cancer worldwide. Patients with head and neck cancer going through cancer treatment have unique educational challenges. Teach-back is an educational strategy healthcare staff use for patients to understand what is being explained or taught to them. Teach-back method reinforces what patients already know and teaches them what they don't know. Repeating this process through interactive communication increases patients' self-care capacity, and enhances their confidence to successfully self-manage their healthcare. The Agency for Healthcare Research and Quality (AHRQ), and Oncology Nursing Society (ONS) recommend routine assessment of patients throughout cancer treatment and survivorship for educational needs, active participation and care involvement. Efficient teach-back education promotes communication between healthcare professions and patient for nutritional and medication knowledge, appropriate precautions and medication side effects. An overall understanding of medications and nutrition can promote seamless treatment interventions, improve care quality, and avoid unnecessary emergency room visits and hospital admissions. Effective teach-back education starts with diagnosis, continues throughout treatment, follow-up and survivorship. Teach-back identifies the patient's understanding, adherence and satisfaction with self-healthcare needs. How does the nursing staff use teach-back? They ask patients to explain what has been told to them using the patient's own words. Teach-back provides the healthcare professional with the opportunity to check patient's understanding and re-teach information that maybe forgotten or lacking. Nursing staff can use simple language, engage patients to use their own words to explain back teaching, repeat and recheck information, document education and patient response. Teach-back minimizes the patient's misunderstanding of critical information. When teach-back is applied the patient should be able to demonstrate or explain what is being taught in their own words. The healthcare team must consider the patient's health literacy, cultural aspects and how they usually learn. Staff need to go slow and

provide opportunities for listening. The teach-back goal is to have patient participation and full involvement in their own safe quality healthcare. Teach-back promotes patient understanding of medications, nutrition and side effects, through collaboration and active involvement in the learning process. Ongoing staff monitoring and patient questionnaires on the teach-back method may demonstrate improved patient outcomes, better treatment tolerance, increase patient satisfaction, and self-management of their healthcare.

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MAKING A DIFFERENCE PROACTIVELY RATHER THAN REACTIVELY IN CANCER PATIENTS UNDERGOING CHEMOTHERAPY

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Studies suggest that patients feel best supported when providers are perceived to take an active interest in their symptom experience and offered advice and coaching to support symptom relief. Further, identifying opportunities to maximize self-management through proactive symptom support may result in decreased symptom exacerbation and enhanced quality of life for patients, as well as decreased demand for acute care services. Telephone triage programs have been broadly described as a means for follow-up and monitoring the status of patients in surgical, medical, and oncologic settings. The use of proactive triage calls for symptom assessment have been well-defined in the surgical oncology populations, but less so around patients undergoing anti-neoplastic therapies. The aim of this pilot study was to explore the feasibility of a proactive nurse-driven telephone triage intervention for, and symptom experience of patients with cancer receiving chemotherapy +/- radiation in the ambulatory setting. Newly diagnosed patients were enrolled across three ambulatory centers (Breast, Sarcoma, Head and Neck) prior to receiving their first dose of chemotherapy. Participants received 6–18 triage calls from a nurse over a period of up to six months dependent on their diagnosis and treatment. Symptom experience was assessed at time of study enrollment and at each

triage call using the MD Anderson Symptom Inventory (MDASI). To address the primary aim, feasibility was defined as the completion of 70% of the nurse-driven calls. Completion is defined as the patient answering the call and completing the assessment. A total of 90 subjects were enrolled from three centers. The overall call completion rate (CR) was 78.4%. The CR for breast was 64.0%, sarcoma 65.0% and H&N was 94.2%. Secondary objectives exploring the change in symptom experience revealed that MDASI interference ($p=0.002$) and severity ($p<0.001$) scores were significantly different between the three centers, and that interference and intensity of symptoms gradually decreased over time. Outcomes suggest the feasibility of a proactive nurse-driven triage assessment to support patients undergoing chemotherapy. Findings from this study will be used to inform a larger randomized control trial to evaluate if the use of proactive triage affects symptom intensity over the course of the treatment trajectory, as well as hospital admissions or emergency center visits for symptom management.

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OBSERVATION ON THE EFFECT OF GINGER WARM MOXIBUSTION ON PREVENTION AND TREATMENT OF NAUSEA AND VOMITING IN PATIENTS WITH LUNG CANCER

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The objective was to observe the effect of warming moxibustion on the side effects of nausea and vomiting caused by platinum-based chemotherapy in lung cancer. Method: Selecting the Tumor Hospital from April 2017 to July 2018, in the Department of Internal Medicine and the Second Department of Internal Medicine, patients with lung cancer who were treated with platinum-based chemotherapy. 52 patients with lung cancer in the inner disease area were observed, and 52 patients with lung cancer in the second disease area were the control group. In the control group, only Granisetron 3mg was added to 100 ml of 0.9% NS for intravenous infusion from the first day to the third day. On the basis of this, the observation group added the ginger-wide warming moxibustion and moxibustion point, and the first day to the seventh day during the chemotherapy. Once a day, every 20 minutes. Using nausea and vomiting evaluation criteria, nausea, vomiting and appetite were evaluated at 19:00 daily. The effective remission rate was 92.1%, $X^2=1.589$, $P>0.05$, It's not statistically significant. The found that there were no cases of vomiting in the two groups from 4 to 7 day of chemotherapy. On the third

day of chemotherapy, the number of complete vomiting in the control group and the experimental group was 46 and 49, respectively. On the second day of chemotherapy, the treatment group was completely The remission rate was 97.6%, the control group was 63.8%, $X^2=1.423$, $P < 0.01$. On the 1st to 7th day of chemotherapy, the proportion of patients with complete appetite in the experimental group was higher than that in the control group, and the 1, 3, 4, and 5 days were all $p < 0.05$. Ginger mild moxibustion combined with granisetron is superior to granisetron alone in preventing and treating delayed vomiting, and it can Improve appetite after chemotherapy.

89 PUTTING PEP IN YOUR STEP: CONQUERING CANCER RELATED FATIGUE

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Cancer related fatigue occurs in most patients with cancer undergoing chemotherapy. It is a distressing symptom that affects a patient's quality of life and may persist for months or years after treatment. Cancer related fatigue can be defined as a distressing, persistent, subjective sense of physical, emotional and or cognitive tiredness or exhaustion related to cancer or cancer treatment that is not proportional to recent activity and interferes with usual functioning. The purpose of this study was to evaluate the effectiveness of an exercise program in oncology patients, in active treatment related to maintaining or improve the patient's ability to manage cancer related fatigue. This fatigue was controlled through regular physical activity. The method was to implement and evaluate a 3 month, patient centered education program, for people with cancer, undergoing chemotherapy and experienced fatigue. Verbal instructions and printed material were used. Participants completed a Common Terminology Criteria for Adverse Events (CTCAE) fatigue assessment, self-report and grading pre and post implementation of the mutually agreed upon physical activity. The study population was identified on all oncology patients, age 36–77 years old, regardless of where they were in the treatment plan. This descriptive, pre and post study, assessed oncology patients for three months, in one outpatient clinic, who were being treated with Intravenous chemotherapy. Out of 139 patients, a total of 12% had a grade 2 or greater fatigue score. Of these patients, 7 were male and 11 were female with the average age being 63 years old. 23% of the patients had a reported decrease in fatigue level with an exercise

plan. Another 23% of the patients did not have a follow-up visit due to the study ending. One patient did expire. The results of this study can contribute to the clinical practice by showing a need for monitoring patients receiving chemotherapy. Also, this could lead to implementing a process for educating those patients challenged to engage in physical activities and provide education pamphlets. Nurses are aware of the positive outcome that exercise can do in managing fatigue. Nurses should provide some support that meets the patient needs particularly during their chemotherapy infusions. Practicum interventions are useful including educational handouts at the time of chemotherapy teaching.

90 INITIATION OF A HEMATOLOGY/ONCOLOGY CARE CART FOR PATIENTS AND THEIR FAMILIES AS A MEANS TO FACILITATE CONVERSATIONS AROUND END OF LIFE

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Patients and family members don't come to the hospital prepared to have crucial conversations about death and dying, but too often they are faced with a diagnosis of a terminal illness. The purpose of this project is to provide a care cart containing educational resources to serve as a means for facilitating dialogue between nursing staff and family members around the human experience at end of life. Prior to this project, there were no formalized structures for nurses to offer support or educational materials to patients and their families with transition to end of life. Despite having access to educational resources on death and dying, 94% of nursing staff surveyed did not know resources available. A grant was obtained to purchase supplies and educational materials for launching this project. A pre-survey was given to nursing staff assessing their knowledge of resources for end of life care. Review of literature was performed which supported the premise of this project. With grant funds, this hematology/oncology unit purchased booklets, educational materials, care supplies and a cart for the initiation of the care cart. Nursing staff were educated on cart materials one-on-one and during staff meetings. Results show 100% of nurses find the booklet "Gone From My Sight: the Dying Experience" to be very helpful when discussing what

to expect during end of life. When asked how helpful the booklet was with increasing likelihood of addressing end of life conversations, 80% of nurses found to be very helpful. Nursing staff benefited greatly from using an education tool like “Gone From My Sight: The Dying Experience” by Barbara Karnes, as a means to help facilitate conversations about the end of life. Nurses feel empowered to utilize this resource to engage in crucial conversations around death and the dying experience. The hematology/oncology care cart is another layer of support to offer to patients and their families during end of life transitions.

91 **TUMOR INFILTRATING LYMPHOCYTE ADMINISTRATION: EXPERIENCES VIA CASE STUDIES**

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Cellular immunotherapy is rapidly being recognized as the future of cancer treatment and opening treatment doors for patients that have not existed previously. Adoptive cell therapy was first investigated clinically by the National Institutes of Health in the late 1980s. The infusion of autologous tumor-infiltrating lymphocytes (TIL) has demonstrated significant anti-tumor activity. TIL therapy is now being explored as a treatment for multiple cancer diagnoses, including melanoma, head and neck, cervical, and breast. This teaching institution and cancer hub in the northeast United States, has had experience with autologous TIL therapy confirming that medical oncology nurses can safely infuse TILs. These cell infusions have similarities and unique considerations to other cell infusions. At this institution, the infusion of cells both for transplant and chimeric antigen receptor T-cell (CAR-T) therapy occurs on the bone marrow transplant unit. Nurses who have been trained in cell infusions complete annual competencies to be endorsed by the Foundation for the Accreditation of Cellular Therapy. Nurses receive TIL protocol training prior to performing TIL infusion. TIL infusion competencies were developed based off the autologous cell infusion checklist. Competency is validated through observation and performing the infusion with oversight from nurse educator, clinicians, and experienced nurses. The day of cell administration is busy with preparation for an infusion that is brief and, in most cases, uneventful. A typical TIL infusion lasts 20–60 minutes. Protocols infused both cryo-preserved cells and freshly prepared cells. The infusion process mimics autologous transplants with one major exception, T-cells tend to

clump together. During administration it is necessary to massage and agitate the cells within the infusion bag. This requires a second nurse to assist with administration allowing more nurses from the unit to become familiar with the process. Following cell administration, TIL patients complete a short course of interleukin-2 (IL-2) infusions. Medical oncology nurses are familiar with IL-2 dosing and the same process is utilized. Because patients have undergone lymphodepletion prior receiving the TILs and receive fewer doses of IL-2, the side effects were less severe, and often not dose-limiting. TIL therapy can be successfully completed on a medical oncology unit by nurses who have specialized training and knowledge so that this unique treatment options can be available for a variety of patients.

92 **LET’S TALK: IMPROVING NURSE’S ABILITY TO COMMUNICATE EFFECTIVELY**

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Therapeutic communication is widely recognized as paramount to nursing care. It has been shown to influence many factors, including patient satisfaction, anxiety, medication adherence, and clinical outcomes. It has also been suggested that a nurse’s emotional intelligence (EI) ability is highly correlated with communication ability. EI can be linked to higher patient safety by enhancing communication and a patient’s perception of being cared for. Although both EI and communication skills training are recognized for their positive influences on health care, neither are routinely adopted to nursing training programs. The current project aimed to alleviate this problem by educating nursing staff on communication skills and studying EI ratings pre/post the teaching. A communication skills workshop was developed teaching NURSE statements, Ask-Tell-Ask, and I Wish statements. The one-hour workshop was offered to all nursing staff on an inpatient Oncology/Bone Marrow Transplant unit. Twenty-seven individuals attended the first workshop. The second workshop included eight new graduate nurses who received this content during their first month of unit orientation. Pre and Post surveys were collected, querying staff members on demographics, confidence with communication, and EI self-ratings, using part of the Assessing Emotions Scale. Data indicated that 81.25% of staff had started incorporating the new skills into their practice and that there was a 12% increase in staff rating that they felt they had the appropriate knowledge

and skill set to respond to their patients. Hospital Consumer Assessment of Healthcare Providers and Systems (HCAPHS) data on nurse communication was analyzed and demonstrated an increase from the 29th percentile to 37th after the workshop. EI scores remained fairly strong but a significant increase was not found. The study suggests that nurses can easily use the taught skills and that patients perceived their nurses as better communicators. The EI data does not show a large statistical increase; however, it shows an opportunity for further study. It is recommended that due to the ease of incorporation, the communication skills workshop be offered to staff periodically. If replicated beyond a single nursing unit, it is likely that larger increases in data would be noted.

93 PERSONALIZED MULTIDISCIPLINARY PATIENT CARE FOR PANCREAS CANCER

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Newly diagnosed pancreatic cancer patients reported feeling overwhelmed with management of multiple appointments, stress related to diagnosis, lack of communication amongst care teams, and poorly coordinated plans of care. Incorporating this feedback, a multidisciplinary pancreas clinic was developed with one Medical Oncologist and one Surgeon. The clinic grew to include Radiation Oncologists, Radiologists, Pathologists, and Supportive Care clinicians and staff. The purpose was to provide personalized care and support through a multidisciplinary collaboration to enhance pancreas cancer patient care. Our clinical experts developed a proactive record review in which the oncology nurse and medical oncologist review outside records prior to the initial patient visit. An algorithm was developed for intake to escalate reported symptoms such as jaundice to be proactively addressed with stenting and/or biopsy. Record review allows orders to be written for pre-appointment scans, labs, etc. to inform the plan of care. Nurses make pre-visit phone assessments, where the comprehensive overview of the patients' needs and concerns guide the composition of the team assembled for the initial appointment. The clinic has decreased patient anxiety through increased multidisciplinary collaboration, proactive expectation setting regarding first appointment, and access to both comprehensive clinical and supportive care services at their first visit. Patient survey comments have included "I could not imagine a better team", "All care givers were extremely helpful.

Their knowledge and the ability to pass it on to me was excellent.", and "This was the most efficient hospital visit". Pancreas cancer is a complex diagnosis, often presenting late stage, mandating multiple disciplines to manage and support the patient in the disease trajectory. The multidisciplinary clinic accepts patients weekly and is nurse led to engage a variety of providers from nutrition to radiology to genetics. Nursing reports the patient assessment to engage appropriate disciplines and works collaboratively to ensure the plan is carried out and the patient understands the rationale. This allows for enhanced discussion amongst disciplines, improved patient satisfaction, and promotes best outcomes for pancreatic cancer patients.

94 IMPLEMENTATION OF A HARM REDUCTION PILOT IN A COMPREHENSIVE CANCER CENTER SURVIVORSHIP CLINIC

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The majority of the 15.5 million U.S. cancer survivors do not meet lifestyle recommendations regarding nutrition, sun safety and/or substance use. Promoting a healthy lifestyle amongst survivors is a crucial component in providing high-quality survivorship care. The purpose was to evaluate implementation of a harm reduction (HR) program that applied the National Comprehensive Cancer Network (NCCN) and the American Society of Clinical Oncology (ASCO) recommendation to identify and address use and misuse of tobacco, alcohol, prescription and illegal drugs among survivors. The HR program was piloted in a Midwest survivorship clinic led by nurse practitioners. Prior to clinic visits, survivors seen in July 2018 self-reported frequency of substance use over a 90-day period via the Tobacco, Alcohol, Prescription medication, and other Substance use tool (TAPS). Survivors identified with current or history of substance use or misuse were

offered HR counseling in a non-judgmental, supportive environment. Survivors (n=68) were more likely to be Caucasian with a non-hematologic malignancy. Over the past 3 months, 25% of survivors reported at least monthly intake of alcohol; 17% used a tobacco product. Sixteen survivors (24%) had a current opiate prescription, but only 4% disclosed weekly or daily misuse of a prescription medication. Few (7%) admitted to using an illegal drug. A HR counselor reviewed most survivors' TAPS responses (n=52; 76%) were reviewed for "no use", "problem use" or "high-risk" for substance misuse categorization. Nurse practitioners referred survivors categorized as "no use" to continue their healthy lifestyle, while those categorized as "problem use" or "high-risk" (n=12) underwent HR counseling. Of these, 8 (66%) contemplated action to reduce or abstain from use of the substance, 2 (17%) initiated counseling, and 2 (17%) refused further intervention. Also, fifteen had a concomitant mental health diagnoses such as depression or anxiety. Most survivors (83%) contemplated or engaged in behavior change. Early results from the HR program pilot indicate that the TAPS tool can be routinely administered with its findings integrated into survivorship care. At-risk survivors also benefit from active engagement with the HR counselor. This HR program establishes feasibility to implement NCCN and ASCO recommendation. The program is ongoing. Future directions of the HR program include identifying effective ways to engage survivors who refused HR counseling.

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COOL YOUR CRANIUM: IMPLEMENTATION OF A SCALP COOLING PROGRAM

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Lehigh Valley Health Network's Cancer Institute is comprised of four infusion centers and treats, approximately, 200 patients per day. Body image, particularly hair loss, is a concern amongst oncology patients. An evaluation of surrounding health care organizations revealed no scalp-cooling programs were available for patients. To improve the patient experience, implementation of a scalp-cooling program was crucial. A programmatic implementation team was established and space design was determined. Bay-style care areas were selected to accommodate increased chair time, privacy, and ample space for patients and nurses. Execution of the scalp-cooling program required education of all staff in the infusion centers and physician offices. The company representative provided initial

education and an online module reinforced learning. Live sessions focused on scalp cooling cap fittings and maintenance of cooling units. The process begins with program application, patient education and cap fitting in the provider office. The scalp-cooling cap and hair care products are sent to the patient's home. Patients are encouraged to practice cap application a minimum of three times prior to their infusion appointment. On the patient's treatment day, the nurse ensures the scalp-cooling unit is ready for use. If needed, nurses may assist the patient with the hair product and cap application; however, all patients are encouraged to bring a support person for assistance. Thus far, many patients have reported anxiety during the first few treatments requiring additional emotional support from the infusion care team. The nurse confirms accuracy of cooling times and maintenance of unit during use. In addition, nursing provides patient comfort and support throughout cooling time with warm blankets, as needed medication, and thoughtful reassurance. Infusion nurses completed a survey three months post implementation regarding ease of use of the cooling units, process improvement, and staff comprehension. Results validated a need for additional staff education. Further instruction included an in-service by the company representative, additional online education, and development of a quick reference tool. A post re-education survey will be sent in 30 days. Implementation of a scalp-cooling program requires administrative support, multi-disciplinary education with reinforcement, and collaboration with company representatives. Development of a scalp-cooling program is essential to meet patient wish to maintain hair and improve body image throughout oncology treatment.

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IMPACT OF CYTOTOXIC AND IMMUNOSTIMULATORY CANCER THERAPIES ON FINGER AND TOENAILS: ROLE OF THE CERTIFIED FOOT CARE NURSE

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Cancer therapy is associated with a variety of side effects. Drug-induced nail and nail-bed damage can occur in finger and toenails. These anomalies are associated with changes such as nail dystopia; chromonychia; Beau's lines; paronychia; fissures; and onycholysis. As patients struggle to overcome cancer, they can experience

substantial morbidity, including brittle nails, pain, losing the nail entirely and localized infections. These skin and nail conditions can have profound effects on patient's body image, self-perception, and quality of life. It is important to offer both physical and emotional support and to follow patients during treatment courses to describe to patients why they are experiencing such changes, what to expect, and to intervene to provide comfort and alleviate symptoms such as pain and discomfort. Certified Foot Care Nurses (CFCN) provide nail care by trimming nails, making suggestions on nail and skin issues, and prescribing (or recommending) therapeutics when appropriate. CFCN's will also refer patients to the podiatrist, if required. If patients have pain or infection related to the nail and nail-bed changes, the CFCN may prescribe therapy or refer to the patient's primary oncology provider for evaluation and treatment. In our institution, we have two CFCNs who offer comfort, support, and treatment to our patients. Cancer patients often have long care treatment episodes, ranging weeks to months to years. Nail care can often be overlooked. The CFCNs maintain the patient's nails trimmed and clean and evaluate response to interventions. Nail and nail-bed changes to fingers and toes during chemotherapy and immunostimulatory treatment are often overlooked. However, they are significant to the patient from a cosmetic, physical and emotional perspective. Given the impact on immune function and the potential for neutropenia and thrombocytopenia, the potential for localized infections is real and can compromise patient well-being and the treatment plan. To best serve cancer patients, organizations are encouraged to have one or more of the wound ostomy continence nurses to also certify as Certified Foot Care Nurses. This RN can provide information to patients and families, make prevention and treatment recommendations, advocate for patients, and improve the care quality and quality of life for patients.

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CLOSING THE CRACKS: COMMUNITY MEDICAL CENTER INCIDENTAL PILOT PROGRAM IN THE EMERGENCY ROOM

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Emergency room patients frequently receive thoracic imaging with incidental findings (unrelated to

visit) but no formal process to inform patient and PCP. Lung cancer is Community Medical Center's number 1 cancer site. The purpose of the pilot is to identify patients early with incidental findings in emergency room, notify and navigate the patient to their physician and follow up needed. In October 2017 a pilot program for incidental lung findings was begun. Radiologist began to use keyword to identify ER thoracic scans with incidental findings. Nurse navigator identified patients via keywords then contacted patient and physician. Follow up letters were sent to patient. Patient satisfaction surveys were sent out for feedback if this service was deemed valuable and a way to track outcomes. 23% returned with response rating of good-very good. Over an 8 month period, 16,070 radiology reports were reviewed with 1056 incidental findings identified (6.6%). Patient satisfaction indicates our patients have expressed this is a valuable service. Patients notified of Incidental Findings have led to biopsy, diagnosis and treatment. Oncology services and smoking cessation resources are readily available. Results show that the pilot program is a very valuable service to our patients. Continued collaboration is needed to track patients and outcomes. Expansion of program to cover all sites with a dedicated coordinator is being considered. Identifying and transforming healthcare processes is critical for continuity of care, best practice and outcomes for our patients.

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INTEGRATION OF ONCOLOGY NURSING SOCIETY AND AMERICAN NURSES ASSOCIATION DOCUMENTATION STANDARDS INTO AN OUTPATIENT CLINICAL TRIALS RESEARCH UNIT

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According to the Oncology Nursing Society, thorough documentation is essential to avoiding legal, financial, and regulatory ramifications. Accurate documentation promotes interdisciplinary communication and reflects quality nursing care and nursing's contributions to patient care. Currently, upon arrival for treatment on the Clinical Trials Research Unit, patients are assessed according to a review of systems not specific to research or symptom management, which has led to inconsistent trending of patient reported symptoms. The purpose of this project is to standardize focused assessments and care plans

on the Clinical Trials Research Unit by developing an evidence-based symptom assessment and plan of care specific to clinical trial research patients' needs based on Oncology Nursing Society (ONS) and American Nurses Association (ANA) guidelines and standards. A unit workgroup was established to review ONS and ANA documentation standards. The workgroup considered the unique needs of the clinical trial patient population and created focused assessments and care plans for the clinical trials research unit. The documentation was reviewed and approved by unit nurses, the managerial staff, as well as the executive level of nursing. The documentation was then approved by the clinical research coordinators to ensure it fulfills requirements as source documentation for research studies. Currently, the unit workgroup is working with the information technology department to finalize an electronic flowsheet in the electronic health record. The unit workgroup will develop a standard operating procedure to guide unit practice, and to include in staff training. The new documentation that will be implemented November 2018. A directed assessment aids research staff in abstracting more quantifiable data specific to symptoms resulting from research related therapies. Creating customized plans of care will promote continuity of care and direct nursing education and interventions to optimize patient outcomes. Subsequently, this will help streamline unit workflow and increase charting congruency. In addition to promoting interdisciplinary care, documentation of accurate identification, and tracking of pertinent observations, including severity, onset and resolution, is imperative to assure quality and integrity of data. Collaborating with our information technology team to develop tools that improve patient care, coordination, and symptom management creates new pathways for improved patient outcomes. This also empowers nurses to be decision makers when new technology tools are implemented.

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MULTIDISCIPLINARY DEVELOPMENT OF STANDARDS OF CARE AND EDUCATION RELATED TO REPRODUCTIVE, INTIMACY, SEXUALITY, EDUCATIONAL NEEDS OF THE ONCOLOGY PATIENT RISEN

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Sexual health and intimacy prevail as significant quality of life components during and after cancer treatment. A comprehensive 20 year literature review reveals that self-image and side effects of cancer care are not always adequately assessed or managed. This may negatively impact sexual intimacy and significantly affect overall well-being. Additionally, fertility preservation (such as a cryogenic bank for ova and sperm), contraception, safety discussions, and referrals frequently do not occur in a timely a manner, if at all. Newly diagnosed patients often lack the ability to absorb the essential information about disease and treatments. The literature review underscores a prevailing lack of comprehensive, evidence-based information concerning safe, well-informed sexual intimacy guidelines. A large Southwestern Pennsylvania Cancer Institute teams' purpose was to ensure that discussions and appropriate referrals occur in a timely manner to avoid future regret for the patient. Additionally, the team developed guidelines to empower the oncology care team members, patients, and survivors to initiate crucial conversations on sexuality and fertility that may significantly impact quality of life. A multidisciplinary team established 14 evidence-based comprehensive standards of care and standardized educational content to address sexual health and fertility needs of all cancer patients and survivors. Several goals were developed including: recommendations for optimal sexual functioning, accountability for time sensitive reproductive interventions, and concise safety instructions for patients and partners. Practice changes resulted in integrating critical referrals into the treatment plans, creating educational content to counsel male patients of safe reproductive practices, and dyspareunia interventions. The team plans to utilize Quality Oncology Practice Initiative data to evaluate timely fertility referrals. Additionally, a review of randomly selected charts will assess that sexual function concerns of the patient and survivor have been adequately addressed. These standards of care and educational content will empower the oncology care team with tools needed to address patient and survivor needs, increase utilization of resources, and impact patient and survivor quality of life. Through improved education patients and survivors will be empowered to discuss their concerns, become informed on how to improve their quality of life, and strengthen personal relationships. Due to the lack of comprehensive information concerning sexual

health guidelines, in response our team has created the evidence-based program Reproductive Intimacy Sexuality Educational Needs RISEN.

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LUNG CANCER SCREENING PROGRAM AT COMMUNITY MEDICAL CENTER

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Lung cancer remains the number one cause of cancer-related death for both men and women in the United States. Five-year survival rates for lung cancer are only 18% partly because most patients are diagnosed at an advanced stage. Early detection of lung cancer is important in decreasing mortality and increasing quality of life of patients affected by the disease. The purpose was to increase lung cancer screening with low-dose CT scan at CMC from 130 in 2017 to 150 annually by December 2018 and discuss 100% of patients with Lung-RADS 4A and 4B scores at multidisciplinary thoracic conference and make recommendations according to the National Comprehensive Cancer Network (NCCN) guidelines. From January 2017 to December 2017, a total of 130 patients were provided a baseline LDCT at CMC. Scans were read by 2 designated Radiologists. Lung-RADS scores were documented in the LDCT report. Once the LDCT screening is completed and read by the radiologist, the lung navigator receives the report via fax and contacts the referring physician's office and the patient by phone or letter. Patients who are smokers were given information on smoking cessation. In 2017, CMC screened 130 patients. Eighty-three percent needed a follow-up scan in a year; 10 percent needed follow-up scan in 6 months; 2 percent needed follow-up scan in 3 months; and 1.5 percent needed a regular CT scan, PET/CT or lung biopsy. Lung cancer screening with the use of low-dose CT scan can lead to early diagnosis and cure for our patient population. Community Medical Center provided nearly 230 patients with LDCT screening in 2017 and 2018. The success to the implementation of this program was the close collaboration of the hospital administration, physicians, radiology department and the thoracic oncology clinical lung navigator. Lung cancer screening is a preventative measure that has the ability to

detect lung cancer earlier. Nurses have an important role in getting thorough smoking history and refer patients to the Lung Cancer Screening Program. It is also a great opportunity to teach and address smoking patient.

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LEVERAGING TECHNOLOGY FOR CHEMOTHERAPY EDUCATION TO ENHANCE COMMUNICATION AND STANDARDIZATION ACROSS THE CARE CONTINUUM

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Chemotherapy education is essential for our oncology patients. Staff reported concerns and patient feedback, inspired us to review our current processes. Opportunities for improvement were identified in the following areas: inconsistent documentation of patient education; utilization of the American Cancer Society (ACS) Personal Health Managers (PHM) and chemotherapy education videos was poor; and there was a lack of clear expectations between staff members regarding patient education. The purpose was to develop a standardized chemotherapy education process that outlines clear responsibilities between clinic and infusion staff. The process will support the utilization of the ACS PHM and the chemotherapy education video. All documentation will be in the electronic medical record and accessible to all. A multidisciplinary team met to discuss all aspects of the education process. A literature review of best practices in patient education was done. Current data on patient satisfaction scores, ACS PHM distribution, and chemotherapy video utilization were reviewed. A survey was conducted with the case managers to understand the challenges around use of chemotherapy education videos. A standardized process was developed with input from clinic and infusion nurses. Through collaboration with the IT team, a checklist was incorporated into the electronic medical record. Barriers to ordering the chemotherapy education videos were addressed. Education was provided to both clinic and infusion staff on the new process and documentation expectations were communicated. Regular feedback was provided to staff monthly on compliance to the new process. There was improved communication between infusion center and clinic staff regarding patient education along with a clear understanding of responsibilities. The utilization of the ACS PHM went up by 42% from the previous year. The number of chemotherapy education videos

has tripled. The chemotherapy education checklist is viewable to all care givers, therefore opportunities for reinforcement of patient education are quickly identified by all teams. A standardized chemotherapy education plan is beneficial for both patients and staff. It provides clear expectations regarding staff responsibilities in the education process. Patients benefit from the standardized approach by receiving consistent and complete information. Incorporating a checklist into the EMR that can be viewed by all teams has improved continuity and communication between staff. Overall, this process supports a better patient experience.

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BACK TO THE FUTURE—RADIATION SAFETY CONCERNS BACK AT THE BEDSIDE

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Lutathera® or Lutetium Lu 177 dotatate is the first FDA-approved peptide receptor radionuclide therapy or PRRT, a treatment with a targeting molecule that carries radiation into the cell, thereby killing tumor cells. Huntsman Cancer Institute, an NCI designated Comprehensive Cancer Center, participated in an expanded access trial of Lutathera. An increase in patient referrals following FDA approval in January 2018 created a need to expand capacity. This outpatient treatment requires the commitment, collaboration and coordination of many departments including interventional radiology, nuclear medicine, radiation safety, pharmacy, financial services, and the infusion room nursing staff. Infusion room staff were concerned for their personal safety when providing care for these patients. Similar treatments with radionuclides conjugated to tumor-directed monoclonal antibodies are currently in clinical trials and could potentially become standard care for oncology patients. Preparation in the infusion room for a Lutathera patient is complicated. The bathroom is papered to protect surfaces from radioactive urine and the mattress is covered with plastic disposable pads. IV set up for the drug, which is administered by a nuclear medicine tech, is complex. Additional set up for the premedication and the amino acid infusion is also required. Nursing staff are required to have radiation safety training and Lutathera education. Radiation safety officers, including a medical physicist,

instructed staff on safety measures at multiple staff meetings. Despite the complex nature of the administration, the biggest challenge was reassuring staff that they were safe caring for these patients in light of potential radiation exposure. Fear stemming from knowledge deficits heightened emotion and led to misinformation among staff. Management and radiation safety developed a plan to address staff concerns. Staff communicated the radiation safety education increased their confidence in handling Lutathera. The education program was recently expanded to serve inpatient staff since it's likely this staff will care for Lutathera patients that may require an additional level of care. Infusion management worked with the inpatient management team to assist with education and the radiation safety department was key to supporting all staff. A PowerPoint presentation has been developed by Radiation Safety and Infusion to use for staff education.

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DEVELOPMENT OF A SAFE ADMINISTRATION PROCESS FOR LUTATHERA IN AN OUTPATIENT TREATMENT CENTER

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Neuroendocrine tumors (NETs) are rare tumors which can present anywhere in the body but are most common in the lungs and gastrointestinal tract. Incidence of NETs have increased over the years and the most prevalent are gastroenteropancreatic NETs (GEP-NETs). Peptide receptor radionuclide therapy (PRRT), specifically lutetium-177-dotatate (Lutathera), was the first FDA approved radiopharmaceutical for the treatment of somatostatin receptor-positive GEP-NETS in January 2018. Delivering this treatment in an outpatient treatment center required the development of a process to coordinate care between oncologists, nurses and radiology to allow for safe and efficient administration. The purpose was to show that a radiopharmaceutical can be given safely and efficiently in an outpatient treatment center by coordinating care between physicians, nurses, and radiology staff. Approval of Lutathera presented an opportunity to develop a process to treat patients with the drug safely in an outpatient

oncology/hematology treatment facility with an onsite radiology department. Administration of Lutathera requires a multidisciplinary team approach, which includes oncologists, nurses and nuclear medicine staff. Challenges encountered include: how to coordinate care amongst disciplines, safely administering Lutathera, and managing patients in an outpatient treatment center while maintaining radiation safety standards. Additional issues included administration of supportive care measures, movement of patients between radiology and the infusion suite, and post-treatment care patient education. Coordination began with scheduling patients based on orders entered by the oncologist. The oncologist examined the patient and finalized the treatment plan and a nurse provided education. Patients arrived on treatment day and began in the infusion suite and received antiemetics and IV amino acids. Patients were then escorted down one floor to the radiology suite where the Lutathera was administered. Patients returned to the infusion suite and completed the amino acid infusion and were discharged when a Geiger counter measured 0.5 rem. Coordinating care between disciplines prior to, during, and after Lutathera administration streamlines treatment and ensures safety for all staff, patients cared for in the infusion center, and the general population. Giving a radiopharmaceutical requires monitoring staff exposure to radioactivity over time as nurses give repetitive treatments. The implication for the development of a process to safely administer a radiopharmaceutical in the outpatient setting allows for the ability to expand administration to other drugs in this class as they become approved.

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A NURSE DRIVEN LUNG CANCER SCREENING PROGRAM

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The National Lung Screening Trial (NLST) found that use of low dose computed tomography (LDCT) scans, to screen for lung cancer, was associated with a 20% reduction in mortality from lung cancer. After CMS and private insurers began reimbursement for LDCT lung cancer screening in 2015, lung cancer screening was widely adopted throughout the U.S. Working in close collaboration with a core multi-disciplinary team comprised of radiology, thoracic surgery and pulmonology, the Rush Lung Cancer Screening Program (RLCSP) is a nurse driven program that navigates lung cancer screening through initial, annual

scan, and cancer diagnosis. The objective is to highlight the importance and success of a nurse led cancer screening program. The RLCSP is led by two nurse navigators. They adhere to screening best practices to ensure that scheduled patients meet eligibility requirements. After a LDCT, the navigator meets with patients educating them about lung cancer screening and adherence to annual screening. They provide tobacco cessation interventions to smokers. All participants are offered the opportunity to participate in biospecimen research. Each patient's LDCT is tracked for results. Patients with a positive scan are guided by the navigators to the appropriate next step of care. Patients with negative LDCT are tracked to ensure they return the following year for continued screening. The RLCP has positive outcomes compared to the NLST. The RLCP has a better detection rate: 1 in 28 people screened with the RLCSP are diagnosed with lung cancer, compared with 1 in 320 people screened with the NLST. The RLCSP also has a more diverse demographic base and fewer false positive LDCT than the NLST. Average number of days from a patient's LDCT lung cancer diagnosis is 29 days. A nurse led screening program combines care coordination and navigation of screening patients. Close follow up and adherence to best practices has led to higher detection rates and lower false positive rates. Lung cancers have been detected earlier, allowing patients more treatment options. Running a screening program requires collaboration with interdisciplinary physicians, IT, patients, and marketing. Nurses can be leaders in cancer prevention by building a program that effectively navigates patients through the process of screening, helping smokers to quit tobacco and coordinating further care as indicated.

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SWABCAPS: CENTRAL LINE ASSOCIATED BLOOD STREAM INFECTION PREVENTION

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Central line associated blood stream infections (CLABSI) increase patient morbidity and mortality rates as well as increase length of stay. Each CLABSI costs the hospital approximately \$42,000. In 2016 there were seven CLABSIs on the Oncology unit which cost the organization \$294,000. It is recommended that time and friction are necessary for disinfection when scrubbing the hub, but there is no definitive amount of time recommended. Further, it is thought that proper disinfection is difficult to maintain with nurses' increased workload. The use of disinfectant caps such as the SwabCap has been widely trialed to

prevent CLABSIs in a variety of places on different patient populations. Studies researched include an adult intensive care unit in Arizona and a hematology-oncology center in New York City, among many others. All of the researched trials demonstrated a significant decrease in CLABSI rate after implementation of the disinfectant cap, improving patient outcomes and decreasing hospital costs. Studies also showed that scrubbing the hub takes considerable nursing time and found that compliance rates were low. The purpose of this project is to trial the use of alcohol-impregnated disinfectant caps (SwabCaps) in addition to scrubbing the hub with chlorhexidine on the Oncology unit in hopes of reducing the rate of CLABSIs. Upon hospital approval in addition to scrubbing the hub with chlorhexidine, alcohol impregnated disinfectant caps were trialed for a period of 13 months from January 2017 to January 2018. Data was collected to determine if the addition of SwabCaps was an effective CLABSI prevention intervention. During the SwabCap trial, from January 2017 to January 2018, there was only one CLABSI on the Oncology unit, compared to seven the year before. This data was presented to the Nursing Practice & Standards Committee, which resulted in a hospital-wide initiative to prevent CLABSIs in addition to “scrubbing the hub.” Patient safety is a top priority for healthcare providers as well as decreasing costs for the hospital. With the implementation of one small intervention such as the SwabCap, we have been able to improve patient outcomes as well as save thousands of dollars within our institution.

106 **THERAPEUTIC EFFECT OF AURICULAR ACUPOINTS ACUPRESSURE ON PREVENTING NAUSEA AND VOMITING AFTER CHEMOTHERAPY FOR BREAST CANCER**

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Chemotherapy, one of the important clinical treatments of breast cancer, is common in breast cancer. The clinical application of chemotherapeutic drugs often causes severe nausea and vomiting symptoms. In severe cases, this may contribute to adverse effects on the compliance and tolerance of patients, resulting in further chemotherapy failure. Clinical practice studies have shown that auricular acupoints acupressure have a good effect on preventing nausea and vomiting after breast cancer chemotherapy. In this study, the acupuncture points were used to treat the patients in the study group, and good results

were obtained. The purpose was to analyze the clinical application of auricular acupoints acupressure in preventing nausea and vomiting after breast cancer chemotherapy. 72 patients with breast cancer who received chemotherapy in our hospital from June 2016 to June 2018 were enrolled in the study. They were divided into two groups randomly, 36 patients in each group. The control group was given intravenous antiemetic drugs, and the study group was treated with intravenous antiemetic drugs and auricular acupoints acupressure. According to the WHO's indexing criteria for anticancer drug toxicity and adverse reactions, the symptoms of nausea and vomiting are classified into grades 0–IV. All data results were input into SPSS17.0 software for statistical analysis to ensure that the entry process was objective and true; when $P < 0.05$, the difference was statistically significant. Comparing the control of nausea and vomiting after treatment intervention in the two groups of breast cancer patients, the control of nausea and vomiting in the study group was significantly better than that in the control group, and the difference between the groups was significant ($P < 0.05$). Auricular acupoint pressing beans, belonged to traditional Chinese medicine, can stimulate the corresponding acupoints of the stomach, sympathy, Shenmen and endocrine, it can achieve the therapeutic effect of relaxing meridians and activating collaterals, balancing Yin and Yang, calming the mind, lowering adverse reaction and relieving vomiting. The use of antiemetic granisetron, supplemented by ear point pressing beans, can better inhibit the symptoms of nausea and vomiting. In the process of chemotherapy for breast cancer, pressing beans on ear acupoints can effectively prevent nausea and vomiting after chemotherapy and reduce the pain of patients, which shows good clinical practical value.

107 **NURSING ASSISTANCE IN THE MANAGEMENT OF CENTRAL VENOUS CATHETER TOTALLY IMPLANTED IN ONCOLOGICAL PATIENTS**

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One of the main problems associated with the care and treatment of cancer patients is the maintenance of a good venous access, where it is necessary for infusion of blood and derivatives, antibiotics, parenteral

nutrition and mainly antineoplastic. Therefore, the type of vascular access to be used is of great importance in the treatment of these patients, especially those who require prolonged intravenous chemotherapy. Objective: To evaluate and identify nursing care in the management of a fully implanted central venous catheter and complications in its use in cancer patients. The method used was an integrative review of a qualitative approach of the bibliographic review type. Inclusion and selection criteria were articles referring to health areas that deal with the handling and nursing actions related to fully implanted catheters written in the Portuguese language. The search took place in the year 2015 and 2016 where 20 articles were selected that were pertinent to the theme that made it possible to reach the objective initially proposed. It was observed that during the management of the fully implanted central venous catheter the most frequent complications related to its use are infection and catheter obstruction. This study was carried out based on scientific articles available in databases such as lilacs, bireme, med pub among others. The research showed that the use of aseptic techniques, handling of the venous catheters as a private treatment for the nurse, choice of needle type to perform the puncture, allied to the CVC-TI puncture technique are measures to prevent cvc-related infection, and also to know the nursing care that has been provided, prevent the emergence and complications related to the use of the device, promoting a quality of life for cancer patients. Despite the complications inherent in using the catheter, the device is considered safe and more comfortable for the patient. It is important to emphasize that good use practices increase the useful life of these devices, minimizing the occurrence of adverse events and associated complications, be they mechanical and/or infectious complications. It is concluded that improper handling of these devices can result in harm to the patient.

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ADVANCING THE TREATMENT OF NEUROENDOCRINE TUMORS WITH LUTATHERA

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On January 29, 2018, the Food and Drug Administration approved a new targeted treatment, lutetium

Lu 177 dotatate, (Lutathera), for adult patients with advanced neuroendocrine tumors (NETs) that affect the pancreas or gastrointestinal tract known as GEP-NETs. Lutetium Lu 177 dotatate, Lutathera, is the first radioactive drug approved to treat these rare cancers. Neuroendocrine tumors (NETs) including gastroenteropancreatic NETs or GEP-NETs are heterogeneous tumors arising from diffuse neuroendocrine cells. Patients with advanced GEP-NETs who have been or are currently undergoing treatment with octreotide long-acting release may be candidates for this second line therapy. The option for patients to receive Lutathera is an exciting achievement and an important innovation needed for patients with GEP-NET. Lutathera is a radiopharmaceutical used to treat GEP-NETs that express somatostatin receptors. It's a new class of drugs known as Peptide Receptor Radionuclide Therapy or PRRT. Oncology nurses play an integral part in the care of the patient receiving Lutathera along with Interventional Radiology, Radiation Safety, Nuclear Medicine and the physician team in planning and coordinating the administration and follow up of the patient. Care coordination was essential for this treatment due to the timing of administration, space to safely administer the medication, insurance coverage and cost of the drug. Many multidisciplinary team meetings have and continue to take place to plan the drug administration, patient care and the utilization of all departments involved to safely administer the Lutathera. This complicated administration requires the oncology nurse to be experienced in the patient care coordination and knowledgeable of the potential side effects particularly the severe nausea associated with the amino acid infusion. Lutathera is administered by the physician qualified in safe handling of radiopharmaceuticals over 30-40 minutes. Radiation safety precautions are utilized throughout the drug administration and during the amino acid infusion. The nurse's role is vital in monitoring patients's side effects, labs and providing extensive education to the patient and family. The oncology nurse is knowledgeable about radiation safety, administration of the support medications, monitoring of side effects and following the institutional policy supporting safe administration and handling of this new agent.

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NURSE-LED CHEMOTHERAPY EDUCATION BUNDLE INCREASES PATIENT SATISFACTION AND SAFETY

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Literature demonstrates patient involvement and understanding of treatment plans is important to patient satisfaction, adherence and safety. For patients undergoing chemotherapy treatment an omission or wrong time dose could be catastrophic. To promote quality outcomes and avoid harm in the outpatient oncology setting, it is essential to have a strong education plan. Plan Do Check Act (PDCA) process improvement methodology utilized. Primary goal was to improve quality of treatment plan education. Outcome measures included patient perception of quality scores and rates of chemotherapy wrong time/omission errors. Root cause analyses of chemotherapy wrong time/omission errors were completed. A literature review and community search for best practices on for chemotherapy teaching was conducted. An educational bundle including (1) process for identified of d1c1 patients (2) educational appointment to allot required educational time (3) teaching materials including a checklist of topics (4) and a process for a follow up phone call within 48hours of discharge following first treatment. The bundle was reviewed and approved by a clinical expert. Subject matter experts were chosen and validated with the use of the bundle. A campaign including 1:1 mentoring and validation of each infusion center nurse was completed. Since the implementation of the new treatment education bundle, scores representing patient satisfaction with “Explanation of what to expect with chemotherapy” and “How to manage chemotherapy side effects” have risen from an average of 83.8% to 87.8%. This change represents a 9.1 percentile ranking increase amongst like hospitals. Additionally, this project has contributed to an increase in patient safety. There have been zero events with harm reported in the five quarters since its implementation (compared to two events in the same time period pre-implementation) whereas near miss reporting has increased by 550%. Implementation of this bundled approach to patient education by infusion center nurses can help improve patient satisfaction and safety.

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UPDATING CHEMOTHERAPY PROTOCOLS AND NURSING DOCUMENTATION FOR AN INFUSION CLINIC IN HAITI

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Oncology nurses working in the infusion clinic at Hôpital Universitaire de Mirebalais (HUM) in rural Haiti use paper order sets for information on pre-medications, calculating drug doses, documentation, and chemotherapy mixing and administration instructions. Since 2011, a twinning program between Zanmi Lasante/Partners in Health (ZL/PIH) and Dana-Farber Cancer Institute (DFCI) has provided expert oncology support to the local oncology team, who requested assistance with an update of the order sets. The goals of the order set update were increased workflow efficiency, alignment with evidence-based practice, better utilization of resources, and transitioning more of the nursing documentation from paper to the electronic medical record. Concurrently, these changes sought to increase nurse time spent with patients, decrease patient appointment times, and improve patient and staff satisfaction. The chemotherapy order sets were shared with expert oncologists, nurses and pharmacists at DFCI and ZL/PIH for evaluation. Several changes were proposed and approved by the team. For safety, space was added for 2 nurses to sign after completing independent double-checks for dose calculations and verifying patient identification prior to administration. Prompts for maximum doses were added when appropriate. (Eg: Carboplatin, Vincristine). The format was re-organized and redundancies were eliminated, decreasing the order set from 7 to 2 pages. The nursing assessment section was expanded for more thorough toxicity assessments. Pre-medications were changed from intravenous to pill form. Several regimens were changed to harmonize with evidence-based practice. 6 staff who use the order sets, including nurses, physicians and medical assistants, filled out a survey using a rating scale after the updated versions were implemented. Reported satisfaction with the order sets increased by an average of 37% after the update, from 4.7 to 8.3 out of 10. Free-form comments on benefits included faster work, less redundant charting, a simpler, clearer process, and that nurses can spend more time with patients. Oncology nurses play a vital role in contributing to clinical practice improvements. Streamlining documentation allows staff to spend more time providing high quality, holistic care. Decreasing patient appointment times reduces the burden on a vulnerable patient population. In the

economic and cultural context of Haiti, small changes in process can lead to large impacts in quality of care, workflow efficiency and resources saved.

111 PERIOPERATIVE NURSING FOR BREAST RECONSTRUCTION WITH IMMEDIATE AND DELAYED DEEP INFERIOR EPIGASTRIC PERFORATOR FLAP

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Autogenous tissue reconstruction, including immediate and delayed reconstruction, benefits breast cancer patients. Nowadays, the deep inferior epigastric perforator (DIEP) flap, as one of autogenous tissue reconstruction, becomes more and more popular in China. However, this method of surgery is not widely applied in China because of its difficulty. As one of the largest cancer centers in China, amounts of DIEP surgery have been implemented. This study aims to summarize and share the experience of perioperative nursing for breast reconstruction with immediate and delayed DIEP flap surgery in Chinese breast cancer patients, especially the ward care, which have been accumulated in our center. All the 56 breast cancer patients were included from January 2016 to April 2018. Afterwards, the process of preparation before surgery, surgical procedure, and postoperative care in the wards were reviewed. Besides, after breast surgery, all the patients were followed up for as long as 2 years in the clinic to evaluate the condition and patients' satisfaction of the flap. All the 56 patients have undergone the DIEP flap surgery, including 32 immediate reconstruction cases, and 24 delayed reconstruction cases. Among the 56 patients, five patients had complications after surgery. Three cases of complications occurred within 24 hours after the surgery. One case of complication occurred on the eighth day of surgery, while another one happened on the second month of the surgery. The complications consist of venous embolism, flap bleeding, and flap necrosis. Ultimately, all the flaps have survived and functioned well. Moreover, the follow-up results showed patients were satisfied with the appearance of the flap. Perioperative nursing is imperative for breast reconstruction with immediate and delayed DIEP flap surgery. Although there may be some complications after DIEP reconstruction, as long as nurses recognize it as soon as possible, it would be tackled easily. The DIEP flap reconstruction was suitable for Chinese breast cancer patients. This kind of surgery

could improve the satisfaction of patients' self-image. Nonetheless, this sophisticated surgery should match with more elaborative care of specialized nursing. Additionally, a structured scale was highly needed to assess patients' demands and self-image during the perioperative period.

112 OXALIPLATIN—"THE ATYPICAL PLATIN"— WHEN A HYPERSENSITIVITY REACTION OCCURS

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Oxaliplatin causes a wider variety of immediate hypersensitivity reactions than other platin-based chemotherapeutics. Some resemble Type I reactions that respond to desensitization. Others are atypical, possibly mast cell-independent Cytokine Release Reactions refractory to desensitization. Given this variability, clinicians need an evidence-based strategy to personalize therapy for oxaliplatin hypersensitive patients. We developed a data-driven algorithm to optimize treatment of oxaliplatin hypersensitive patients. We retrospectively analyzed the baseline clinical characteristics, biomarkers, and reactions of 49 oxaliplatin hypersensitive patients who received a total of 274 oxaliplatin desensitizations. We characterized four endophenotypes: Type I, Cytokine Release, Mixed, and Either. A mean 40-fold increase in serum concentration of Interleukin 6 helped define the Cytokine Release endophenotype. Younger patients were more likely to have a Cytokine Release endophenotype, while older patients were more likely to have a Type I reaction. Skin testing was not informative for determining endophenotype or risk of reaction during desensitization, and did not associate with initial or desensitization grade of reaction. Patients with a history of atopy and an initial Type I reaction responded to desensitization with antihistamine premedications, while nonatopic patients with the same initial reaction phenotype were more likely to convert to a Cytokine Release or Mixed reaction during desensitization. We combined these reaction patterns with biomarker data and desensitization outcomes to construct an algorithm that helps tailor desensitization protocol design to meet individual patient needs. Endophenotyping oxaliplatin hypersensitivity reactions helps forecast desensitization outcomes and personalize treatment plans. This method can be applied to patient populations hypersensitive to other drugs to optimize their care to enable them to stay on first line treatment regimen.

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CHANGING PRACTICE TO IMPROVE DISCHARGE COMMUNICATION FROM AN OUTPATIENT BLOOD AND MARROW TRANSPLANT (BMT) CLINIC

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At our center, post-transplant care is transferred to community practices after day +100 for allogeneic transplants and day +30 for autologous transplants. The complex medical needs of BMT survivors continue when they return to their community oncology team. Oncology nurses from these practices identified challenges in care coordination for post-transplant patients. Together BMT nurses found areas of improvement for patient care and community partnerships. These included standardizations of discharge information, earlier notification of discharge, and nurse to nurse handoffs. BMT nurses examined their workflows when discharging patients to community practices. This practice depended on the patient to deliver a discharge packet to their home healthcare team. This packet included the departure letter, medication list, taper schedule (if applicable), post-transplant monitoring calendar, recent labs, and outpatient records. Clinical information is also faxed by Health Information Management. These documents were not always received by the community nurse. BMT nurses attempted to provide telephone report to the community practice yet were often unsuccessful. Receiving staff members were either unavailable or community practices did not have equivalent staff member(s) to receive report. The BMT nurse discussion resulted in the creation of a standardized discharge packet to send directly to community staff, including nurses and medical assistants. This practice change was implemented July 2018 by both allogeneic and autologous BMT nurses. Initially, BMT nurses were resistant to changes in practice and the objections included time restraints, high patient census, difficulties with technology, and redundancy. To determine the impact of this change on workflow and improvement of patient care, BMT nurses will be surveyed, and the data analyzed. The initial concerns of the BMT nurses will be evaluated to assure these challenges can be overcome. Broad evaluation assures the effectiveness of our BMT services in the future. This project provides a platform to cultivate and enhance working relationships between the BMT Clinic and community nursing partners.

We anticipate this project will improve timely and comprehensive support of BMT survivors in the community while streamlining the BMT nurse workflow. We look forward to future improvements and partnering to promote best practices for BMT survivors as we continue to explore the challenges of transitioning care between BMT nurses and community nurses.

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INTRODUCING CANCER TREATMENT INNOVATIONS: MIGHT AN IMPLEMENTATION FRAMEWORK HELP?

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Conceptual frameworks organize a set of coherent ideas or concepts in a way that makes it easy to communicate to others what is under consideration and what should be done. Implementation scholars assert implementation frameworks help preserve innovation fidelity. Consequently, the new practice/process will correspond to the originally intended innovation. Others suggest that implementation frameworks help to ensure achievement of desired outcomes. Both fidelity and outcomes should be considered when introducing cutting edge investigational therapies. Novel investigational cancer therapies are being introduced to practice at an accelerated pace. Recently a clinical trial of Lutathera® was opened at our institution. Lutathera, a tumor-targeted peptide receptor radionuclide therapy, is used to treat gastroenteropancreatic neuroendocrine tumors; a rare neoplasm that arises from neuroendocrine cells throughout the body. Under the direction of a nurse-led multidisciplinary team, we moved to program implementation within four weeks of receiving the research protocol without following an implementation framework. Nevertheless, nurse leaders questioned whether using an implementation framework might have facilitated more efficient program implementation. The purpose was to determine if using an implementation framework might improve the efficiency of implementing an innovation (i.e., the Lutathera program) and ensure both fidelity and achievement of the desired outcome. Our processes were compared to process components of the Quality Implementation Framework (QIF). Five team members were surveyed to determine which components of the QIF were addressed. Also, efficiency in

achieving each step of the QIF was evaluated. Consensus building was used to determine whether the QIF: (1) might have resulted in more efficient implementation of the Lutathera program, and (2) should be recommended for use when introducing future innovations. There was a poor fit between our pre-implementation processes and the pre-implementation processes identified in the QIF. Assessment of needs, resources, organizational fit and explicit stakeholder buy-in was deficient in our approach. By consensus, team members agreed that: (1) early deficiencies led to identifiable downstream challenges, and (2) an implementation framework should be followed when introducing cancer treatment innovations in the future. Efficient implementation of innovations is more apt to occur when an implementation framework is followed. The fact that we achieved fidelity and the desired outcome without following a framework is likely due to the efforts of local experts and front line nursing leadership.

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I-SNAP: IMMUNOTHERAPY STANDARDIZED NURSING ASSESSMENT PROTOCOL

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The use of monoclonal antibodies (“mAbs”), especially various immunotherapies for the treatment of some cancers, has expanded tremendously. The ability to assess patients is the cornerstone of the nursing process and with the rise in use of immune checkpoint inhibitors (particularly PD-1 and PDL-1 inhibitors) the paradigm for nursing assessment has shifted. Oncology nurses can no longer rely on bright-line objective criteria such as an absolute neutrophil or platelet count thresholds to determine treatment toxicity, as done for most chemotherapies; rather, nurses must learn to re-focus their assessment on a thorough and complete subjective and objective review of patients’ self-reported auto-immune-triggered adverse reactions. The purpose was to provide nurses with standardized education regarding potential adverse reaction profiles of immunotherapies and tools with which to objectively and thoroughly assess patients receiving this sub-class of mAb therapy. This will assist providers in deciding an appropriate treatment plan based on how the individual patients are tolerating said treatments. Study participants will be oncology nurses with varied amounts of experience. Participants will be given a pre-test to determine their

level of knowledge of the underlying subject matter. Following the pre-test, participants will be given the educational information and standardized screening tool. After review of these materials, participants will be given a post-test to determine whether the educational materials improved the nurse’s knowledge as to the subject matter. Presently, this project is in its early stages. We have identified the learning need among oncology nurses and are working to develop our educational and assessment tool. We hypothesize that we will see dramatic improvement in the confidence and competency with which nurses are able to assess for adverse reactions associated with treatment with immunotherapies (in particular PDL-1 inhibitors). Our screening tool will be unique and useful for raising the standard of care for oncology nurses to keep pace with current trends in oncology. If our intervention is successful, we expect to develop similar tools for different sub-classes of mAb therapies.

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OPERATIONALIZING THE CARTOX-10-POINT NEUROLOGICAL ASSESSMENT TOOL FOR EARLY DETECTION OF CHIMERIC ANTIGEN RECEPTOR T-CELL-RELATED NEUROTOXICITY

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Chimeric antigen receptor (CAR) T-cell therapy, a form of immunotherapy, can produce durable remissions in refractory hematologic malignancies. CARs are genetically engineered receptors added to the patient’s own T-cells that target antigens on malignant cells. CAR T-cell immunotherapy, while promising, introduces unique, potentially fatal side effects, including cytokine release syndrome (CRS) and CAR T-cell-related encephalopathy syndrome (CRES). Nurses who care for CAR T-cell recipients must be trained to recognize and respond to these complications. The CARTOX-10-point neurological assessment tool aids in the early detection of CRES and evaluates changes in cognitive function, which can manifest as dysgraphia, tremors, confusion, seizures, and/or cerebral edema. The purpose of our project was to implement the CARTOX-10-point neurological assessment tool to detect CRES in patients receiving CAR T-cell therapy. The nurse educator and two senior clinical nurses took several steps to operationalize the CARTOX-10 in our

academic medical center. A handwriting log was created to track dysgraphia. The Information Technology Department built the CARTOX-10 as a flow sheet in the electronic medical record. In-person nursing education was provided along with a handout explaining the tool and emphasizing the importance of notifying the provider for any decrease in CARTOX-10 score. CARTOX-10 education was also incorporated into new nurse orientation. The frequency of assessment was determined and, following the completion of a baseline assessment, inpatients were assessed every four hours and discharged patients were assessed once every follow-up visit. Education on the neurologic assessment was delivered to 100% of the nurses who care for CART-cell recipients. Inpatient nurses utilize the tool every four hours to detect cognitive changes. The first patient treated at our institution developed fever and chills two nights post-T-cell infusion. The nurse administered the CARTOX-10 and, recognizing a decrease in score due to dysgraphia, notified the provider. Tocilizumab was administered and the patient was transferred to the intensive care unit. This nurse's knowledge led to early intervention and successful treatment of CRES. New therapies introduce unique toxicities that require nursing assessment and intervention. Nurses who are able to recognize and report side effects play an invaluable role in the patient's well-being. The CARTOX-10 point neurological assessment proved easy to administer, helpful in detecting early neurological status changes, and was well accepted by patients.

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DISEASE COMANAGEMENT: A CASE STUDY OF HIV/AIDS AND CANCER CARE IN SUB-SAHARAN AFRICA

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Cancer care is increasingly complicated worldwide by its management with concurrent acute and chronic illness states. In low- and middle-income countries, including those in sub-Saharan Africa, this results in lower overall survival rates and a higher burden of cancer deaths. This case study is presented to highlight the challenges patients with cancer in Zambia—many of whom are also positive for HIV or AIDS—face in relationship to access to care and comanagement of disease states. The patient, S.M., is a 51-year-old female who lives more than 600 km from the cancer center. She was diagnosed with stage IVB cervical cancer with

rectal involvement in November 2016. She also is HIV positive and has been on HAART since 2016. The clinical management of cervical cancer is challenging in patients who are HIV-positive because of immune status. HIV infection, cancer, radiotherapy, and chemotherapy lower immunity through reduction in CD4 cell counts. The CDH palliative care team addressed pain and symptom management and promoted quality of life. The team used a holistic assessment tool to assess and evaluate S.M.'s physical, social, psychological, and spiritual needs. The assessment revealed that the emotional, social, and economic impact of her illness was substantial, including fear, stigma, rejection, repeated bereavement, and conflicting messages. This makes palliative care important for all women receiving treatment for cervical cancer, particularly those with limited or no treatment options. Diverse logistical, financial, operational, and clinical challenges exist to providing cancer care in this region. Nurses are tremendously important to supporting the holistic needs of patients with cancer and other disease states. Ultimately, cancer care in Zambia, SSA, and other parts of the world are dependent on nurses to expand access to care, ensure patient and caregiver education, and engage with interprofessional teams to provide care to patients in their respective communities. Oncology nurses in sub-Saharan Africa face unique challenges, particularly because of the number of potentially life-threatening diseases common in this region. The high prevalence of HIV, high burden of cervical cancer, psychosocial challenges, and financial constraints of patients affect their management. The small number of oncology and palliative care specialized nurses poses an additional challenge to meeting the complex needs of patients with cancer in Zambia.

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PATIENT INSTRUCTIONS FOR HOME DISCONNECTION OF THE DOSI-FUSER PUMP

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Our clinic recently began using the Dosi-Fuser® Infusion Pump. The purpose of this project is to develop a patient education tool that would enable our patients to disconnect their Dosi-fuser pump at home. Benefits include cost and time savings to patient as well as improved utilization of nursing staff. Patients who have the capacity to safely perform the skills required, are determined to be eligible for training. As the only NCI designated cancer center located in Dallas, many of our patients travel several hours in order to receive care from our institution. Regimens which require continuous home infusion require the initial infusion

visit and an additional visit to disconnect their infusion pump. Managing patient care in a time sensitive fashion is the impetus for this project. This education tool was developed to enable patients to disconnect their Dosi-Fuser pump, flush their port and remove their huber needle safely in the home setting. Safe handling of chemotherapy waste is emphasized in this teaching. This tool contains narrative instruction with photos detailing the process. The initial training is performed by infusion staff, and includes a return patient demonstration of newly acquired skills in disconnection. A copy of the education tool is provided to the patient for home reference. The completed tool is available in our electronic medical record for staff use in patient education. This assures continuity among educators as well as continuity in education materials provided to our patients. Most patients are able to complete their own pump disconnect without difficulty. When observing the patient perform the skill, close attention is paid to ensure that aseptic technique is maintained, as well as safety precautions adhered to, in handling the chemotherapy waste. Oncology patients are a very special group of patients whose time is of a premium. By enabling these patients to disconnect their pumps at home, an additional clinic visit is avoided, thus improving patient satisfaction and enhancing staff utilization. Pharmaceutical companies are rapidly developing new methods of treatment and drug administration. To provide up-to date information for our patients, this teaching tool was developed to assure that our patients would be able to disconnect their pump at home.

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PAIN RELIEF WITHOUT OPIOIDS: TRANSITIONING FROM INTRAVENOUS TO ORAL NON-NARCOTIC PAIN MANAGEMENT STANDARDS IN POSTOPERATIVE THORACIC ONCOLOGY DURING THE NATIONAL OPIOID DEFICIT CRISIS

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Opioid pain management has been the standard of care of oncology patients but in the wake of the manufacturing related opioid shortage in the United States, alternative regimens need to be explored to assure

responsible use of remaining medications and continued patient pain control. Starting in early 2017, a standardized enhanced recovery after surgery (ERAS) protocol that requires oral non-opioid pain regimens for pain management immediately postoperative was created. Prior to its implementation in 2018, patients requiring thoracotomy, lobectomy, wedge resection and esophagectomy surgeries to treat their cancer had their postoperative pain managed on intravenous opioid patient-controlled analgesia (PCA) for most of their postoperative stay. The ERAS protocol includes an oral non-opioid regimen for pain control. New thoracic surgical oncology postoperative pain regimens were created to decrease the hospital's dependence on intravenous opioids as well as improve recovery times and length of stay. Since patients were not on intravenous opioid medication, there was no longer a need to keep patients inpatient to transition to oral equivalency. The ERAS protocols were collaboratively created by thoracic surgery, anesthesia, and nursing across the outpatient, operative and inpatient spectrum during several weekly meetings over one year's time. Intravenous opioid PCA was replaced with an acetaminophen, ketorolac, diclofenac and gabapentin regimen with as needed oral oxycodone. In collaboration with the thoracic surgery team, anesthesia, nursing professional development, and patient and caregiver engagement, nursing created new patient education materials. The education materials outline the program and are distributed to patients in clinic and reinforced inpatient. Nursing staff across the care continuum were educated on the pain management protocol. Patients identified to be on the ERAS pathway will receive standardized orders to assure compliance. On a unit that prides itself with superior postoperative pain management, patient satisfaction data did not waiver post-implementation. Pre-implementation, the thoracic surgery unit had a 2017 patient satisfaction survey yearly average of 90.7% for the question "how well your pain was controlled." The first two quarters of 2018 patient satisfaction data are continuing this course scoring 87.7% in quarter one and 91.6% in quarter two. The system of educating patients throughout the care continuum was also successful with patient satisfaction scores of 93.4% in 2018 quarter two for "nurses kept me informed."

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IMPROVING PATIENT OUTCOMES FOR ONCOLOGIC EMERGENCIES PRESENTING TO THE EMERGENCY DEPARTMENT

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The objective was to improve timely and appropriate oncologic emergency interventions within the emergency departments (ED). As oncology services are expanding to community settings, emergency departments are seeing an increase in oncology patients. Delays in the treatment of oncologic emergencies can result in poor patient outcomes. Oncology nurses identified this concern and acted as the drivers to educating on the appropriate triage for oncology patients. The purpose was to build an ongoing educational and support structure for the ED staff to safely and effectively care for oncology emergencies. The ED at Geauga Medical Center, a certified trauma center, triages patients from surrounding communities, including two critical access hospitals. Due to the presentation of oncological emergencies and the timeliness of treatment required to minimize patient complications, a partnership between ED staff and oncology trained providers was imperative. Education to assure ED team competency and availability of resources to accommodate oncology emergencies were identified as primary needs. A comprehensive online course that addressed management of neutropenic fever, cord compression, tumor lysis syndrome, and hypercalcemia was developed. Resources were provided to ED staff; quick reference cards and visual aids to help clinician's quickly locate online treatment algorithms. These resources were developed with the input of the ED staff on how to best triage patients. Neutropenic fever, as the most prevalent oncologic emergency presenting and was chosen as an area of focus with a goal to attain antibiotic administration within 60 minutes of documented fever. A focused audit of charts was completed on the management of neutropenic fever. Prior to implementation, fever to antibiotic administration was 177 minutes, with 40% of patients presenting with neutropenic fevers receiving antibiotics within 60 minutes. The average inpatient length of stay was 7.2 days. Following the intervention, fever to antibiotic time-up was 42.2 minutes, with 80% of patients presenting with neutropenic fevers receiving antibiotics within 60 minutes. The inpatient length of stay was reduced 3.8 days. A targeted educational program and enhanced oncologic resources resulted in significant, positive results for patients presenting to the ED with neutropenic fever. It is essential that oncology nurses and ED staff establish and maintain a working relationship when providing care for mutual patients.

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**MITIGATING RISK FOR MALNUTRITION:
INTRAPROFESSIONAL COLLABORATION TO
DEVELOP A WORKFLOW FOR AUTOMATIC
REFERRALS TO REGISTERED DIETITIANS
FOR AML PATIENTS RECEIVING GCLAM
THERAPY**

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Malnutrition is prevalent in the oncology population and is associated with increased infection, length of stay, inpatient utilization, cost and treatment interruption. It is important to identify and anticipate malnutrition and other nutrition-impact symptoms proactively vs reactively to mitigate these risks. After identifying a cohort of patients who met criteria for severe malnutrition (8–17% weight loss over 6–12 weeks) following GCLAM (filgrastim, mitoxantrone, cladribine and cytarabine) therapy at Seattle Cancer Care Alliance (SCCA), an intraprofessional team consisting of Registered Dietitians who are Board Certified Specialists in Oncology Nutrition (RD, CSO), Oncology Certified Nurses (OCN), APPs and hematologists convened to address best practice for involving RD, CSOs proactively in patient care to prevent and/or address malnutrition. The purpose was to standardize referrals for nutrition assessment to RD, CSO for patients on GCLAM therapy. The interdisciplinary team unequivocally decided that best practice is to have all GCLAM patients referred to a RD, CSO. From a technical perspective, group consensus was to modify the PowerPlan to have nutrition referrals automatically included in the GCLAM computerized physician order entry. Patients receiving GCLAM are now routinely scheduled to see a RD, CSO as part of the standard of care at the SCCA. This allows opportunity for initial and longitudinal nutrition assessment to address nutrition-impact symptoms and assess need for nutrition support with the goal of preventing or improving malnutrition, if already present. This was an important change in clinical practice to improve patient access to experts in oncology nutrition. Having routine nutrition referrals built in to the orders allows medical providers and nurses to limit variability in when and how frequently patients receiving highly toxic therapies are referred to nutrition experts. This has improved intradisciplinary communication and allows patients to be at

the center of expert clinical advice in medical, nursing and nutrition management. Intradisciplinary collaboration to standardize care such that all AML patients with planned GCLAM therapy have access to nutrition experts to proactively identify and/or manage malnutrition associated with highly toxic therapy.

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LATE ADMINISTRATION OF LUTEINIZING HORMONE-RELEASING HORMONE AGONISTS AND THE IMPACT ON TESTOSTERONE SUPPRESSION IN THE REAL-WORLD MANAGEMENT OF PROSTATE CANCER

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Luteinizing hormone-releasing hormone (LHRH) agonists are the standard for androgen deprivation therapy (ADT) for advanced prostate cancer (PCa). Increasing evidence suggests that reaching and sustaining the lowest testosterone (T) levels possible are desirable and correlated with disease-specific survival. However, T levels may rise above castrate level in between administrations, especially if the subsequent administration is late. Compounding the effects of late administrations is the fact that although FDA approvals for ADT drugs are based on 28-day months, some insurers may mandate full calendar months (30 or 31 days) between doses for reimbursement purposes. Furthermore, when patients have an increase in prostate-specific antigen (PSA) levels, it may be unclear whether PSA rises are caused by late administrations, inadequate treatment efficacy, or disease progression to castrate resistant PCa. Ability of therapy to maintain efficacy throughout the dosing period and between doses may be critical if patients have difficulty with subsequent injection scheduling compliance. To determine the scope and impact of late administrations, this study evaluated the timeliness of LHRH agonist administrations and subsequent rate of T breakthroughs in PCa patients. A retrospective review of electronic medical records from 1/1/07–6/30/16 of 85,030 LHRH agonist administrations for PCa treatment was conducted to evaluate the percentage of late subsequent administrations and T tests with T > 50 ng/dL. A late administration was defined as occurring on or after day 33 (1mo), 98 (3mo), 129 (4mo), or 195 (6mo). Descriptive statistics were used. 26.9% of all subsequent LHRH agonist administrations were late: 14.4% were ≤ 1 week

late, 3.1% were between 1 and 2 weeks late, and 9.4% were > 2 weeks late. Of all late LHRH agonist administrations that had late T tests, 21% had T > 50 ng/dL. Across LHRH agonist formulations, greater than a quarter of subsequent administrations were late. Among late administrations, about half were > 1 week late, and more than a third were > 2 weeks late. > 20% of the time, late administrations resulted in insufficient castration. Considering the clinical benefits of maintaining T suppression during ADT and potential T microsurgers with subsequent administrations, clinicians may consider ordering routine T tests, prescribing treatments with potential for extended drug delivery past the dosing period, and monitoring visit date compliance to ensure T is effectively and continually suppressed below castrate level.

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BE PROACTIVE, NOT REACTIVE TO ZERO FALLS

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According to Centers for Disease Control and Prevention, 1 in 5 falls causes a serious injury, such as broken bones or a head injury. Injurious falls lead to prolonged hospital stay and cost \$14,000 per fall according to Agency for Healthcare Research and Quality. Hematopoietic Stem Cell Transplant (HSCT) patients are prone to injurious falls due to risk factors including thrombocytopenia, polypharmacy and physical deconditioning. The HSCT unit had a total of 14 falls (5 injurious falls) in 2016, 17 falls (3 injurious falls) in 2017 and 6 falls (4 injurious falls) in the first quarter of 2018. The majority of falls involved toileting and occurred equally on day and night shift. Consistent with the hospital's commitment to a culture of ZERO harm, our nursing team implemented proactive hourly rounding. The purpose of this study was to determine the effect of proactive rounding with the "4Ps"—potty, placement, pain and position—on fall reduction on a 16-bed HSCT in-patient unit in an academic medical center. Literature review supports that proactive rounding can reduce patient falls. The intervention aims to recognize patient needs and address them at frequent intervals before a fall occurs. Nurses and support staff attended educational sessions provided by fall champions, addressing the components of hourly rounding—assessing the 4Ps: Potty—the need for toileting. Placement—placing personal items and call bell within reach. Pain—assessing for discomfort

that requires an intervention. Positioning—ensuring a safe and comfortable position. Hand-off report indicating high fall risk patients was included. Rounding champions serve as a resource engaging staff and retrospectively audit for the rounding documentation compliance. The average compliance improved from 70% to 90% in weeks 6-11 post implementation. During the intervention, falls decreased dramatically—4 falls (1 injurious fall) in June, 2 falls (1 injurious fall) in July and zero falls in August. The majority of falls occurred during low compliance period. To hardwire unit culture, rounding champions educated nursing staff on hourly rounding during huddles. As compliance rates improved, approximately 2 months post-intervention, our fall rate dropped to zero. Oncology nurses play a primary role in assessing patients' fall risk and proactively rounding to prevent falls. Staff noticed decrease in call light usage by patients. The next step is to include the multidisciplinary team in fall prevention.

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WOUND WEDNESDAYS—RELIEVING THE PRESSURE OF ONCOLOGY WOUND MANAGEMENT

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Complex oncology treatments often result in functional decline, impaired mobility, prolonged neutropenia, and alteration in nutrition. These comorbid conditions make oncology patients vulnerable to skin breakdown including moisture associated skin damage and pressure injuries. Malignant diagnoses can also be associated with fungating wounds, as well as partial thickness loss wounds secondary to graft versus host disease and cutaneous cancers. Providers often lack the knowledge and comfort to assess wounds and make recommendations for treatment. Lastly, wounds are a significant source of litigation and can result in prolonged length of stay and increased hospital cost. Nurses who worked on four oncology units at an academic medical center were selected to obtain certification through the Wound Treatment Associate Certificate Program (WTA-C). WTA-C comprises both knowledge and

clinical applications necessary for nurses to assess and manage patient's wounds. Upon certification, clinical nurses were trained by nursing leadership to independently evaluate patients on a weekly basis, with assigned leadership support. Documentation of the wound care plan included wound photography and measurements. Nurses discussed the plan with the interdisciplinary team. All wound care plans were presented by the nurses during a daily "wound wrap-up" at the end of the nurses shift. A password protected database was developed to capture outcomes including wound classification and staging, treatment recommendations, education directed towards patients and families, and interdisciplinary consults. Data regarding the number and type of interventions will be presented. Wound photography significantly enhanced the ability to assess the progress of wounds over time. Nurse autonomy in wound management and satisfaction increased. Wounds are often under-addressed and under-documented in acutely ill oncology patients. Oncology nurses are experts in symptom management and possess the skills to effectively assess and treat wounds; therefore the development of a consistent nurse driven wound treatment team has filled this void. As wounds are a low volume high risk within the inpatient oncology setting, maintaining nurses competence as well as confidence with wound care management remains a challenge. By building a wound care program, nurses are exposed to a peer to peer model of content expertise. Investment in nurse consultation programs can reduce variations in wound management and ensure the translation of the highest level of evidence for such care plans.

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IMPLEMENTING A COLLABORATIVE SYSTEM OF ONCOLOGY NURSE ORIENTATION IN AN AMBULATORY HEMATOLOGY CLINIC

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Clinical oncology care's move to the ambulatory setting has had a significant impact on nurse practice. In FY18 evaluation of an academic based hematology clinic in an NCI designated cancer center documented increased overtime hours, short staffing with increases in patients and acuity. Total appointments for FY18 is 20,615 for 4,867 patients. Additional elements contributing the staffing issues were concurrent retirement of senior nursing staff and addition of multiple new medical providers. The purpose was to successfully develop a structured standardized,

evidenced based orientation program that supported needs of our current staff, preceptors and newly hired nurses to assure best clinical care for our hematology patients. Working together with our institutional education and research division, the nurse manager and a unit-based educator engaged established nurse preceptors to provide input on key knowledge and skill areas essential to document hematology specific clinical competency. Standardized tools, competencies check-offs were vetted and integrated into a formal program of orientation. (ONS Chemotherapy and biotherapy certification, CITI Good Clinical Practices and Human Subjects Protection modules, and hands on clinical skills) Journaling and face to face check-ins with the unit-based nurse educator and the preceptor happened weekly during orientation. Time spent with other departments (infusion lab, procedure suite) built the spirit of collaborative practice as did attendance at educational clinic in-services. The program has been implemented with 11 new clinic nurses over the past 6 months. Currently with an 82% completion of the full program, overtime hours are decreasing, and staff are reporting higher levels of job satisfaction. The structured standardized orientation program allowed for early identification of individuals for whom hematology ambulatory nursing was not a fit resulting in stronger support of new nurses and current staff. A standardized structured and supportive orientation program requires time and commitment of the entire staff. This program marked a complete change in existing clinical orientation practices and the implementation of this innovative strategy has yielded improved outcomes for patients and staff.

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PATIENT PREPARATION FOR CHEMOTHERAPY: AN EVIDENCE BASED PRACTICE (EBP) PROJECT

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Gastrointestinal (GI) cancer patients undergoing chemotherapy have a high symptom burden related to both disease process and side effects of treatment. Oncology nurses are challenged to provide effective, evidence-based interventions for teaching, support

and follow up. Using the Science and Practice Aligned Within Nursing (SPAWN®) approach, a team of nurses at the Dana-Farber Cancer Institute developed a systematic intervention to provide education, symptom management, psychosocial support and follow up for patients starting chemotherapy. The purpose was to design an evidence-based, nurse-led, psychoeducational intervention delivered within four systematic encounters to improve patients' chemotherapy experience. With multidisciplinary input, a nurse-led group was established to develop a psychoeducational binder as a multimedia tool to meet the needs of patients starting chemotherapy. A comprehensive review of the literature informed the materials and plan for incremental delivery of information by both the program and infusion nurse. Hard copy, audiovisual, and electronic elements are implemented within a series of 4 systematic encounters (3 in-person and 1 by phone) between the patient and nurse. The GI Binder EBP project is successfully accruing participants. Project data outcomes are being evaluated and include feasibility within the current structure of care delivery and team workflow, patient knowledge, and acceptability/usability of the educational materials and related nursing encounters. The GI Binder EBP project utilized research evidence, knowledge from direct care nurses at the baccalaureate, masters and doctoral levels, and patient input to design and implement an intervention to address education, support and symptom management of GI cancer patients. This intervention provides oncology nurses with an evidence-based intervention and resource to effectively prepare patients for chemotherapy. The design addresses the overwhelming nature of the experience of chemotherapy for cancer patients, and provides a framework for maximizing symptom management and ongoing support. The intervention is templated for ease of modification and use across all cancer diagnoses.

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MANAGEMENT AND PREVENTION OF CHEMOTHERAPY INFILTRATION AND EXTRAVASATION: AN EDUCATIONAL TOOL FOR PATIENTS AND NURSES

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Given the critical nature of chemotherapy infiltration and extravasation, it is essential to prevent and optimally manage such complications when they occur. A dedicated group of oncology infusion nurses at a large urban academic medical center's outpatient infusion center created documents to educate both the infusion nurses on the floors as well as the patients receiving chemotherapy and immunotherapy. Our mission is to improve our current practice by optimizing management for our patients and preparing our nurses in this very critical area of oncology care in the infusion setting. We have put together a set of documents which include a patient education sheet for identifying and managing infiltration and extravasation. A nursing education sheet of the same material was developed along with a comprehensive PowerPoint and reference binder. Additionally, we revised the existing nursing standard for infiltration/extravasation management. The PowerPoint presentation along with nursing education material serves as a guideline for proper handling of infiltration/extravasation. Documentation for patient care follow-up in the electronic medical record was outlined in the reference binder. A cold and warm compress badge buddy was developed to provide oncology nurses a quick reference for hot and cold compresses to use at the chairside in the event of an infiltration/extravasation. Patients are provided with detailed discharge education for follow-up care, in addition to the standard discharge instructions. The oncology infusion nurses, both in the inpatient and outpatient settings, now have a more in depth understanding for managing infiltration/extravasation events following the educational interventions. The nurses are now able to explain the early signs of an infiltration/extravasation, enabling the patients and family to identify any concerns regarding their IV access and reach out to staff the moment anything abnormal occurs. The nurses are able to rapidly respond with hot/cold compress with information provided by the badge buddy. With the proper education and preparation, our staff and patients feel well informed and confident to care for the affected sites. Documentation on infiltration/extravasation has improved, allowing medical professionals to easily access ongoing follow-up and communications to ensure optimal patient care.

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IMPLEMENTATION OF A DEDICATED STUDY POD WITHIN AN ONCOLOGY INFUSION CENTER

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It is imperative that nurses providing care to clinical trial patients have an educated understanding of the importance of adhering to the study, as well as the ability to properly educate patients on study specifics. Having complicated phase I-II study patients intermixed in a full 9-11 patient assignment on a busy infusion unit presented challenges with adherence to the studies, insufficient nursing knowledge in educating patients, and increased stress on the nursing staff caring for these patients due to the acuity associated with these studies. There was a clear need to identify nurses with a strong interest in clinical trials research, provide proper clinical trials education to these nurses, and create a dedicated space for these patients. The purpose was to create a defined study pod, where complex clinical trials patients receive their treatment under the care of nurses who have received specialized clinical trials education. A working group consisting of a research nurse, clinic and infusion schedulers, and nursing leaders, created a workflow identifying which patients would be a priority in being scheduled in the study pod. Simultaneously, a series of six 1-hour clinical trials educational classes were attended by the nurses who would be staffing the study pod. Key members of the CTO and Infusion Management visited two NCI-designated Cancer Centers with well-established clinical trials processes. Prior to the go-live date, each member responsible for their piece of ensuring success of the pod understood their role and utilized the established channels of communication for scheduling these patients. Pre- and Post- Study Pod Implementation Surveys were sent to the Providers, Clinic and Infusion Schedulers, Clinic and Infusion Nurses, and Study Patients. The preliminary results are neutral or favorable from all groups. The workload of the nurses caring for these complex patients has improved tremendously and there has been a decrease in protocol deviations since implementation. As our institution's study volume is continuing to grow we will soon require a larger treatment space. A second small group of infusion nurses have completed the clinical trials educational classes, allowing for increased scheduling flexibility and more consistent, specialized patient care.

The pre-implementation scheduling meetings and educational classes required for the staff have proven to be beneficial to the preliminary success of the pod.

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CONCEPT ANALYSIS: SYMPTOM MANAGEMENT IN THE PATIENT WITH CANCER

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Patients experience symptoms in response to illness. Over the lifetime of a cancer patient, the progression of cancer and its treatment may lead to the development of multiple symptoms including sleep disturbances, depression, neuropathic pain, anxiety, poor appetite, dyspnea and cognitive dysfunction. Such symptoms negatively impact functional status and quality of life, and may occur in isolation or in a cluster of two or more together. Symptoms ranging in severity from minor to severe cause distress and suffering, and prompt millions of patient visits to providers annually. The goal of symptom management is to expose triggers, reduce the severity and limit the impact of the symptom(s). Due to lack of empirically tested symptom management models, health care providers have difficulty in symptom management strategies that can be applied across multiple care settings. Adequate management of pain and other symptoms is an essential component of nursing care of patients with cancer. Symptom management research focuses on understanding the multidimensional aspects of symptoms such as pain, fatigue, cognitive changes, depression, sleep disturbances, and others with the goal of identifying and developing new strategies to improve health and quality of life and to assist nurses and others to better understand the range of symptoms, their effects on patients and how patients respond to interventions (NIH). We have completed a nursing concept analysis of symptom management in patients with cancer as a means for clarifying the meaning of the concept, utilizing the framework outlined by Walker and Avant. This concept analysis examines symptom management as a nursing concept and helps to understand its underlying attributes. The body of nursing knowledge will be enhanced with more accurate symptom assessments, more effective interventions in identified symptoms, and improved symptom management evaluation.

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THE IMPLEMENTATION OF A 72-HOUR FOLLOW-UP TELEPHONE CALL TO IMPROVE

POST CHEMOTHERAPY SYMPTOM MANAGEMENT, REDUCE EMERGENCY ROOM VISITS AND CALLS TO THE PHYSICIAN, AND INCREASE PATIENT SATISFACTION

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The initiation of chemotherapy is an extremely anxiety provoking experience for patients and their families. Patients' primary concern is what to expect during and after treatment. Patients receiving chemotherapy in the outpatient setting return home immediately after completing treatment and are at an increased risk for developing and experiencing symptoms but do not have direct medical and nursing supervision to monitor for and/or address side effects or adverse reactions of treatment. Nurse directed follow-up telephone calls post chemotherapy treatment are important to gain insight to patient-centered needs, provide clarification, guidance and direction for timely management of potential side effects. The literature supports follow-up calls have a positive impact on patient outcomes and improve patient satisfaction. The St Francis Hospital (SFH) Infusion Unit has dedicated and trained oncology certified nurses who are committed to educating patients about diagnosis, treatment, and symptom management. Upon discharge, many patients and family members find themselves struggling to remember all the information reviewed throughout the treatment process along with symptoms to monitor. Initially, the outpatient follow-up phone call was being made the next day following treatment. However, patients would continue to call the Infusion Unit on day two or three with additional questions and seek additional support. Therefore a change in clinical practice of the follow-up telephone call was made. The purpose of this change in practice was to capture our patients when their symptoms and side effects may be peaking. Ensuring the patient and their family that they will be contacted 72-hours post treatment may alleviate anxiety, knowledge deficit, and provide reassurance to the patient. This plan coincides with when symptom management is most vital, and may result in a decrease in hospital emergency department visits, reduce patient calls and in turn increase patient satisfaction. A pilot study was implemented in June 2018 changing the discharge phone call to 72-hours post treatment and began tracking outcomes using the Press Ganey Scores. Three months after implementing this clinical practice change our Press Ganey score

on “staff concerns for patient questions and worries” has already demonstrated a positive impact and improvement in our patient satisfaction mean scores. This is evidenced by an increase in our third quarter score to 97.8% from 96.7%.

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USE OF CLINICAL PHOTOGRAPHY IN RADIATION ONCOLOGY

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In our department, radiation oncologists often work at another distant facility or in a laboratory outside the cancer center, which requires covering physicians to make care decisions in their absence. Additionally, the multi-disciplinary team (medical oncologists, surgeons, radiation oncologists, wound management nurse practitioners, etc.) also work in different locations across the facility. For tumor or wound care issues, a review by all providers and team members would require multiple possibly traumatic dressing changes for the patient. Therefore, communication of tumor or wound status to all staff members involved in the patient’s care in the detail warranted is essential, but can be challenging. To improve continuity of care through use of digital photography: photographs were uploaded to the Electronic Medical Record (EMR) nursing note with the intention of staff being able to 1) Review patient information in real time, even remotely, 2) Better monitor changes in the patient over time, and 3) Improve communication to other services when necessary. Photographic consent is part of radiation oncology simulation and treatment informed consent. Digital cameras were already owned by the department and in use by our research nurses and radiation therapists. The introduction of our EMR allowed for nursing staff to upload photographs into notes and then route them to relevant staff members. Training was provided to all nurses in our department. The response from all stakeholders has been positive over the past two years. Photographs have been used to communicate surgical infections, potential new or treatment-resistant disease, and toxicities from treatment. Use of photography has become common for easily visualized tumors like sarcomas and anal cancers. Clinical photography has been incorporated into weekly treatment visits for patients undergoing radiation therapy for skin cancer, and head and neck cancer. The process to upload

photographs is unwieldy, and nurses indicated that they would take photographs more if the barriers were addressed. Physicians have asked that photographs be added to the Imaging tab in the EMR instead of nursing notes to improve visibility and comparison of photos across time.

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DEVELOPING A DISEASE SPECIFIC ONCOLOGY NURSE NAVIGATION MODEL IN AN NCI DESIGNATED ACADEMIC HOSPITAL SETTING

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VCU Health is in the process of building a disease specific Oncology Nurse Navigation program to meet the needs of the diverse patient population seen at the Massey Cancer Center. When the process began the program had ill-defined roles and a large number of patients were not being supported by an Oncology Nurse Navigator (ONN). The purpose is to provide all cancer patients the support of an ONN with specialized knowledge in their disease to guide them through the care continuum. In the beginning of 2018, six ONNs covered Breast Health, Chest, Gynecology, Leukemia and Lymphoma, and Gastroenterology. A gap analysis was performed showing that there was a large number of patients who did not have an ONN involved in their care. Over the course of a couple of months the navigation program grew significantly to twelve ONNs. The current breakdown of ONNs is: Chest, Endocrine and Melanoma, Gynecology, Head and Neck, Neurology and Sarcoma, Pancreatic, and there are two ONNs covering Breast Health, Gastroenterology, and Leukemia and Lymphoma due to the large number of patient population. Additionally the role of the New Patient Coordinator was redefined to be disease specific and each disease team established guidelines for the New Patient Coordinators to assist with new patient intakes. In the short time since the program has been implemented the number of patients receiving care from a disease specific ONN has increased. Patient satisfaction, support, and outcomes have improved. Provider and treatment team satisfaction have increased. Defined role differentiation between primary nurses and ONNs have increased staff satisfaction and decreased previous frustration and division. Navigator involvement has decreased the time from diagnosis to initial consult in the disease specific clinics. Additionally the Leukemia and Lymphoma ONN has helped to facilitate earlier

transitions from inpatient to outpatient for newly diagnosed Acute Leukemia patients, decreasing their length of stay. The addition of disease specific ONNs has given patients a constant across the care continuum. Patients, Massey Cancer Center, and VCU Health have benefited from the implementation of a disease specific ONN program. The program continues to grow with constant reevaluation to meet patient needs.

133 REDUCING CLOSTRIDIUM DIFFICILE INFECTIONS USING FIVE HIGH BY FIVE O'CLOCK

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Nosocomial *Clostridium difficile* (*C-difficile*) infections are adverse and unfavorable incidents that afflict oncology immunocompromised hospitalized patients. Research reveals high-touch surfaces areas within the patient's environment are frequently overlooked and are a valid source of microscopic bacterial transmission. The purpose was to examine whether the use of a standardized protocol for cleaning high-touch surface areas would reduce the incidence of hospital-acquired *C-difficile* infections. After reviewing the literature, five high-touch surfaces were identified. The high-touch surfaces were: bedside rails, remote/call light, bedside table, telephone, and intravenous pump/poles. Baseline data on the *C-difficile* infection rate was collected for the four participating specialty medical-surgical oncology hospital units from October 2016 to October 2017. The nursing staff was educated on the new processes. The Five-by-Five intervention consisting of cleaning the five high-touch surfaces by five o'clock each shift was implemented. Sign-off sheets were utilized to track the Five-by-Five compliance, and ultraviolet markers were used to determine if the high-touch surfaces were cleaned. Data was collected post-implementation from November 2017 to July 2018. Pre-intervention data from October 2016 through October 2017 revealed 34 hospital-acquired *C-difficile* infections. Post-intervention data from November 2017 through July 2018 reported 9 hospital-acquired *C-difficile* infections. This program accounted for a 74% reduction in *C-difficile* infections. In the highly vulnerable immunocompromised inpatient population, this infection can result in increased

patient pain and medical costs. The use of an easy to use standardized program for the cleaning of high-touch surfaces can significantly reduce patient morbidity and mortality. The use of a standardized cleaning program was effective in reducing *C-difficile* infections. The program was easy to remember and implement. After the pilot, the program was rolled out organization-wide.

134 STANDARDIZATION OF CENTRAL VENOUS ACCESS DEVICE MANAGEMENT: IMPACT OF PEER REVIEW AND CONTINUING NURSING EDUCATION

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The need to standardize care of central venous access devices (CVAD) is essential to ensure best nursing practice. Variances in nursing practice regarding CVAD care were noted at a major academic medical center in the ambulatory oncology infusion sites. These variances were brought to our attention by newly hired infusion nurses, which prompted a small group of nurses throughout the ambulatory infusion sites to take a closer look at our policies and procedures. The purpose was to update and standardize nursing practice regarding the care of central venous access devices and reinforce nurses' competencies by performing ongoing nursing education in the units. Four CVAD oncology nurse champions were identified between the four nursing units. The current CVAD policies and procedures were reviewed and revised as necessary to reflect current evidence based literature. Based upon this literature review, minor adjustments were made to the appropriate policies. These policies and procedures were then vetted through both the oncology nursing practice and quality council and the institution's general nursing practice and quality council. These changes included the following: dressing changes, changing needleless access valves, flushing and obtaining blood samples. Nurses were provided with in depth education via PowerPoint and one on one return demonstration using simulation

and direct patient care. Simulation included the use of a lifelike model of a torso with an implanted CVAD, where the nurses were able to perform the above mentioned competencies. CVAD audits will be performed monthly, and competencies annually, to ensure that the changes in practice are maintained. During the monthly audits, there is immediate corrective action taken to ensure safety and continuity of care. Promoting compliance to the updated policy and procedure not only provides standardized care, but will also help prevent central line associated blood stream infections (CLABSIs). The ultimate goal of the education is consistency in nursing care which will become evident in the absence of CLABSIs as these will continue to be monitored.

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ONE SIZE DOES NOT FIT ALL: DECREASING COST AND WASTE OF MEDICAL SUPPLIES

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The Baylor Scott and White Health (BSWH) Central Line Associated Bloodstream Infection (CLABSI) steering committee standardized the port access kit for both inpatient and ambulatory clinics with the intent to aid in the reduction of CLABSIs. The kits contain extra supplies that are not used in the ambulatory setting, which lead to increased costs for the system and patients. In February 2018, with the implementation of the CLABSI initiative, the nursing staff from the Vasicek Cancer Treatment Center (VCTC) noted significant supply waste from the port access kits in the ambulatory setting. Along with supply waste, there was a significant cost increase for the port access kits, from an average of \$2,037 per month to \$12,581. The increase for the new fiscal year budget was \$150,876. Utilizing lean methodology, while keeping patient safety at the forefront, nurses collected data showing waste from each kit. Multiple wasted supplies were collected with the costliest item being the chlorhexidine gluconate (CHG) patch. The manufacturer replied to management's inquiry regarding the efficacy of the CHG patch, which noted, "Skin antiseptics, such as Chloraprep, manages the microbes up to 24 hours, then microbes regrow." The experts at 3M go on to say, therefore "if the IVAD is deaccessed within 24 hours there is not much benefit from using

the CHG dressing." In addition, the budget was analyzed to gather data on the increase costs and effects on our budgets. The BSWH ambulatory Oncology Nurse Forum members reevaluated the port access kits and identified the items necessary for patient safety; excess supplies were eliminated. The BSWH CLABSI steering committee reviewed the kit proposal and approved. The new kit eliminates waste and is a monthly cost savings of \$9,140 for the VCTC alone. Chairside oncology nurses, working with leadership, played a vital role in recognizing waste and developing a new port access kit, specific to the ambulatory setting, for the BSWH system. The system's nurse forum was beneficial in developing a standard ambulatory kit and enabled the oncology nurses to have a stronger influence for the ambulatory setting.

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NO LONGER LOST IN TRANSITION: SHARING THE SURVIVORSHIP MAP VIA AN EDUCATION SERIES

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Cancer survivors are a rapidly growing population with physical and psychosocial needs specific to the impact of cancer and cancer treatment. More than 15.5 million Americans with a history of cancer were alive on January 1, 2016, and this number is projected to reach more than 20 million by January 1, 2026. According to the Institute of Medicine (IOM) 2006 publication, *From Cancer Patient to Cancer Survivor: Lost in Transition*, intervention is one of the four essential components of survivorship care, and includes not only interventions for physical consequences but also psychosocial distress and concerns related to employment, insurance and disability. For this project, a cancer survivor is defined as a person who has completed active treatment for cancer, and survivorship refers to the post-treatment phase of the cancer continuum. The Baylor Scott & White Vasicek Cancer Treatment Center (BSWVCTC) offers comprehensive surveillance for cancer survivors; however, an opportunity to enhance survivorship care was identified. The Cancer Survivorship Coordinator developed an education/support series for cancer survivors which provides information on a variety of topics, including Psychological and Emotional Well-being, Spiritual Wellbeing, Nutritional Guidance, Improving Strength and Endurance, and Overcoming Insurance and Employment Barriers. The sessions were held at BSWVCTC in the early evening on a weekly basis. The six week series was repeated three

months following the initial series, with plans to offer it on a quarterly basis. A 7-item questionnaire was given to survivor participants prior to the first session, immediately following the last session, and three months after the last session to assess for the effect of participation on the patients' perceived quality of life. Questionnaire responses from the participants in the initial series revealed positive trends related to a decrease in distress as well as anxiety associated with fear of recurrence/progression of disease. Questionnaires are still being administered and collected for the second series participants. Cancer Survivorship continues to be an evolving specialty of oncology care. Patients with a history of cancer have very unique physical and psychosocial needs. Exploration into a variety of innovative methods for providing education and support to cancer survivors is needed in order to address these needs and determine the most effective approaches.

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SAFE HANDLING OF CYTOTOXIC DRUGS AND USE OF PERSONAL PROTECTIVE EQUIPMENT AMONG NURSES AT A REGIONAL CANCER CENTER IN SOUTH KOREA

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Cytotoxic drugs demonstrates one or more of carcinogenicity, genotoxicity, teratogenicity, reproductive toxicity, or organ toxicity. Oncology nurses potentially are exposed to cytotoxic drugs during drug preparation, administration, and disposal and when handling excreta whose patients having chemotherapy. Such occupational exposure can be minimized by safe-handling of cytotoxic drugs and use of personal protective equipment (PPE). This purpose of this study was to identify the level of safe-handling of cytotoxic drugs and use of PPE among nurses at a regional cancer center in South Korea. Research design was cross-sectional descriptive study. The participants were 131 nurses who have been caring cancer patients having chemotherapy. Demographic information, safe-handling of cytotoxic drugs and use of PPE were collected using questionnaires from May 7 to 24, 2018. Of 140 nurses, 131 responses were collected (98.5% response rate). The mean age of the nurses was 28.2 ± 4.4 years and their clinical nursing experience was 4.34 ± 3.93 years. The mean score of the participants' safe

handling of cytotoxic drugs was 3.73 ± 0.43 of 5. In use of PPE, the mean score of wearing gloves, masks, and gowns were 3.89 ± 0.77 , 3.06 ± 1.04 , and 2.34 ± 0.98 , respectively. The main reason for not wearing PPE was 'too busy' (62%). The findings showed that the processes of preparation, administration, cleaning of spills, and handling of waste of patients on cytotoxic drugs pose the most occupational risk to nurses in clinical area. Therefore, feasible guidelines are needed for setting safer workplace in safe handling of cytotoxic drugs. Education program for nurses would be contributed to improve the use of PPE and trigger appropriate motivation for consistent personal protection.

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RESEARCH ON THE EFFECT OF WILLING CARDS TRAINING ON EMPATHY ABILITY OF ONCOLOGY NURSES

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The objective was to research the effect of willing cards training on empathy ability of oncology nurses. Two hundred oncology nurses were divided into the observation group (one hundred) and the control group (one hundred) by the random number method. The observation group received the routine training of nurses and the willing cards training, while the control group received the routine training of nurses only. The willing cards training includes four stages: introduction of the willing cards, process implementation, data statistics and feedback intervention. During the process of implementation, one hundred nurses in the observation group were divided into ten groups, with ten nurses in each group. The training was conducted in batches, and the total training period was three months. At the end of the training, two hundred nurses were surveyed by general information questionnaire and Jefferson nurse empathy scale. The scores of empathy ability of oncology nurses who had received the training of willing cards were higher than those of nurses who had not received the training of willing cards in the dimensions of point selection, emotional nursing and transposition thinking, and the differences were statistically significant ($P < 0.05$). "I don't want to suffer", "I want nothing to regret in my life", "I don't want to be a burden to my families", "I want a trusted doctor and a caring nurse", and "I want to travel if I can" are higher on the list. The willing cards training

is helpful to improve the empathy ability of oncology nurses. The hospital should pay attention to the establishment of the palliative care pilot ward and the willing cards training. To improve the humanistic care ability and comprehensive quality of nurses.

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RADIATION PROTECTION COMPREHENSIVE MEASURES TO REDUCE THE RADIATION DAMAGE OF MEDICAL STAFF'S 99mTc-MDP WHOLE BODY BONE SCAN

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The objective was to explore the effect of comprehensive radiation protection measures on reducing radiation injury of 99mTc-MDP bone scan in medical staff. Eighteen medical staffs of breast cancer department 1 and 2 were selected as the observation group and control group respectively. Both groups were required to wear a thermoluminescent personal dosimeter (TLD) on the left chest during the working period. The cumulative dose of TLD for one month was compared between the two groups before the experiment (2018.7.1–2018.7.31) and during the experiment (2018.8.1–2018.8.31). During the experiment, the control group took general protective measures: the responsible nurses carried out systematic health education to the patients and their families who would undergo bone scan the day before. The observation group implemented general protective measures and radiation protection comprehensive measures: (1) Radiation Protection Commissioner of observation group all members of radiation protection related training. (2) The Radiation Protection Commissioner registered the patient's information for bone scan and contacted the bed doctor. (3) The tube bed doctor adjusts the treatment, stops the bone scan examination patient that day all treatment doctor's orders, if the treatment must carry on, changes after injecting the imaging agent 6 hours, when does the treatment the nurse must wear the lead clothes. (4) The observation group is equipped with a personal dose equivalent (rate) monitoring alarm device. The staff is reminded that the radiation dose rate exceeds the set standard. Statistical analysis using SPSS 16.0 software showed that there was no significant difference in TLD cumulative value between the two groups before the experiment ($P > 0.05$); During the

experiment, the radiation dose of the observation group in the same month was significantly lower than that of the control group ($P < 0.05$). Comprehensive radiation protection measures can effectively reduce the occupational radiation dose of 99mTc-MDP bone scan for medical staff, and help provide more suggestions for clinical bone scan radiation protection.

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SILENT CRISIS: A CALL FOR CLINICAL TRIALS ENROLLMENT WITH HISPANIC CANCER PATIENTS

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Hispanics are the largest and most rapidly growing minority group in the United States. Despite their number, they are the most under-represented minority groups in clinical trials. Studies revealed that 89% of clinical trial participants were Caucasians compared to 2% Hispanics. In comparison to Caucasians, Hispanics have a higher incidence of breast, lung, and hematologic cancers, are diagnosed at a younger age with cervical and advanced breast cancer and have a higher mortality rate in cancers of the stomach, liver, uterus, cervix, and gallbladder. Religiosity, trust, and familism are cultural factors that are central to Hispanic families, where more than half of the population are Roman Catholics, and the practice of divine healing and strong social-family support is encouraged. It is unknown if health literacy, familism, and religiosity influence the likelihood of clinical trials participation in Hispanics with hematologic malignancies. To fill this knowledge gap, the proposed prospective, cross-sectional study aim to use validated questionnaires to evaluate how these cultural variables relate to the likelihood of adult Hispanic patients with hematologic malignancies participating in cancer clinical trials. Results of the proposed study will generate new knowledge that nurses can use to tailor culturally relevant clinical trials educational materials and assist in clinical trial enrollment strategies for Hispanic patients with hematologic malignancies. Increased Hispanic representation in cancer clinical trials will help researchers and nurses have a better understanding of the safety and effectiveness of different cancer therapies and improve the generalization of clinical trial results to a population that is significantly at risk.

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COPING THROUGH COLORING

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One of the first psychologists to study coloring as a relaxation technique was Carl Jung during the early 20th century. Many studies have been done since then using mandalas (circular designs with concentric shapes) showing that coloring resulted in reduced stress, improved sleep, and sharper mental clarity and focus. The Coping Through Coloring study was developed to help decrease patients' stress through alternative means (i.e. coloring). Patients were asked to subjectively rate their distress/stress levels prior to coloring, and then again after coloring. The NCCN Distress Thermometer was used as a scoring tool. The purpose of the project was to evaluate alternative stress relief therapy through coloring for all patients, family and staff in an outpatient oncology infusion setting within a three month period. Adult coloring books were displayed in the waiting room and infusion room for anyone who chose to participate. Participants were asked to subjectively rate their distress/stress level prior to coloring, and then again after coloring. The NCCN Distress Thermometer was used as a scoring tool (scale ranged from 0 equaling "no distress" to 10 equaling "extreme distress"). Scores above 4, especially after coloring, indicated moderate to high levels of stress and automatic referral to the Oncology Social Worker to evaluate for additional support. The program was piloted from July 1–September 30. Fifty three surveys were returned from a combination of patients, family members and staff. All participants reported a decrease in their stress levels. Participants with scores above four were referred to the Oncology Social Worker, especially after coloring. The average pre-coloring distress score was 5.83, and the average post coloring distress score was 2.33. Patients undergoing cancer treatment often experience a high degree of stress related to their health and their prognosis. They struggle with balancing family obligations, finances, and jobs while dealing with the reality of their situations, and their loved ones feel this, as well. This study was conducted to evaluate if coloring would help decrease stress in an oncology treatment setting. Results showed coloring can help significantly reduce stress in an outpatient oncology infusion setting. The use of coloring as a tool for relaxation and stress reduction can be applied to any number of settings in a healthcare environment.

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PREVENTION AND MANAGEMENT OF RADIATION DERMATITIS: A NEED ASSESSMENT

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Despite the technological advances in radiotherapy, skin reaction is the most common side effects endured by patients who receive radiotherapy with radical treatment during their cancer journey. Radiation skin reaction is a regular occurrence that is experienced by more than 90% of patients who undergo radiotherapy and can have a significant impact on a person's quality of life (QOL). Acute skin effects can range from mild erythema to severe confluent moist desquamation or debilitating tightening skin changes that can result in painful wounds that potentially results in poor healing. Radiotherapy is ionizing radiation that generates free radicals and reactive oxygen intermediates that damage the cells, altering their genetic material, ability to replicate, thereby eradicating cancer. External beam radiation therapy (EBRT) enters and exits through the skin to reach the treatment field associated with the dose of radiation, the epidermis of the skin contains a self-renewing system whereby cells replicate at the basal layer in amounts equal to cellular losses. The skin is a complicated organ, its response to irradiation is complex, and radiation dermatitis is a significant issue for all radiation professionals treating cancer patients. The purpose of this presentation is to identify the methods used to screen, manage and monitor the varying degree of radiation skin dermatitis. Ideally, radiation skin toxicity cannot be averted, but the aim is to prevent severe skin breakdown and to lessen symptoms that affect QOL. Development of a questionnaire to be distributed to radiotherapy nurses to obtain feedback about radiation skin reactions. The inquiry sought to determine the best practices and strategies for preventing and managing radiation skin toxicity. The information will provide valid clinical evidence to assist radiation clinicians in delivering the best skin care practices to a patient in this specialty. Radiotherapy professionals understand that there is a need to continue investigating new products, techniques, and innovative approaches for minimizing or preventing radiation dermatitis in all tumor sites. Radiotherapy nurses play an essential role in the management of radiation skin toxicity. Nurses who work in radiotherapy needs to be aware that treating and monitoring radiation patients' despite their attempts to reduce skin toxicity, decrease skin

reaction, by recommending specific agents' patient is still experiencing acute radio-dermatitis.

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OBSERVATION ON THE EFFECT OF FAMILY CONTINUOUS NURSING INTERVENTION IN SELF-CARE OF CANCEROUS WOUNDS

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The objective was to investigate the effects of family continuity nursing intervention on clinical manifestations and quality of life in patients with cancerous wounds, and provide reference for clinical application. Eighty-eight patients with cancerous wounds from January 2016 to July 2017 in the Cancer Center of the Union Hospital of Tongji Medical College are randomly divided into study group and control group. Forty-four patients in the control group are only given routine inpatient care and telephone return visits; Forty-four patients in the study group are treated with family continuity nursing intervention, including simulated exercises for personal clinics before returning home, emergency response notifications for bleeding, and implementation guidance on WeChat platform. Differences in malodor, exudate, infection, pain, symptom improvement, and quality of life scores are compared between the two groups. The complication rate of the study group is 47.73%, which is significantly lower than that of the control group ($P < 0.05$). At the time of admission, the quality of life scores of the two groups do not have statistical significance ($P > 0.05$). After one month of discharge, the overall score for quality of life of the study group is significantly better than that of the control group ($P < 0.05$). The implementation of out-of-hospital continuity nursing for patients with cancerous wounds has good effect. It can not only effectively control the changes of the disease, but also improve the quality of life for the patients, which is worthy of widespread use.

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GETTING THEIR ATTENTION—STREAMLINING PATIENT EDUCATION

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The blessing of the information age is the empowerment of consumers who seek education. This shift in consumer priorities has led to high expectations in healthcare environments. Healthcare consumers expect to be fully informed in order to increase the possibility of positive health outcomes. While motivating patients leads to positive outcomes, retention of education during an episode of acute illness is difficult. The ability to absorb information and education is decreased when a person has acute anxiety, perhaps due to a cancer diagnosis. Additionally, the Agency for Healthcare Research and Quality reports that nearly 20% of patients experience adverse events within 3 weeks of discharge, with adverse drug events being the most common post-discharge complication. Considering all of these challenges, unit leadership of a busy oncology medical-surgical and progressive care unit recognized a need for emphasis on improving medication teaching in preparation for discharge to positively impact patient outcomes and satisfaction. Last year, unit Hospital Consumers Assessment of Healthcare Providers and Systems (HCAHPS) scores indicated an opportunity for improvement in discharge teaching on our surgical oncology inpatient unit. Our team employed an interdisciplinary quality improvement process to examine and eliminate the barriers to thorough patient education before discharge, with emphasis on medication teaching. The purpose of this quality improvement project was to improve medication teaching before discharge using a new process, unique materials and performance coaching. Before implementing a new process, we collected data from patients and nurses to inquire about their perceptions regarding patient education in the hospital. We then educated the staff via several methods including a journal club before beginning a continuous quality improvement process. This presentation will highlight changes in our process which include development of specialized medication teaching tools, use of a patient driven discharge education checklist and implementation of teaching using a bedside tablet. Pre and post project data will be presented in the form of audit data and HCAHPS scores. Audit data and HCAHPS scores have improved. Unit HCAHPS scores on communication about medication side effects has increased 14% and 5% respectively.

Future efforts will focus on efforts to providing surgery specific education before and after discharge via our online portal. Novel audit, staff feedback and patient and family teaching materials will be presented.

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PORT ACCESS EDUCATION FOR ALL NURSES

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In spring of 2018 we discovered a gap in care around our oncology patients who needed port access outside of our departments. Our patients told us about multiple IV starts for their diagnostic outpatient studies, at Emergency Department visits (ED), in Short Stay before surgeries, and during their inpatient stays. Our patients were even being sent away from diagnostic studies to have their ports accessed in the chemo suite which adds time and inconvenience to their day and ours. This puzzled us. Why weren't nurses utilizing the patient ports for any IV needs? The answer turned out to be a combination of lack of education and incorrect information. Because Port Access is a high risk low volume procedure, nurses were reluctant to utilize ports. They felt that because their skills were rusty and that policy/procedure was not clear, it would be better to attempt IV and/or pass this on to more experienced staff. We also found that ED and Inpatient nursing staff believed strongly that "ports must be saved for chemo only" and would not touch them. Thus began our journey to bring together all stakeholders, to revise policy, and to initiate a new clinical education support process for IV Central line access for all RN staff throughout our facility. Our team included: clinical education, ambulatory infusion PICC nurses, Chemotherapy nurses, and nurse managers/leaders from departments outside of oncology. We met monthly to review and revise the policy. We lobbied for and received updated education equipment. We put together a hands on education in-service that included a Lippincott check list. We next implemented our in-services concentrating first on areas of high traffic for our patients such as short stay, diagnostic radiology, and emergency departments. Our in-services were well received by our nurse colleagues. We now have a revised clinical education process that includes: education for new hires, annual education for all nursing staff, and also offers 1:1 training as requested. Our policy is updated with input from the content matter experts our PICC

and Chemo Nurses. We have added "Chester Chest" to our simulation lab. This mannequin provides realistic PORT and PICC access opportunity. We link our policy to the Lippincott Manual Check list for step by step guidelines for port access and de-accessing.

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AN ANALYSIS OF MALNUTRITION SCREENING ASSESSMENT AT THE PSJHH CANCER PROGRAM

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Our Oncology Registered Dietitian (RD) receives patient referrals when oncology staff assess the need. Often our RD will discover that patients would be already in significant trouble with loss of appetite and/or weight loss by the time she receives the referral. Would our patients benefit from a malnutrition screening on intake to our program? We took this question to our Cancer Committee (CC) which is a required committee as part of our Commission on Cancer Accreditation. CC members concluded that a study was needed. 80 patient records were reviewed. The records were obtained from our Oncology Registered Dietitian (RD) referral list. Compared date of RD referral to date of initial oncology consult. Reviewed initial BMI. A BMI of under 20 or over 26 was considered abnormal for the purposes of this study. 80 patients reviewed. 35% (28) would have benefitted from an earlier referral to RD. Underweight patients to help gain/maintain. Overweight & obese patient to evaluate/educate on healthy diet options. All would benefit from monitoring by RD. These numbers only represent a small portion of our patients. Our study showed that one out of three patients seen by an RD would have benefited by an earlier evaluation, this supports screening all patients at first assessment. CC reviewed the study data and voted to implement a pilot screening utilizing the Stanford Two Question survey on all patients entering Radiation Oncology. Intake nurses ask patients: 1. Have you lost weight recently without trying? 2. Have you been eating poorly because of decreased appetite? A single yes will trigger a referral to RD. This study will be taken to CC 4th quarter for review. Early data shows that patients are being caught earlier. RD is able to promote healthy eating before problems arise. There is a distinct advantage to catching nutritional deficit early. Assessing all patients on admission to our program will be advantageous to patients and will improve care. If our program takes the next step to implement this screening, our patient's

outcomes will benefit. A side issue: we will need to look RD staffing to accommodate an increase in referrals.

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ROADMAP: FROM PRESENTATION TO TREATMENT OF COLON CANCER

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We would like to spotlight anemia as a presentation for colon cancer. Through our clinical practice, we have discovered that many patients present to their PCP (Primary Care Provider) and/or Emergency rooms with complaints that are related to anemia. These patients will then be worked up for anemia and may be found to be iron deficient. A GI (Gastrointestinal) evaluation is necessary as GI lesions are common sources of iron deficiency. If GI cancer is found, patient's then proceed to have staging and treatment of their disease. This topic is relevant due to the increasing rates of colon cancer in certain populations. This abstract and our presentation will be focusing on the importance of PCPs, preventative care but will also focus on our patient's journey from anemia to their colon cancer diagnosis and treatment. We conducted an in-depth literature review using PubMed, CINAHL and NCCN. Our search terms included: anemia, colon cancer, iron deficiency, GI Bleed, treatment of iron deficiency. This project will inform oncology nurses of the importance of preventative services such as colonoscopy, lab work, workup of anemia, and treatment of iron deficiency anemia and colon cancer. The recommendations for practice will be outlined in the form of a roadmap. This will include a case study of a patient presenting with iron deficiency anemia to their PCP office. The roadmap will begin with a background of colon cancer and will then focus on lab work, diseases associated with iron deficiency anemia, the workup for iron deficiency anemia and then will ultimately discuss staging and treatment for their colon cancer. This topic highlights the importance of primary care, the use of preventative services and how these steps can lead to early detection and treatment of diseases such as colon cancer.

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THE ROAD TO CLABSI FREE STEM CELL TRANSPLANT POPULATION

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Our Inpatient Hematology/Oncology Unit noticed a spike in Central Line-associated Bloodstream

Infections (CLABSI). The purpose of this initiative was to meet a goal of zero CLABSI on an inpatient hematology/oncology unit. The challenge with this patient population is that the patients tend to present in an immunocompromised state. During root cause analysis review there were three main areas that attributed to this increase. First, was an influx of new hires. Videos were created for new hire orientation along with reeducation for staff hospital-wide that included policy reinforcement. Second, was the placement of the central venous catheter (CVC). All reported CLABSI were associated with a high stick internal jugular (IJ) placement, which resulted in difficulty of dressing securement, suturing, and patient discomfort. IJ placement was addressed to transition to a lower IJ approach. In addition, the Quality director met with the Surgery Department head to discuss alternatives for line placement at the bedside, to reserve bedside placement for emergent reasons. This was reinforced when physician orders were able to be entered into the electronic medical record system, implemented in June 2016. And finally, reassessing the supplies used for CVC care. Dressing change kits were modified to include more appropriate IJ catheter dressings. The reinforcement of policy in regards to use of alcohol wipes, scrub the hub dry time, and use of dead end cap use. Our interventions to maintain a "0" CLABSI rate on our Hematology/Oncology inpatient unit resulted in a decrease in the CLABSI rate, as shown in the following graph, from 2.60 per 1000 central line days in 2016 to 0.81 per 1000 central line days in 2017—a 68.8% decrease from 2016 to 2017! Currently another small bump in CLABSI occurred with influx of new graduate hires. By predicting when these "bumps" will occur we can act proactively with new hire training, peer observation, reeducation and creating a Just Culture atmosphere. Additional areas currently being addressed are CHG bathing and the use of peer-to-peer observation of dressing change and auditing of policy compliance during bedside shift report. Utilization of input from bedside nurses to adapt the process to result in positive outcomes made this initiative a success.

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INTEGRATION OF AMBULATORY CURRICULUM INTO A NURSE RESIDENCY PROGRAM

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Healthcare reform and advances in oncology treatment are moving the focus of care delivery from acute to ambulatory care. Retirement of experienced registered nurses (RNs) and the demand for cancer care further contribute to the need for nurses in the ambulatory environment. This increased need creates an opportunity to train new graduate RNs for the ambulatory oncology care setting. Evidence suggests that Nurse Residency Programs (NRPs) improve nurses' ability to organize, manage, and communicate patient care complexities and develop hands-on skills. The Institute of Medicine acknowledges that traditional NRPs for ambulatory care areas are insufficient and implementation of an ambulatory NRP is recommended. This presents an opportunity to create training for nurses in the ambulatory setting as robust as the training for inpatient nurses. Ambulatory care curriculum was integrated into City of Hope's inpatient NRP to prepare new graduate nurses for practice in the ambulatory oncology care setting. Nurse leaders and educators, with feedback from clinical RNs, integrated learning objectives from the Vizient™/AACN ambulatory care curriculum into the didactic and practical portions of the existing inpatient NRP to develop a comprehensive orientation experience. In addition to preceptorship in their designated clinic, ambulatory nurse residents rotated through different ambulatory departments and the inpatient setting in order to understand the care trajectory of a patient, cancer treatment modalities, and various services available for the oncology patient. A focus group was conducted with the first cohort of 5 ambulatory nurse residents to evaluate their learning experience. The group verbalized that the clinical orientation provided a better understanding of the different ambulatory services available and the process of delivering integrated and coordinated care to patients. A survey was sent to the 17 participating ambulatory services. Of the 11 respondents, the majority reported to be satisfied with the orientation experience and are likely to collaborate with the NRP in the future. Since the integration of ambulatory curriculum into the NRP in January 2018, the current retention rate of ambulatory nurse residents is 100% (n=8). A comprehensive clinical orientation using evidence-based NRP curriculum and rotations through various ambulatory services can improve new graduate nurse satisfaction, learning

experiences, retention rates, and produce competent nurses in the ambulatory oncology care setting.

150 HOME INFUSION EDUCATION FOR ONCOLOGY PATIENTS RECEIVING FLUOROURACIL

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The estimated numbers of new cancers in 2018 is over 1.7 million. In our organization patients with gastrointestinal cancers are typically treated with a 2 to 5-day continuous home infusion of Fluorouracil. This therapy allows patients to remove their own chemotherapy bags and disconnect the pump at the end of treatment. Nursing education, as well as patient education, is an ongoing process. As technology advanced and new infusion pumps were introduced, nurses caring for these patients recognized a need for continuous updates to patient education. The purpose of this project was to evaluate the patient's knowledge of home infusion and patient satisfaction related to the education received for home infusion of chemotherapy. There were 259 patients receiving home infusion and 22% verbalized a dissatisfaction of new infusion pumps, ease of use and education. An education committee comprised of nurses and pharmacists met to develop a unified phrase for improved patient education. The committee developed new carrying bag options for patient convenience. Pharmacy made changes in the volume of the medication which decreased the weight of the bag. Wording for the home disconnect instructions was changed due to patient feedback. Patient satisfaction scores increased from 91% to 96% after the re-education of patients, new unified phrases and improved written instructions were implemented. Home infusion in the ambulatory setting is increasing, patient and nursing education must continually be updated. The interventions included shadowing for float staff to ensure unified education and charting. Unified phrases were updated as needed per patient feedback. An increase in patient knowledge led to a decrease in infusion unit visits as patients choose to self-disconnect at home. Autonomy for the patient and cost savings related to another ambulatory visit was achieved. The recommendations based on the findings are to assess the patients' educational needs regarding home infusion and adjust teaching methods. Implement the teach back approach for patients and families performing home infusion pump disconnect. Continue to educate the float nurses on the pump disconnect process.

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REDUCING HOSPITAL-ACQUIRED CLOSTRIDIUM DIFFICILE RATES ON A BLOOD AND MARROW UNIT

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Patients requiring a bone marrow transplant have a number of factors that increase their risk of developing *Clostridium difficile* infections, which can complicate the transplant process. These patients are immunocompromised from their disease process and treatment. They experience episodes of febrile neutropenia, during induction and consolidation therapy, which requires antibiotic therapy. Patients also receive prophylactic antibiotics and antivirals. The preparative regimen for transplant includes high dose/immunosuppressive chemotherapy and or radiation. It is not uncommon for patients to have been exposed to *Clostridium difficile* prior to hospitalization; this makes them more susceptible to contracting it while hospitalized for transplant. The Blood and Marrow Transplant unit (BMTU) at Thomas Jefferson University Hospital experienced an increase in the rate of hospital-acquired *Clostridium difficile* infections in July 2015. An interdisciplinary team met to develop an action plan. All patients admitted to the BMTU are placed in enteric isolation and screened for *Clostridium difficile*. We have a 3-day window from admission to send a specimen before the infection is considered hospital acquired. If the patient tests positive, we keep them on enteric isolation. If we are unable to acquire a specimen, we remove the patient from enteric isolation. Other interventions implemented on the BMTU include single-use water pitchers, single-use patient pillows. Nursing and environmental services check each patient room after terminal cleaning; a UVC light cleaning device is used after the terminal cleaning in all enteric rooms. The unit also implemented an education packet for patients and family members and an annual infection control week to educate hospital staff. Unit rates for hospital-acquired *Clostridium difficile* decreased. In 2016, we had 32.87 patient infections per 10,000 patient days, in 2017 we dropped to 19.67 patient infections per 10,000 patient days. The 2018 data did reflect an increased rate of 23.16 compared to 2017 but it was still lower than 2016. The interventions put into place by unit staff reduced the number of hospital-acquired infections on the unit in both 2017 and 2018 compared to 2016.

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CAPILLARY CRYOTHERAPY IN THE PREVENTION OF ALOPECIES INDUCED

BY CHEMOTHERAPY: NURSING CARE

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Chemotherapy targets rapidly multiplying cells such as the hair follicle and may cause alopecia. Cooling of the scalp is an effective way to decrease the flow of medication at the site and fight the fall induced by chemotherapy, and can preserve the hair totally or partially. The objectives were to describe the nursing care applied to patients who perform capillary cryotherapy and to analyze the efficacy of the same, related to the types of existing caps. This was quantitative research, documentary, through the electronic medical records of 46 chemotherapy patients at a private oncology clinic, conducted from March to May, 2018. Before the treatment, in the nursing consultation, the patient is advised about the technique and home care after treatment. There are two types of caps: gel and rigid. For the gel is necessary care as: freezing the cap three hours before the start of chemotherapy and switching every 40 minutes; temperature of -22° – -28° and storage in dry ice or freezer. Before treatment, use a wet compress in cold water near the scalp and protect the exposed skin with gauze and ear protector. For the rigid cap, the size of the cap should be selected; avoid interruptions; keep hair short to reduce weight; start cooling 15 minutes before infusion and keep for 120 minutes after; moisten hair with water every 30 minutes after chemotherapy; use shampoo and conditioners with balanced pH 5.5 or natural herbal base; wash your hair with cool water and let it dry naturally; do not use dryers, boards, or to subject the hair to heat; prefer silk or satin pillowcase, preventing hair from getting pregnant; use wide tooth comb or soft brush. Regarding the efficacy of the caps: of 24 patients who used the hypodermic gel cap, 6 had total alopecia, 17 had partial alopecia and 1 had no alopecia. As for the rigid cap, of the 22 who used it, 14 developed total alopecia, 4 partial and 4 had no hair loss. Given that quality of life is the combination of physical, psychological and social well-being and taking into account the goals and expectations of each one, disfigurement of the image generates influence in all these relations.

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LUTATHERA THERAPY COORDINATION

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A new therapy for neuroendocrine tumors, Lutathera, has recently received FDA approval. There are several parties that are impacted and need to be aware of this patient's plan of care. Lutathera is a radioactive drug that binds to the somatostatin receptor of the neuroendocrine cell reducing the growth of the tumor cell. The injection is given to the patient by nuclear medicine while the patient is admitted to a radiation safe hospital room. Radiation safety, nuclear medicine pharmacy, hospital precertification, outpatient medical oncology, hospital bed-board, inpatient admitting team are all involved in coordinating the plan of care. The patient receives 4 doses at 8 week intervals so coordination is critical as this is a newly approved therapy for GI Neuroendocrine tumors and the cost of the drug is expensive and must be ordered from overseas. Methods: Interdisciplinary meeting between key players to establish process ownership, key steps to be taken and finalization of completed schedule. Results: Creation of a pathway for communication and scheduling. This pathway is initiated by the outpatient nurse at the time that it is decided to proceed with this treatment. The nurse sends email communication to the above listed party, noting a tentative start date 8 weeks into the future. This time frame allows enough time for pre-cert to be obtained and both nuclear medicine and pharmacy to acquire the needed doses. To date we have 3 patients in which Lu-177 is the plan of care and this communication mechanism is being utilized. Conclusion: It is imperative to have a fluid communication plan when a plan of care involves various departments.

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PACLITAXEL NEUROPATHY MANAGEMENT PROGRAM

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Patients receiving Paclitaxel have a high risk of developing chemotherapy-induced peripheral neuropathy (CIPN). CIPN is the most common neuropathy experienced by oncology patients. It is most commonly characterized by pain, numbness, tingling, and

reduced functional capacity. Chemotherapy agents that can cause CIPN include taxanes, platinum-based drugs, and vinca alkaloids. Not only is neuropathy painful and distressing to the patient, it has also been shown to negatively affect the patient's functional abilities, safety, and ability to participate in oncology treatment. Increased CIPN toxicities are often the reason for dose-reducing or possibly discontinuing a chemotherapy that may have been working effectively to fight the cancer. Research has shown that even mild dose reductions can limit the chemo's effectiveness, and can be a dose-limiting side effect that leads to suboptimal cancer therapy. Therapeutic efforts to prevent or manage CIPN would not only improve quality of life and safety but would also limit dose reductions or discontinuations. Currently, there are no recommendations for prevention. However, limited data does show that ice therapy via gloves and boots may have the potential to reduce the incidence and severity of CIPN in patients treated with paclitaxel. Patients were offered information/education on the potential benefits of ice therapy while undergoing treatment with paclitaxel. Information/education was provided by the oncologist, nurse practitioner, and nurse. Patients were given a handout on the potential benefits of ice therapy. Patients were given an assessment tool at every infusion visit to help assess neuropathy. In 2018 our MA from our Unit Based Team added a note on each appointment to alert the RN to hand out the survey. 2018 results showed 74 patients with 211 surveys returned. Patients who start paclitaxel treatment on day 1, with a grade 1, scored grade zero at end of cycle treatment. 1 patient scored a grade 2 with ice therapy at two consecutive treatments, scored grade 1 with ice at end of cycle. 5 patients were offered ice therapy but refused on start of treatment, at end of the cycle treatment, 2 patients considered ice therapy which brought their score to grade 0. Team approach on education and distribution of surveys resulted in higher patient adherence in ice therapy thus reducing CIPN.

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THE ROLE OF THE RADIATION ONCOLOGY NURSE IN VAGINAL DILATATION AFTER PELVIC RADIATION

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Vaginal dilator use for women who have had pelvic external beam radiation and/or internal cervical radiation is highly recommended. This includes gynecologic cancers, rectal and anal cancers. Radiation

causes tightening and shortening of the vagina called stenosis. Stenosis causes varying degrees of narrowing and potentially closure of the vagina thus making an internal pelvic exam at the least very uncomfortable and at the most impossible. Sexual relations can also be affected by stenosis causing complications in relationships after treatment is complete and survivorship starts. The radiation nurse takes the lead on education and ensuring compliance in follow up. Guidelines for teaching vaginal dilator use are going to be discussed. A general recommendation for when to start dilator use is as soon as it is comfortable to do so, but definitely within 4 weeks of completing therapy. Education should start prior to that at the initial consult. Our physicians provide the risk, benefits, and side effects of treatment, however it is the radiation oncology nurses responsibility to re-enforce this education. The poster will demonstrate proper teaching of dilator use. Oncology nurses in any area of oncology must be comfortable and aware of the importance of discussing sex and intimacy with patients. All women, regardless of age, require individualized and age appropriate education to ensure comfortable and enjoyable sexual encounters as well as to have pelvic exams. I've taught 20 year olds and 80 year olds. Those patients that prefer to resume sexual activity slowly and carefully are encouraged to do so and may not need dilator use, however, it may be beneficial for dilator education to be completed starting with an extra small then a small dilator to build up to vaginal penetration. In a prospective study of vaginal dilator use after pelvic radiation, 82% of women that were adherent to dilator use showed a return to pre radiation vaginal dilation and the return of pleasurable sexual intercourse. Several observational studies have shown frequent dilation use is associated with lower rates of self-reported stenosis. The process of vaginal dilation education at a community cancer center will be presented in the poster.

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IMPROVING SEPSIS CARE

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Sepsis has a mortality rate of 28% to 50% and remains the leading cause of death in U.S. hospitals. Multiple studies have shown that early sepsis detection and treatment is associated with decreased mortality. Sepsis is defined as life threatening organ dysfunction caused by a dysregulated host response to infection. Nurses at the bedside are in the position to assess and identify patients at risk for sepsis and patients showing

clinical signs of end organ dysfunction. Early identification and treatment of sepsis improves outcomes. Increasing the nurse's knowledge of sepsis, signs and symptoms of organ dysfunction and improved communication facilitates early recognition and intervention. The purpose of this quality improvement project was to increase early identification and recognition of sepsis, a key factor in decreasing morbidity and mortality. Sepsis best practice alerts were tested on a 10-bed oncology and stem cell transplant unit from November 1 2017 to December 6, 2017 with the goal of obtaining feedback on the alerts appropriateness, utility and workflow. All nurses were educated on the triggers of the sepsis alerts and the nurse's and provider's workflows once BPA fired. Post-trial the feedback was collected via survey. Sepsis best practice alerts went live February 2018. Utilizing education and sepsis tools in Epic such as the sepsis navigator, order set and best practice alerts has resulted in early identification and improved care of the septic patient.

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"WHAT DO YOU MEAN I CAN'T DRIVE FOR A MONTH? NO ONE TOLD ME THAT!" JOINT CLINICAL TRIAL PATIENT EDUCATION

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As part of the Oncology Care Model, our site chose to provide the patient with a care plan document to ensure they receive the necessary information including treatment-related education. While auditing patients' charts, it was noticed that patients on clinical trials were not often receiving care plans. Upon further investigation, it was found that staff nurses in the clinic were unaware of their responsibilities related to clinical trials, didn't feel comfortable discussing investigational agents, and were unsure where to find information on them. Likewise, some research staff didn't feel comfortable educating about commercial agents and supportive care as they aren't clinical by background, nor is it in their job description. Clinical trial protocols are detailed and complex, as are their consent forms. It is critical to reinforce the clinical trial information with the patient; however, some patients would still come to the infusion area confused or unaware of the limitations of the trial. The purpose of the project was to ensure the patient is fully informed about the clinical trial treatments by allowing them to reflect on how it will impact not only their body but also their quality of life. An interprofessional work group was developed

to look at clinical trial patient education. Roles and responsibilities of research and clinical staff were defined and educational content was decided. The group determined that education would occur jointly so each team member could discuss their expertise with the patient together. The nurse would educate on general information, FDA approved agents, side effects management, and supportive care related to cancer treatments. The research team would educate on the investigational agent(s), side effects, schedule, and research tasks. Teams developed workflows to hardwire communication and ensure education was completed. After the new guideline and joint education was rolled out throughout the seven specialty clinics, positive feedback from nurses and research staff was received. Nurses felt like they are more aware of when a patient is supposed to start and what their responsibilities are. Communication continues to be the key in knowing when there is a need to educate. Post intervention data will continue to be collected on patients starting a clinical trial to see if it correlates with the qualitative feedback received. Results will be shared on final poster.

158 **FORMATION AND EVOLUTION OF A SUPPORT GROUP FOR SURVIVORS AFFLICTED BY HEAD AND NECK CANCER**

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A review of the literature indicates head and neck cancer survivors experience significant toxicities and side effects from treatment which often leads to long-term impairment, disability and aesthetic issues that impact their quality of life. We have observed people are being diagnosed at younger ages, cured of disease, living longer and struggling to cope with their new normal. Through collaboration between an Oncology-Palliative Nurse Practitioner and Oncology Social Worker the Support for People with Oral, Head and Neck Cancer (SPOHNC-Rochester) Support group was founded in 2006. It was the first local chapter in Upstate New York affiliated with the national organization. The purpose is to provide a dedicated support group that focuses on healing, wellness and quality of life for these survivors and their caregivers. It addresses the emotional, physical and financial hardships they endure from the short and long term side effects of treatment coupled with unexpected psychosocial challenges. We strive to empower them through education and peer support. Intervention

occurs through monthly meetings that focus on an interdisciplinary educational approach. Experts are invited to lead discussions on topics such as speech therapy, dental, nutrition, emotional well-being, late effects of treatment, stress reduction, cardiac health, physical therapy, hearing loss, intimacy, financial distress, hyperbaric oxygen therapy and other topics of interest to the survivors. We encourage survivors and their caregivers to share their personal experiences. For example some meetings feature a panel of survivors telling their stories of hope, healing and thriving. Their caregivers also share how this has impacted them personally and their self-care strategies. Through group discussions and formal written evaluations by survivors and their caregivers we continue to launch innovative ideas. For example, we host an annual celebration dinner for survivors, their families and care team. We recently created a peer-lead ambassador program which enables survivors to partner with those newly diagnosed. Survivors apply to become an ambassador, receive formal training and support and reach out to new participants to welcome them, serve as a resource and share their experience. The feedback has been positive and they appreciate the opportunity to give back and help their fellow survivors. One unexpected outcome is how rewarding it has been to watch survivors develop their commitment to the success of this support group.

159 **PREVENTING FALLS BY UTILIZING THE FALL PREVENTION TOOLKIT**

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In-hospital falls are a significant problem. Falls-related injury can result in increased hospital stays and associated costs, and falls without injury can lead to a fear of falling that may set off a downward spiral which can result in reduced mobility, loss of autonomy, and increased dependence on family members. It is essential that nurses utilize evidence-based interventions to reduce falls. The purpose was to evaluate the effectiveness of falls risk assessment (Morse tool) in addition to applying the Tailoring Interventions for Patient Safety (TIPS) posters as a fall prevention toolkit (FPTK) on a 39 bed medicine and oncology unit, and a 32 bed BMT/hematologic malignancy unit to achieve and sustain a 10% decrease in falls every year. A rollout of falls reduction strategies and staff education which focuses on: applying universal falls precautions; using the Morse tool to identify and

assess risk factors; and utilizing TIPS bedside posters to engage the patient/family and staff to promote falls prevention strategies. Evaluation: Perform monthly TIPS utilization audits beginning August 2018, and trend monthly Patient Falls Incidence from February 2018 through January 2019. Utilizing a fall risk assessment tool alone has not proven to be a successful approach to reducing falls. Dykes, et al. (2017), suggest reducing in-hospital falls is a 3 step approach that includes: falls risk assessment, tailored interventions, and consistent implementation of tailored plan with universal precautions. The falls risk assessment informs the tailored interventions based on the nurse's clinical judgment of the patient. Posting the tailored interventions in the form of a bedside poster allows for the plan to be communicated to the patient/caregiver, and the care team. This approach requires patient/caregiver engagement, communication amongst staff, and leadership commitment to carry out the plan. The goal of this quality improvement project is to decrease falls by 10% on 2 acute care oncology units at an academic urban medical center. Successful implementation of this project will improve patient safety, increase HCAHPS (Hospital Consumer Assessment of Healthcare Providers and Systems) scores, and increase staff engagement in falls reduction strategies.

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CREATING CHEMOTHERAPY REGIMEN-SPECIFIC BOOKLETS FOR PATIENT EDUCATION

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Chemotherapy and biotherapy are used to treat different types of cancer. Chemotherapy targets cancer cells by affecting parts of the cell cycle. Biotherapy is used in conjunction with chemotherapy to enhance the immune system or decrease intensity of treatment side effects. Newly diagnosed patients preparing to receive chemotherapy deal with multiple issues—the diagnosis, treatment and the positive/negative treatment effects. Registered nurses (RNs) on the healthcare team, chemotherapy administration certified or not, must provide consistent and continuous education to help reduce patient anxiety and provide psychosocial support. The goal of this pilot study conducted by new graduate nurses on a major university medical center hematology/oncology unit was to increase patient understanding of treatment while

facilitating patient education for nurses. Patients received printed information that was generally useful but text was plain, volume of information overwhelming and materials not regimen-specific. Depending on the cancer type, diagnostic testing and effectiveness of previous chemotherapy cycles, each regimen has its own set of chemotherapy and/or biotherapy agents with different frequencies, routes, and durations. An 8-question survey distributed to RNs on the unit assessed their perceptions of current state of patient education, effective education tools, gaps in patient chemotherapy knowledge, and barriers to providing education. Using survey results and multiple resources, Chemotherapy Booklets were created with a standardized format of chemotherapy overview, regimen overview, calendar for patient and nurse to complete with dates and times, each regimen medication including side effects and management tips, followed by a “Notes” page. Booklets for four commonly administered regimens were created—EPOCH-R, High Dose Methotrexate, ICE-R, and 7+3. Patients received their respective Chemotherapy Regimen Booklet with RNs providing instructions on each section and jointly completing the Chemo Calendar. Post-implementation, patients (n=13) who received a Chemotherapy Booklet were interviewed about usefulness of the booklet. These patients (100%) reported the booklet was helpful and answered all their questions about the regimen. Nurses were asked how likely they were to use the Booklet. Thirteen of 15 respondents ranging from <1 to >10 years RN experience reported ‘very likely’. The study is ongoing. Next steps: 1) incorporate booklets in new hire orientation; 2) create more regimen booklets, 3) translate booklets into Spanish and 4) create regimen-specific videos for patients who do not read.

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INCIDENCE OF EXTRAVASATION IN 177 LU-DOTATATE

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177 Lu-DOTATATE is an innovative therapeutic approved by the Food and Drug Administration (FDA) in January 2018, and indicated for Somatostatin receptor-positive GastroEnteroPancreatic NeuroEndocrine tumors. During imaging of NeuroEndocrine tumors, Somatostatin receptor analogues bind to

Somatostatin receptors at the tumor site. Removing the imaging isotope from the analogue and replacing it with a therapeutic analogue, the isotope binds to the same receptor site as a therapeutic isotope. Nursing management included peripheral IV insertion, Amino Acid (AA) infusion, symptom management, and patient education. Extravasation is the leakage of infused intravenous solutions outside of the vein. Long-term effects include tissue necrosis, functional impairment, up to amputation. Risk factors for extravasation include small fragile veins, patient movement, previous chemotherapy, and infusion of drugs with irritating qualities. Irritating characteristics of IV drugs include pH and Osmolarity. The purpose of this abstract is to disseminate the incidence of extravasation in patients receiving 177 Lu-DOTATATE therapy with concurrent 4-AA solution on clinical trial protocol versus 2-AA solution on a commercial standard of care protocol. Patients recruited on study protocol received the clinical trial order of 4-AA solution with 177 Lu-DOTATATE. Patients receiving 177 Lu-DOTATATE for commercial use received a 2-AA (Arginine/Lysine) solution. A 2-Amino Acid solution with lower osmolarity was compounded at an external pharmacy. Charts were reviewed of all patients receiving 177 Lu-DOTATATE at Stanford Health Care between January 2017 and September 2018. 66 patients received 177 Lu-DOTATATE in an academic, outpatient Infusion nursing unit at Stanford Health Care. 44 patients received 177 Lu-DOTATATE on a clinical trial protocol through Advanced Accelerator Applications' Expanded Access Program. 6 (13.6%) patients suffered from extravasations while receiving the 4-AA solution on clinical trial. 22 patients received 177 Lu-DOTATATE as commercial use on a standard of care protocol, and no patients have suffered from extravasations while receiving the 2-AA solution. For patients receiving 177 Lu-DOTATATE with 4-AA, vascular access and device selection should be reviewed. Nursing extravasation policies should include AA and 177 Lu-DOTATATE. While the incidence of extravasation is lower in patients receiving a 2-AA Solution, Registered Nurses must remain vigilant when monitoring for extravasation. As systemic radioactive infusion therapies advance, Nursing standards of practice must be defined.

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DRIVING CLINICAL PRACTICE THROUGH THE RN CHAMPION ROLE

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Improving patient-centered care through quality improvement efforts is a moving target in many hospitals, and nurses are involved, at some level, in virtually all of these activities because of their clinical expertise and responsibility for the day-to-day coordination of care and other services for patients. Recognizing the need to strengthen nursing practice standards through continuous unit-based quality improvement, an inpatient hematology-oncology unit has implemented Quality and Safety RN champions in both the day and night shift. The champions serve as touchstones and resources for nursing staff. These champions have been charged with identifying and monitoring unit challenges in various nursing-sensitive indicators. The purpose was to demonstrate that establishing nurses in the role of championing quality improvement efforts improves self-accountability and adherence to best practices among the nursing staff. Regular meetings with the inpatient Quality and Safety practice committee, the champions provide and receive compiled data and reports about the identified weaknesses in the unit for the month. Through daily unit huddles and regular practice audits, good nursing practice is reinforced and deficiencies are identified and any safety and quality concerns are directly addressed. The Quality champions focus their efforts on consistent implementation and reinforcement of best nursing practices by providing peer-to-peer feedback and education, especially to novice nurses. The champions impart expert opinion and expertise regarding the elements of nursing-sensitive maintenance bundles, including care of central venous access devices and urinary catheters, independent checks of patient-controlled analgesia pumps, falls, and skin care maintenance. The unit was able to meet the national benchmark for hospital-acquired pressure injury rates in the first two quarters of 2018. Falls with injury decreased from an average of 1.06 in first quarter 2018 to 0.78 in second quarter 2018. The catheter-acquired urinary tract infection rate has significantly decreased with only 1 CAUTI in the last nine months. Central line associated blood infection rates continue to be monitored closely. As the quality and safety champions have experience with the

clinical practice standards on the unit as well as the unit's culture as it relates to patient care, they are able to work closely with their peers and become change agents by coaching, auditing, and providing real-time feedback as it relates to nursing practice.

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THE ROLE OF THE RADIATION ONCOLOGY RN IN MANAGING ADVERSE EVENTS IN THE GYNECOLOGIC PATIENT RECEIVING EXTERNAL BEAM RADIATION THERAPY (EBRT) AND HIGH DOSE RATE (HDR) BRACHYTHERAPY

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The radiation oncology nurse plays a key role assessing and managing cystitis and diarrhea in patients receiving EBRT and HDR for gynecological cancers. Through the use of the nursing process and evidence based practice, the goals are to minimize the frequency and severity of cystitis and diarrhea, prevent delay of treatments and hospital admissions due to side effects for patients receiving this combined modality for gynecologic cancers. It is important for the nurse to understand the potential causes and management of these specific side effects in order to effectively collaborate with the radiation therapy team to address causes and to be able to effectively educate patients on the manage side effects. The purpose of this project was to assess the number of patients experiencing cystitis and diarrhea related to EBRT and HDR for gynecological cancers and to determine what interventions may be put into place to prevent or minimize the occurrence of these side effects. This is a retrospective review of sixty-six charts of patient that were treated with this combined modality treatment from January 1, 2017 to June 30, 2018. It was determined that all sixty-six patients experienced cystitis and/or diarrhea related to their radiation treatment. The severity of symptoms varied from patient to patient. Through our electronic medical record use our documentation did not include the grade and severity of these adverse events. The results indicated that our patients receiving the combined modality did experience cystitis and/or diarrhea however there were no delays in treatment or hospital admissions due to these adverse events. This project will be ongoing and with the upgrade in the current EMR the nurse will be able to document grade and severity of cystitis and diarrhea in this patient population. Though the efforts of the multidisciplinary team, driven by the nurse, early reporting of symptoms by the patient will prompt a review of treatment plans, prescribed medical intervention from

radiation oncologist, collaborative efforts of the nurse and dietitian to manage side effects and symptoms through diet, the addition of fiber supplements and adequate hydration.

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INCREASE THE PEACE: CREATING A POSITIVE AND INCLUSIVE WORK ENVIRONMENT

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The American Nurses Association promotes the "Healthy Nurse, Healthy Nation" campaign, prioritizing self-care as an essential aspect of health. A large academic medical center implemented the "Zero Employee Harm" initiative in order to highlight the importance of employee's well-being. On an inpatient oncology unit, reported feelings of caregiver burnout and lack of self-care resulted in an increase in negativity and lateral violence, including gossip. A need was identified by front-line nurses and leadership to identify contributing factors to the issues at hand and identify a team approach to improve the relationships among the team. The goal of the project was to improve morale and communication between team members and facilitate improved self-care. A team of staff members represented by nurses, nursing assistants, and clerks, was created to develop an action plan to combat burnout and negativity for the unit. Peer education was done for all team members of the unit to highlight the importance of self-care and constructive peer feedback conversations. Education was provided through one-on-one sessions, along with weekly huddle messages. The institution's "Respect Credo" was utilized as a guide throughout the initiative. Topics included the importance of hobbies outside of work, tips on how to have difficult conversations with team members, and ways to help reframe conversations. There were two project leaders, along with champions from each role and each shift. The leader and champions were utilized to hold team members accountable for positive conversations, productive "venting," reframing negative thoughts, and coaching peers. A pre-implementation survey was distributed to all team members to understand people's perceptions on the unit culture. Post-implementation surveys were sent weekly once at least 80% of staff members had received education. Ongoing education continues with updated huddle messages and informal conversations between team

members for an “in the moment” culture check-in. A three month post-implementation follow-up survey will be distributed to allow for additional feedback on progress made. Frontline team members have the ability to impact culture change on a high stress, high emotion inpatient oncology unit. Oncology nurses care for patients and their families while also creating a diverse culture based on inclusivity and belonging. Increasing positivity, respect, and promoting self-care, while also decreasing negativity and lateral violence among team members, can positively affect culture change.

165 **STANDARDIZING THE MANAGEMENT OF RADIATION DERMATITIS IN THE HEAD AND NECK CANCER PATIENT**

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Nearly two-thirds of cancer patients will receive radiation therapy. Acute dermatitis is the most common radiation induced side effect during treatment for head and neck cancer occurring in 95% of patients. Approximately 25% of these patients experience severe skin reactions. Radiation dermatitis is characterized by erythema, dry or moist desquamation, and even ulceration typically occurring at skin doses of 20–40Gy. Management of radiation dermatitis varies widely due to inconclusive evidence. The intent of this evidence based project is to standardize skin care regimens within the facility to decrease occurrence of these severe skin reactions. The purpose of this project was to determine if the standardization of skin care for head and neck cancer patients receiving radiation will impact the occurrence of grade 3 radiation dermatitis. This project is designed to determine the effect of standardizing skin care interventions within the facility. It will be limited to head and neck cancer patients receiving radiation therapy greater than 62Gy based upon accurate grading of radiation dermatitis. Grading will be evaluated using the National Cancer Institute Common Terminology Criteria for Adverse Events. Preliminary results will be available by presentation. Grades of radiation dermatitis will be documented at dosage of 33Gy and at completion.

To achieve an unbiased comparison, all head and neck radiation patients at the facility will be evaluated during the initial 3-month period. Comparison will be made to all patients in a 3-month time period prior to the project. This will determine the effect from the skin care standardization. Projected effect will be a significant decrease in occurrence of grade 3 radiation dermatitis. As radiation dermatitis is a common side effect of head and neck radiation, this can worsen quality of life for patients during treatment and even after completion. Despite not having a gold standard for management of radiation dermatitis, standardization at a facility could potentially benefit patient’s well-being and decrease occurrence of grade 3 dermatitis. Standardization of skin care can be safely utilized by both inpatient and ambulatory head and neck oncology team members. The option of facility based skin care standardization can enhance management of radiation dermatitis in this specific patient population which requires a large amount of time and expert wound care management with repeated ambulatory visits.

166 **ENHANCING SAFETY AND DELIVERY OF ORAL CHEMOTHERAPY UTILIZING LEAN METHODOLOGY: SINGLE INSTITUTION EXPERIENCE AT AN ACADEMIC MEDICAL CENTER**

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There are currently more than 70 oral chemotherapy agents approved by the Food and Drug Administration (FDA). An oral chemotherapy safety event at our Health System prompted multi-disciplinary analysis of workflows. High variation in prescription processing, lack of standardized safety checks, unclear nursing responsibility and inadequate data collection were all identified as barriers to success. With the increase in oral chemotherapy approvals, oncology nurses take an active role in developing and sustaining workflows to promote safe and efficient care. The purpose of the project was to create an oral chemotherapy prescribing process to ensure patients are prescribed the right oral chemotherapy agent, at the right dose, at

the right time, with independent and efficient safety checks by nursing, pharmacy, and providers. Lean quality improvement methodology was utilized for this process improvement project. Multidisciplinary teams participated in two Kaizen workshops. Primary workshop objectives were (1) develop safety standards for oral chemotherapy identical to intravenous chemotherapy; (2) enhance efficiency of workflows (3) develop workflows that enable data collection and process control. The first workshop standardized oral chemotherapy prescription processing through a single workflow in the electronic medical record (EMR). Prescriptions for oral chemotherapy were required to be entered electronically and processed with multiple safety checks prior to being prescribed to the respective specialty pharmacy. The second workshop developed standardized nursing safety checks for processing oral chemotherapy utilizing a SmartText within the EMR prior to submission to physicians. These workflows were tested using multiple small scale PDCA cycles. After testing and validation, these new processes were rolled out to all providers within our Cancer Center. Interventions resulted in the following outcomes: (a) 100% reduction in oral chemotherapy order defects reaching pharmacy, (b) 97% improvement processing oral chemotherapy through a single EMR workflow, (c) 23% reduction in oral chemotherapy processing time, and (d) In spite of a 51% increase in oral chemotherapy volume, no serious safety events have occurred in the last year. Comprehensive quality improvement in our oral chemotherapy prescribing process increased efficiency and patient safety. Multidisciplinary workshops with key stakeholders, including oncology nurses, using established Lean methodology were critical to success and sustainability.

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CERTIFIED BREAST CARE NURSE (CBCN®) COORDINATOR MAKES A POSITIVE IMPACT ON DECREASING TIME TO FIRST APPOINTMENT AT A NATIONAL CANCER INSTITUTE DESIGNATED COMPREHENSIVE CANCER CENTER

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At Smilow Cancer Hospital Breast Center we have 5 breast surgeons and 7 medical oncologists that see over 1,500 new cancer patients yearly. A breast cancer diagnosis can be overwhelming. Patients are often stressed

and overcome by fear of the diagnosis. Patients would have to wait anywhere from 10 to 14 days after they had their breast biopsy for their initial visit because pathology was incomplete, outside records were unavailable, and additional imaging needed. A new standard was established to see patients within 5 business days of the referral in order to deliver timely care. To meet the goal, a new work flow was piloted. All staff and providers were involved in the process. Scheduling templates were changed and oncologists agreed to a rotation to meet the 5 day standard. The Certified Breast Care Nurse (CBCN®) (NC) assumed responsibility for scheduling. During the initial call to the patient the NC provided education about the diagnosis, what to expect at the visit, gathered valuable background information, answered questions while providing support. No longer needing to wait for outside information, patients were offered an appointment within 5 business days. The Intake Specialist would immediately gather outside medical records. The NC would give the patient the option to be seen with missing information knowing that they may need to return to clinic for final recommendations. Scheduling appointments is very time consuming for the NC. In the future we will work with our Intake Specialist to separate the clerical from the clinical. Not all patients want an appointment the next day, some want the visit to fit into their own schedule while others drop everything to be seen. Second trips to the breast center were rare. The time from referral to appointment has decreased to a mean of 5 with a median of 4 days. Patients and providers value the NC making the appointments and gathering clinical information to make the appointment more streamline. Physicians appreciate the additional clinical information in advance of the initial visit. The NC made a positive impact on decreasing time to first appointment by changing the process. Including all the key players paid off to make the process successful.

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DEVELOPMENT OF A VEIN ASSESSMENT TOOL FOR NURSES IN THE OUTPATIENT ONCOLOGY SETTING

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In a large NCI academic oncology ambulatory center treating over 8000 patients annually, many receive vesicant chemotherapy. Most patients have central

venous catheters (CVCs) placed and no standardized method existed for identifying patients who could successfully receive vesicant chemotherapy through peripheral lines. Clinic nurse coordinators, infusion nurses, and medical providers convened to propose a new process for vascular assessments- promoting best practices in assessment as well as standardizing the selection of patients receiving CVC or PIV placements. The purpose of the project was to promote patient safety and quality, efficient care with the development of a standardized process and creation of tool establishing standard criteria for vein assessments, identifying venous accessibility and risk of extravasation when selecting vascular access type. A literature review was conducted that yielded minimal findings. Infusion nurses with clinical expertise in vascular access determined assessment criteria: vein visibility, palpability, and general skin conditions. Frontline staff were engaged for validation of criteria and screening processes. To implement the change, interdepartmental education was provided via group and one-on-one skills training, as well as medical provider presentations regarding risk/ benefit analyses of various vascular access devices. The tool is being piloted within a small subset of patients receiving four or fewer doses of chemotherapy. The change necessitated collaborative efforts from oncology nurses in the infusion room and in the clinics where initial vein assessments were to be conducted. Clinical nurse coordinators resisted the change initially due to increased work flow and lack of confidence in venous access assessment. Infusion nurses' resistance arose from concern over the risk of extravasation and inexperience with placement of peripheral access. Each of these areas of concern were met with support and education to increase confidence and competence in staff. Evaluation of the tool, with collection of specific metrics, to prove feasibility, as well as integration of feedback, are ongoing within the pilot population.

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ASSESSING AND TREATING LYMPHEDEMA USING BIO-IMPEDANCE SPECTROSCOPY IN BREAST CANCER PATIENTS

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Lymphedema results in swelling of the arm due to radiation therapy or lymph node removal. Early

intervention provides a better chance of returning to normal function and better quality of life. The purpose of the project was to measure extracellular fluid using Lymphedema Index (L-Dex®) in order to identify patients with deviations and initiate treatment designed to circumvent lymphedema. Untreated, lymphedema can become a long-term irreversible and expensive condition affecting quality of life. Patients scheduled for axillary lymph node surgery have extracellular fluid measured using the L-Dex system. The measurement is stored in a data base. Deviations seen with the L-Dex occur before any clinical signs or symptoms. Subsequent measurements are taken and compared and deviations are addressed with appropriate intervention. Over several months, 176 patients had L-Dex measurements and 50 (28%) had observed deviations greater than 10 units. This resulted in early intervention, which led to increased patient education, improved quality of life and decreased lymphedema at minimal burden and a nominal cost. Using L-Dex measurements to assess and treat lymphedema aligns with ONS's mission to provide practical information necessary to optimize the care of oncology patients. When identified and managed early and appropriately, lymphedema can be reversed and or controlled.

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A STANDARDIZED SYMPTOM ASSESSMENT TOOL FOR PATIENTS RECEIVING CHEMOTHERAPY

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In a population of newly diagnosed patients receiving chemotherapy will the use of the Tridium Assessment Tool versus the nursing assessment of symptoms, provide a more inclusive report of patient's symptoms over a 30-day period. Utilizing the Tridium Tool was considered for future adoption to improve patient symptom assessment and to standardize patient assessment. Twenty newly diagnosed cancer patients (N=20) starting chemotherapy volunteered and eight (N=8) chemotherapy certified nurses self-selected for the project over a 30-day period. Patients used the Tridium tool to self-report on 11 common symptoms experienced by the patient caused by the chemotherapy. The information was captured electronically (in real-time). These self-assessment data were compared to the actual nurses' documentation of these 11 symptoms on the same patients at treatment visits two and three. A Mean(M) score of the symptoms for both the Tridium and the

nurses' documentation were compared. The aims of the project were to educate and train nurses in the use of the tool, improve patient symptom reporting and to standardize assessments. Results supported the assumption that the Tridium self-assessment tool captured the symptoms of patients receiving chemotherapy 100% of the time compared to the nursing documentation of symptoms addressed from their assessment. Nursing education and approval of the tool as well as survey revealed the TT as highly beneficial (87% percentage) for assessments. The TT had a positive impact in the clinic by standardizing assessments, bringing the symptom reporting gap and ultimately providing efficient patient-centered care. Electronic patient self-assessment of physical, mental, and social symptoms can standardize assessment and improve clinical outcomes to reduce care fragmentation. Clearly documented assessments can improve reimbursements and improve care delivery, too.

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PATIENT SATISFACTION AND ADHERENCE TO TREATMENT IN WOMEN RECEIVING NURSE LED TELEPHONE FOLLOW UP DURING THE FIRST SIX MONTHS OF ADJUVANT ENDOCRINE THERAPY FOR BREAST CANCER

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Breast cancer is the most common female cancer worldwide and whilst the incidence of breast cancer increases each year, mortality rates in New Zealand have declined by as much as 20% in the last decade. A significant contributor to this reduction in mortality is the use of adjuvant endocrine therapy as treatment for oestrogen receptor positive breast cancer. However, despite the considerable survival benefit gained from AET, non-adherence is a substantial problem which threatens the efficacy of treatment. Nurse led telephone follow up (NLTFU) was introduced at Auckland City Hospital (ACH) with the aim of increasing tolerability and adherence to AET. This study sought to evaluate NLTFU by determining the level of patient satisfaction and adherence to treatment and exploring the relationship between the two concepts. This single centered study utilized an anonymous postal questionnaire which incorporated three validated questionnaires PSCC, TSQM and MMAS-8 to measure satisfaction with care, treatment satisfaction and adherence respectively in women who had received NLTFU in the first six months of treatment

with AET. An adherence rate of 77% was demonstrated in a sample of 36 predominately NZ European women, 33% had full adherence and 80% experienced side effects. Treatment satisfaction was lowest in the side effect and global satisfaction domains of the TSQM. 35 patients were satisfied with NLTFU and 22% had total satisfaction. A clear relationship was evident between adherence and treatment satisfaction in all domains of TSQM except convenience, as adherence declined so did the level of satisfaction. This relationship was not evident between satisfaction with care and adherence. This study provides evidence that patients at ACH are satisfied with NLTFU in the first 6 months of AET. It also identifies the need for evidence based local guidelines for the management of side effects as a means to increase adherence to AET. To the authors' knowledge this is the first study to examine the relationship between treatment satisfaction and adherence in AET and / or NLTFU and whilst small it does provide a foundation from which to build in the future.

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LUTATHERA IMPLEMENTATION: A MULTIDISCIPLINARY APPROACH

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Lutathera (lutetium Lu 177 dotatate) injection is a radiolabeled somatostatin analog intended to treat somatostatin receptor-positive gastroenteropancreatic neuroendocrine tumors. This drug is administered intravenously and binds to specific somatostatin receptor expressing cells including those on malignant tumors. This process delivers the product directly into the cells resulting in targeted cellular damage from released beta emissions. Approved by the FDA in January of 2018, this promising new treatment presents a unique set of challenges for administration in the outpatient setting. A center wishing to offer this therapy must have the appropriate licensing from the United States Nuclear Regulatory Commission (U.S.NRC) at both the facility and provider level. For many centers the relevant safety regulations can be volume limiting due to staffing and space constraints. A large academic medical center was able to plan and implement administration of this therapy within 7 weeks by bringing together a diverse group of stakeholders. A weekly planning meeting is held that includes oncologists, oncology nurses, oncology pharmacists, nuclear pharmacists, radiologists, radiation safety officers, administrators and financial specialists. Each meeting includes a review of cases, upcoming patients and

growth planning. A core group of oncology infusion nurses were selected to be trained to care for these patients and developed a standard operating procedure for this role. These nurses are responsible for administering concomitant medications, ongoing monitoring of the patient before and after the drug and reinforcing patient education. A nursing coordinator job role is being developed to help manage these patients from their first clinic visit until the end of their last treatment. By including representatives from many different disciplines we were able to identify potential challenges early which resulted in fewer changes to the implementation plan. In group discussions regarding volume and growth the following needs were recognized: development of a system to prioritize patients into limited treatment slots, the creation of new staff roles and identification of additional treatment locations. This model of implementation could be replicated in other centers and is also applicable in supporting different radiopharmaceuticals both in clinical trials and as others become commercially available. The cost point of this medication is considerable so financial planning should be included in program planning and monitored on an ongoing basis.

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“WHAT TIME IS IT? HUDDLE TIME!” IMPROVING COMMUNICATION AND ENHANCING COLLABORATION IN AMBULATORY PHASE 1 CLINICAL TRIAL CLINIC

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Lack of communication is a leading cause of sentinel events and medication errors within healthcare. Therefore, the Joint Commission stresses the importance of communication amongst providers. Management of the ambulatory oncologic patient receiving investigational therapy is multifaceted and complex. The role of the clinical trials nurse (CTN) is to deliver safe patient care while maintaining protocol integrity. This is achieved through continuous

multidisciplinary communication and collaboration. The purpose of this presentation is to describe how a Phase 1 clinical trials clinic developed and implemented a multidisciplinary team huddle to improve communication and enhance collaboration. The team developed a standardized huddle to improve communicating patient plan of care and protocol requirements. The huddle takes place each morning prior to the start of the ambulatory clinic and is facilitated by the CTN. During the huddle, multidisciplinary team members including CTNs, physicians, research study assistants, and care coordinators are present to discuss pertinent patient information such as: protocol, schedule, treatment toxicities, plan of care, and review medication orders to ensure accurate treatment planning. By utilizing a team huddle approach, we provide a seamless transition of patient care by cultivating an environment conducive for team communication. Patient treatment orders are carefully reviewed ensuring accuracy thereby reducing instances of errors in treatment orders requiring reporting to improve safety and quality (RISQ). There is increased oversight of protocol requirements resulting in reduced number of deviations filed for missed protocol procedures such as required crucial laboratory and toxicity assessment. Utilization of huddles strengthen the relationship between CTN and the multidisciplinary team. A strong team relationship will result in enhanced patient outcomes. Communication amongst healthcare members is key to maintaining accuracy of patient care. Huddles provide a collective responsibility amongst providers strengthening the team relationship by exchanging knowledge resulting in efficient care delivery. CTN's accomplish primary care nursing within clinical trials by continually advocating multidisciplinary team huddles. Current literature focuses primarily on inpatient huddles. The essence of inpatient huddles requires translation to the ambulatory setting, especially within clinical trials. More research is needed on the topic within the ambulatory units.

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RAPID-CYCLE CHANGE: AN EFFECTIVE STRATEGY TO MEET AN UNFORESEEN PRACTICE CHANGE WITHIN THE OUTPATIENT CHEMOTHERAPY INFUSION SETTING

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In 2018, over 140,000 individuals will be diagnosed with colorectal cancer; 60% will develop liver metastases. Locoregional chemotherapy via hepatic arterial infusion (HAI) pump is an effective treatment as it allows high doses of chemotherapy to be delivered directly to the liver. Nurses caring for patients receiving HAI pump chemotherapy require specialized education and skill development. This year the primary manufacturer of HAI pumps discontinued pump production, creating a potential void in providing this efficacious treatment. An inter-disciplinary team from this NCI-designated comprehensive cancer center promptly responded, identifying and integrating an alternative infusion pump to ensure uninterrupted patient care. This presentation will describe implementation practices to ensure safe delivery of drug to patients using this new pump. The team addressed differences between the two pumps, such as, reservoir volume and programming of rate and dose. New policies, procedures, nursing competencies and patient education materials were developed to accommodate these changes and disseminated using a champion model. Drug administration guidelines were created in accordance with the manufacturer's recommendations and the institution's chemotherapy standards. Coordination with the Operating Room and Radiology staff was essential. Nurses participated in didactic and hands-on, skill workshops to learn about the new pumps. A champion model, coordinated by the chemotherapy clinical nurse specialist, was utilized for further education and competency development. Patient education materials were designed to highlight safety requirements associated with this new pump. An electronic safety alert was developed within the patient's record to distinguish between pump models: pre-existing and new. Nearly three hundred infusion nurses from eight sites spanning the New York metropolitan areas completed education and training within a month to ensure seamless treatment of patients. Thirty patients have initiated treatment with the new pump including re-fills every two weeks. To date, no adverse events have occurred. Oncology nurses play an important role in supporting changes in healthcare technology by remaining resilient and open to learning new knowledge and skills. Utilizing rapid cycle change process is an effective method to respond to urgent practice changes. The champion model complements rapid cycle change and facilitates prompt dissemination of education. With the

rising number of product and drug shortages, other organizations can utilize a similar methodology to successfully respond to the changing healthcare landscape.

175 TWO-WEEK POST-RADIATION REGISTERED NURSE (RN) EVALUATION: IMPLEMENTATION, PATIENT OUTCOMES, AND PEG-TUBE DWELL TIME EFFECT

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Radiation therapy for head/neck cancer is a daily process for 6 ½-7 weeks with frequent patient assessment. Some patients require prophylactic PEG tubes to manage nutrition and hydration. Standard practice at Baylor Scott & White McClinton Cancer Center at initiation of program was physician follow-up routinely scheduled for 6 weeks post-treatment. For comparison of PEG tube duration, one study demonstrated time of PEG dwell for patients with prophylactically-placed vs reactive (need-based) PEG tubes were found to be 227 days vs 139 days. Based on prior radiation experience, a newly-hired Nurse Navigator (NN) suggested, with approval of physicians and Speech Therapy staff, implementation of a 2-week post-radiation visit with clinic RN or NN to evaluate patient recovery, as well as progress with oral intake for patients regardless of PEG tube status. Early assessment helps identify patients who need additional symptom support through the acute healing phase post-radiation, or who are non-compliant with recommendations for oral intake or exercises. The goal is to minimize PEG tube duration and prevent hospitalization for uncontrolled symptoms. The program, initiated in September 2017, utilized NN to perform 2-week post-treatment evaluation of patients in clinic, with treating physician available if needed for symptom intervention. As of August 2018, 25 patients evaluated: 11 patients required intervention due to common radiation side effects or non-compliance with Speech/swallow therapy. All 11 patients' symptoms were managed as outpatients with close supervision. For patients with PEG tubes removed, PEG tube dwell time average prior to initiation of program (data collected 2014-2017) was 207 days. After initiation of 2-week post-radiation follow up program, PEG tube dwell time average was reduced to 112 days. Early intervention at 2-weeks post-radiation demonstrates reduced PEG tube dwell time and addresses acute post-radiation side effects. If left untreated, uncontrolled side effects have potential for causing

hospitalization. Based on the findings of this period of data collection, the standard practice at Baylor Scott & White McClinton Cancer Center is now 2-week RN or NN follow up for all head/neck cancer patients receiving radiation.

176 USE OF INTEGRATIVE AND COMPLEMENTARY PRACTICES IN PATIENTS WITH SOLID TUMORS SUBMITTED TO ADJUVANT PHARMACOLOGICAL ANTINEOPLASTIC THERAPY

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Integrative and complementary practices considered non conventional by Western medicine are used in patients' management, and in symptoms and side effects' relieve aiming to restore and extend patients' quality of life. The purposes of this study were: to assess the use of integrative and complementary practices in patients with solid tumors submitted to adjuvant therapy; to verify motivation and satisfaction related to the use of such practices; and to perform the translation of the I-CAM-Q questionnaire. This is a descriptive cross-sectional study, with convenience sample, which has been organized in two phases: at first, the I-CAM-Q questionnaire was translated and applied to the casuistic. The I-CAM-Q was translated and applied to a 15-patient sample in a pilot study in order to verify its conformity and, after the final version was elaborated, it was applied to the casuistic. Patients aging more than 18 years, with solid tumors, previously submitted to adjuvant chemotherapy, and admitted to the chemotherapy center were included in the study. All subjects were interviewed after the first chemotherapy cycle, being used for such purpose questionnaires involving sociodemographic data, as well as I-CAM-Q and EORTC-QLQ-30. Descriptive statistical analysis was performed to assess the frequency of use of integrative practices, as well as tests of mean values in order to identify associations between symptoms and the use of such practices. In total, 60 patients participated in the study. Most subjects were females (65.0%), with higher education (58.3%), belonging to social class B, according to socioeconomic classifications (68.3%). All patients reported they had visited a doctor in the previous 12 months, and out of 60 patients, 18 (30.0%) reported visiting health professionals of the field of integrative medicine. The health professionals found to be mostly visited were physicians (9.7 visits, on average) and acupuncturists (8.0 visits). Patients reported that physicians prescribed integrative practices for 11 of

them (18.5%), manipulation being the most common one. Herbal treatments and medicines were used by 14 patients (23.5%), with three patients reporting *matricaria recutita* (5%). In the category of vitamins and minerals, 15 patients (25.1%) reported making use of them, being calciferol the most cited one (8.3%). Among the most frequent self-help integrative practices, praying for their health was mentioned by 56 patients (93%).

177 IMPROVING CARE FOR PATIENTS RECEIVING HIGH DOSE RATE RADIATION THERAPY WITH INTERSTITIAL NEEDLES FOR CERVICAL CANCER

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For women who develop locally advanced cervical cancer, the standard of care may require High Dose Rate Radiation (HDR) with interstitial devices. The majority of these cases are treated as outpatients. However, some patients that require interstitial needles often need an overnight hospital stay. There are essential components of care for this specialty patient population to ensure the needles are not dislodged which may result in a delay of treatment. The purpose of this project was to improve in-patient nursing staff knowledge and enhance patient care through nursing education and implementation of a standardized order set for HDR patients. The interventions were led by a staff RN and manager of radiation oncology. A comprehensive literature review was conducted to establish best practices for the treatment of cervical cancer. A power point presentation and a standardized order set were created. The power point was presented in two educational sessions for the in-patient nursing staff members. There was a pre and post-test given to measure nurses knowledge of the care requirements of HDR patients. All nurses were required to pass the post-test at a rate of 100%. The standardized order set was developed with the input of the radiation oncology doctors, pharmacist, radiation oncology nurses, and an oncology certified clinical nurse specialist. The order set was review and approved by the Forms Committee. Staff will also have a computer based training review with a post-test on a yearly basis. Prior to the educational presentation the average score for the pre-test from the oncology unit staff was 63%. Following the presentation, the score was 100%. Nurses provided positive feedback about the learned material and they all confirmed they had

gained the knowledge needed to take better care of these types of patients. The lack of knowledge and understanding of HDR by the in-patient oncology nursing staff was directly related to the decreased number of cervical cancer cases that are treated with HDR yearly. The advances in technology in the practice of radiation oncology have changed the methods by which patients are treated. Staff has been provided with the knowledge to safely care for this patient population that will make a positive difference on the care these patients receive.

178 ONSET AND MAINTENANCE OF TESTOSTERONE SUPPRESSION IN FOUR PIVOTAL TRIALS OF SUBCUTANEOUSLY ADMINISTERED LEUPROLIDE ACETATE FORMULATED WITH BIODEGRADABLE POLYMER DELIVERY SYSTEM

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As a vital member of the provider team, it is important for nurses to understand the types of drugs they administer and its efficacy in patients with advanced prostate cancer (PCa). Subcutaneously-administered leuprolide acetate (SC-LA) formulated with a biodegradable polymer delivery system has demonstrated efficacy in suppressing testosterone (T) levels to achieve and maintain medical castration ($T < 50 \text{ ng/dL}$) in patients with PCa. Increasing evidence suggests that reaching and sustaining the lowest T possible is desirable during androgen deprivation therapy and correlates with disease-specific survival. Data were pooled from four pivotal trials to determine the onset and maintenance of T levels at or lower than castrate levels with SC-LA treatment. Eugonadal PCa patients received either 7.5 (6 doses), 22.5, 30, or 45mg (2 doses each) administrations of SC-LA lasting 1, 3, 4, or 6 months, respectively, in 4 open-label, fixed-dose, pivotal trials. T was measured 2-4 times on day 0 and once on days 1, 2, 3, 7, and every week until the next dose through the end of the studies; the 45mg group had an additional measurement taken on day 2. Target T levels were 50, 20, and 10ng/dL. The onset of T suppression and the proportion of time serum T remained below the target levels were calculated for each patient by extrapolating the time point when T first crossed the target. Proportion of time below target was calculated as total time T

remained below target divided by time after target first achieved to end of study. In the pooled population ($n=437$), median onset of T levels ≤ 50 , ≤ 20 , and $\leq 10 \text{ ng/dL}$ were 21, 28, and 35 days, respectively. Once target T was achieved, the mean proportion of time that patients maintained T suppression below each target level was 100%, 94-99%, and 66-85% for $T \leq 50$, 20, and 10ng/dL, respectively. SC-LA achieved effective onset of $T \leq 50$, ≤ 20 , and $\leq 10 \text{ ng/dL}$ at 3, 4, and 5 weeks, respectively. SC-LA maintained consistently low T levels, with over 66% and 94% of the treatment period remaining below 10 and 20ng/dL, respectively, and 100% of the treatment period remaining below 50ng/dL. This T suppression profile may have implications for improved patient survival and extended time to disease progression.

179 EVALUATING FALLS IN THE OUTPATIENT ONCOLOGY SETTING

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According to the American Society of Clinical Oncology (ASCO), there is predicted to be a 45% increase in cancer incidence between 2010 and 2030 in the United States. Community-based oncology patients are at an increased risk for falls with injury. Insurance providers are no longer reimbursing for many oncological treatments in the inpatient setting, consequently increasing the number and acuity of outpatients who are at an increased risk for falls. At Memorial Sloan Kettering (MSK) Cancer Center, there are 14 outpatient facilities. MSK Westchester was found to have the highest fall rate per 1,000 patient visits compared to all other outpatient settings in 2015. Outpatient fall rates center-wide have been 3-5/week for the past five years. In 2016, MSK Westchester developed a task force entitled Creating a Culture of Safety and Sensitivity (CCSS) to address the fall rate. CCSS is a multidisciplinary committee comprised of nursing, administrative staff, a physician and physical therapist. A monthly analysis of the data included a review of electronic medical records, potential contributing

clinical factors, incident reports, and first-person accounts of the fall. Findings included three consistent variables: those who fell were already identified as high risk for falls as per institutional policy, improper footwear was a contributing factor, and most falls were occurring on the main concourse of the building. Interventions developed by CCSS in 2016 and 2017 to decrease fall rates included safe footwear education, wheel chair accessibility and valet parking utilization. In 2018, our committee conducted 150 in-person interviews to determine patient's perception of their risk for falls, building safety, and clinician involvement in their safety. From our collected data, we learned that patients do not perceive their own risk for falling nor do they remember the education given to them by the clinical team. To decrease the fall rate in the outpatient setting, it is imperative to change patient perception and continue to create more awareness with not only patients but all members of the clinical and administrative teams within a healthcare facility.

180 **OPTIMIZING ANTIEMETIC THERAPY FOR HIGH DOSE BUSULFAN**

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Hematopoietic cell transplant (HCT) recipients receive high dose chemotherapy in preparation for transplant. The emetogenic effects of each chemotherapy agent needs to be considered when identifying the most appropriate anti-emetic therapy. In July 2017, we changed our intravenous (IV) busulfan administration schedule from every 6 hours for 4 days (0.9 mg/kg x 16 doses) to once every 24 hours for 4 days (3.6 mg/kg x 4 doses). The nursing staff observed an increase in nausea and more frequent requests for as needed, prn, antiemetics following this change in busulfan administration. After reviewing the NCCN antiemetic guidelines, we added fosaprepitant and dexamethasone to the pre-medications for patients receiving daily busulfan. Our goal was to decrease nausea, emesis and the need for prn antiemetics in patients receiving daily high dose busulfan. In October 2017, we added fosaprepitant 150 mg IV and dexamethasone 10 mg IV administered 30 minutes prior to the first busulfan dose and dexamethasone 8 mg IV 30 minutes prior to 2nd, 3rd and 4th dose of busulfan. We then completed a retrospective review of 50 patient's medical records. The variable extracted was the frequency of administration of prn antiemetics. Forty-two percent of patients

received no prn antiemetics and an additional 22% of patients required only one additional dose of antiemetics for breakthrough nausea. Using the number of doses of prn antiemetics as a surrogate measure for nausea, we believe that the addition of fosaprepitant and dexamethasone successfully decreased nausea in the majority of patients. Nurses play a critical role in assessing patient responses to changes in practice. By combining patient assessments and evidence-based practices, nurses are in a key position to improve the patient experience. This project allowed nurses to use their patient assessments and review of established guidelines to decrease nausea in HCT recipient receiving daily high dose busulfan.

181 **SIMULATION-BASED EDUCATION AND COMPETENCY EVALUATION FOR A NEWLY APPROVED HYPERSENSITIVITY REACTION MANAGEMENT PROTOCOL**

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Hypersensitivity reaction (HSR) represents a high-risk, low-volume patient safety event in the oncology setting that warrants evidence-based management by competent nursing staff. In nursing education, there is a movement away from traditional, paper-based competency evaluation, and toward performance appraisal through demonstration of critical actions in situationally-based learning venues such as patient-based simulation¹. Hypersensitivity reactions are reproducible in a simulated setting, providing oncology educators the opportunity to educate and validate nurse competency. The purpose of this intervention was to educate staff and validate performance of a recently approved protocol for management of a HSR. It was determined that a HSR simulation could best encompass the scope of the training and competency evaluation on the inpatient and outpatient oncology units of a multi-hospital health system. The HSR protocol algorithm was approved and dispersed to nursing, pharmacy, and providers staff via e-mail, staff meeting, and huddles by oncology unit leadership and oncology educator. Simulation sessions were scheduled at the institution's four outpatient and two inpatient oncology units. Two multi-step, moderate fidelity HSR scenarios with corresponding simulation training assessment tools (STATs) were developed. Patient care areas were utilized to create a true-to-life setting. Participation was maximized through scheduling and coordination with unit leaders. Nine

simulations were offered across six oncology units (inpatient units required more than one session due to staff volume). Attendance totaled 75 RNs, five pharmacists, and four nurse managers. Multifactorial simulation evaluation was utilized. During the simulation, a STAT with 10 critical action items was utilized to measure clinical effectiveness in response to a suspected/actual HSR. This tool afforded opportunity for just-in-time, supportive education and feedback to staff by non-punitive means. Average STAT score of the first simulation was 7.8/10 critical actions completed. Missed actions were discussed and key points of the algorithm were revisited at that time. Second simulation scores improved, with an average 9.4/10 critical actions met. Competency by participation in the simulation training was recorded in the organization's learning management system. The training was evaluated using written staff survey. Moderate fidelity simulation is an engaging method of education and competency evaluation in an oncology setting. Standardized management protocols for HSRs can be presented and simulated to provide education, improve protocol adherence, support competency standards, and to improve patient outcomes.

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FROM BENCH TO BEDSIDE: YESCARTA—IMPLEMENTATION OF STANDARDIZED EDUCATION AND CARE

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A need for streamlined preparation and education throughout the continuum of care of adult patients treated with Yescarta was identified on an integrated hematology/oncology/bone marrow transplant (BMT) unit at a large, academic medical center. Through the collaboration of the inpatient and outpatient nursing leadership and the BMT medical director, a plan was designed to standardize the care of adult lymphoma patients treated with Yescarta. In preparation for certification to administer Yescarta, staff were educated using the Yescarta Risk Evaluation and Mitigation Strategy (REMS) Program requirements. Staff trained included clinical nurses and providers on the BMT service, Medical Intensive Care Unit (MICU), Emergency Department, Neurology physicians, and Nurse Resource Coordinators. Patient logistics, House Managers, and the central staffing office were informed of designated units on admission and increased staffing needs. A Standard Operating Procedure (SOP) for

Yescarta patients was developed based on the REMS program, BMT medical director, and nursing leadership recommendations. The SOP was dispersed to designated staff. Per the SOP, while inpatient, the BMT, MICU, and Neurology services round daily. The “Yescarta Nursing Focused Assessment Flowsheet,” was developed with the guidance of the Chemotherapy Safety Committee to standardize nursing assessments, intervals for assessments, and interventions for signs of toxicity. Following treatment of the first patient, feedback was collected from staff regarding the necessity for continued education, which was presented through a venue of online conferences. Early outcomes indicate that a standardized approach to staff education and treatment of Yescarta patients leads to perceived competence among clinical nurses. Feedback continues to be collected through the review of the Electronic Medical Record (EMR) and clinical nurse interviews. Yescarta case studies will be reviewed monthly with the Unit Accountable Care Team. Yescarta training will be determined by BMT competency and the ability to safely deliver effective care to the patient. Further development of the SOP and continuum of care will be addressed through the monthly Yescarta review. By utilizing the newly developed SOP and assessment flowsheet, nursing is empowered to thoroughly assess the patient and intervene appropriately. Future innovation continues by collaborating with Information Technology staff surrounding tele-ICU installation and automated alerts in the EMR.

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NURSING CARE IN THE MANAGEMENT OF PEMBROLIZUMAB-INDUCED ERYTHEMA MULTIFORME

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Pembrolizumab (Keytruda) is a chemotherapy agent used to treat numerous metastatic tumors. Its treatment has many common (>10%) adverse reactions including Pembrolizumab-induced erythema multiforme (EM). This complication can be potentially life-threatening as the patient can lose up to 80% of their skin. Effective management of IV hydration, electrolyte repletion, infection control, wound care and patient education contributes to improved patient outcomes. It is fundamental to have the necessary education to provide consistent quality care for this complex reaction. Nurses who work with these patients must be aware of the signs and symptoms, treatment and potential risks that exist with the

development of Pembrolizumab-induced EM. Educating staff regarding burn patient protocol, labs to monitor and astute nursing care will broaden their clinical skills and nursing judgment, thereby improving clinical outcomes. In our effort to improve clinical outcomes and enhance clinical skills, a staff-driven patient care conference was presented. A case study detailing Pembrolizumab-induced EM and nursing care was presented to all staff. Additionally, guidelines for burn patients, precautions and preventive measures were discussed. Through our educational initiative, staff now possesses a sound knowledge base in providing high quality care to patients with Pembrolizumab-induced EM. The multi-disciplinary team must educate the patient of all potential adverse effects prior to initiating treatment. Collaborative partnership with the patient and caregivers, most importantly dermatology, regarding treatment if a reaction should occur must be clearly documented in the patient's chart. Emotional support may be needed if further treatment is unavailable. Nurses play a significant role in the management of this complex condition.

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ESTABLISHING NURSING COMFORT, CONFIDENCE AND KNOWLEDGE WITH PSYCHOSOCIAL DISTRESS SCREENING AND CARE

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Routine distress screening in oncology settings is standard of care since 2015. An institution's distress screening program may be led by social workers, nurses, or a multidisciplinary team. Either way, involving nurses in this initiative and incorporating psychosocial distress screening and care into the nursing practice adds value for the institution, patient and nurse. Nurses may report a lack of comfort and knowledge when discussing psychosocial health, distress screening and care. Psychosocial education and support are not always readily available to nurses. Further, there exists a scarcity of nursing scholarship and resources related to distress screening and psychosocial health despite distress screening being the standard of care. This gap in nursing education to practice was identified by leaders from the nursing department in a large research institution, which is

implementing a nurse-driven distress screening program to all oncology units. A vital part of the program includes instituting a comprehensive distress screening and psychosocial health education program for nurses to address these unmet needs. To ensure stakeholder buy-in, comfort and confidence at the unit level, a two-part education program was developed. Part one includes didactic information, role-playing and scripting. Part two includes a staggered roll out using unit champions, leadership resources and regular debriefing sessions to provide support. To measure the efficacy of the two-part education program nurses will complete a pre-education survey, post-education survey and a mid-implementation survey. Prior to our intervention, we hypothesize that nurses will state that they lack comfort, confidence and knowledge related to talking about and caring for their patient's psychosocial health because nurses have not conducted distress screening or facilitated regular psychosocial care to their patients. We hope to show that with a comprehensive educational plan and supported roll-out nurses will report increased comfort, knowledge and confidence in caring for their patient's psychosocial health—making nursing education an essential component to distress screening programs. Survey collection is currently taking place. The pre-education survey is complete and under review. Post-education and mid-implementation survey data has yet to be collected and reviewed.

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INFORMAL CANCER CAREGIVER USE OF SUPPORTIVE COMPLEMENTARY MODALITIES: UPDATES AND FUTURE DIRECTIONS

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Cancer care continues to shift from the professional health provider to the informal caregiver at home. While heightened attention has been paid to patients' use of complementary and integrative health (CIH) modalities during cancer treatment and survivorship, there is limited information about informal caregiver usage. CIH modalities reflect a diverse group of practices: body-based (e.g., massage, reflexology), mind-body (e.g., meditation, yoga), energy (e.g., therapeutic touch, reiki), biological products (e.g., herbs, vitamins) and whole system (e.g., Chinese medicine) that are used to support and augment health. Although CIH modalities have attained strong

popularity among the general public for self-management of perceived stressors, to promote health, and enhance quality of life, less is known about their role in supporting the informal cancer caregiver. Informal caregivers provide the bulk of home-based care to patients with cancer and thus impact effective clinical outcomes. The study purpose was to examine the prevalence, types, and reasons for use of CIH strategies among informal cancer caregivers. Evidence evaluating the use of CIH in informal cancer caregivers was assessed via a search of EBSCO and OVID databases (CINAHL, PsycInfo, MEDLINE, EBM Reviews, and Embase) for English language research articles that focused on adult informal cancer caregiver populations and CIH use published since 2010. Limited research has evaluated use of CIH in informal cancer caregivers. Rationales for CIH use includes stress reduction, improvement in wellbeing, and to address unmet physical and emotional health needs. Mind-body strategies such as mindfulness meditation and yoga have been most often incorporated with early evidence of psychological benefit and reduced perceived stress. Sources for caregiver CIH information include social media and the internet, friends and family, and health food stores. The health system has played a limited role in the use of CIH by caregivers. It is recognized that informal caregivers experience burden and are at risk for empathic fatigue. It is essential that oncology nurses are aware of the benefits and limitations of current CIH strategies that can be used to support informal caregivers of patients with cancer. Informal caregivers of patients with cancer may gain a better quality of life from supportive use of integrative CIH self-management strategies to cope with stressors imposed by caregiving.

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WILL THE IMPLEMENTATION OF CHEMOTHERAPY TOXICITY SCREENING FORMS INCREASE PATIENT REPORTING OF CHEMOTHERAPY SIDE EFFECTS?

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Presently, patients are asked about chemotherapy side effects in the treatment room where other patients may be present. Patients have been found to deny side effects, especially diarrhea, when the nurse assesses toxicities in the treatment room, and then later report these symptoms to the doctor when they

are in a private room. We want to trial a chemotherapy toxicity screening form to assess if this increases patients' likelihood to report adverse chemotherapy side effects. The patients would complete the forms and then give them to the nurse for review. If the patients mark any of the symptoms, then verbal discussion would need to occur between the nurse and patient concerning the symptoms. Our goal is not to eliminate verbal discussion of chemotherapy toxicities, but rather, we are attempting to protect patient privacy and increase symptom reporting by creating an alternate route of discussion for potentially embarrassing side effects. We will audit all chemotherapy patients' charts for one month prior and one month post implementation to see if there is an increase in reported side effects. At one month post implementation we will compile our data and determine if the results support continuing the paper toxicity assessment. We foresee an increase in reports of side effects because patients are more likely to be honest and report potentially embarrassing side effects on paper rather than talking about them with other patients present in the room.

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A SURVEY OF CAREGIVING BURDEN AND SOCIAL SUPPORT FOR CHILDREN WITH BONE OR SOFT TISSUE SARCOMA

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The objective was to investigate the care burden and social support of the caregivers of children with bone or soft tissue sarcoma at the stage of the disease, and to explore the correlation and provide reference for establishing a care system for children with bone or soft tissue sarcoma. The parents of 90 children with bone or soft tissue sarcoma were surveyed by the Zarit caregiver burden scale and the social support scale compiled by Wang Xiangdong in 1986. Results: ± 5.44), which was statistically significant compared with the domestic norm ($P < 0.01$). The individual burden, responsibility burden, and care burden on the caregivers of children with bone or soft tissue sarcoma were overall. The scores were negatively related to social support. The higher the social support of the caregivers of children with bone or soft tissue sarcoma, the lower their personal burden, burden of responsibility, and care burden. The care

burden for the caregivers of children with bone or soft tissue sarcoma is widespread and at a severe level. The social support is only at a moderate level and social supports is not enough. Medical personnel should develop scientific and reasonable intervention measures to improve the care of children with bone or soft tissue sarcoma. The degree of social support can reduce the burden of care, promote the physical and mental health of carers, and improve the quality of life of caregivers and children.

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VALIDITY OF PREDICTIVE EFFECT OF DEEP VENOUS THROMBOEMBOLISM BASED ON CAPRINI AND KHORANA THROMBOSIS RISK ASSESSMENT SCALES IN TUMOR PATIENTS

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The objective was to evaluate the effect of different risk assessment scales (RMS) in predicting the risk of venous thromboembolism (VTE) in hospitalized tumor patients. There were total 98 tumor patients (51 males, 47 females) evaluated with Caprini and Khorana scales in our study. These patients were divided into two different groups included thrombus group (n = 59, male 26, female 33) and the other control group (n = 39, male 25, female 14). To observe and estimate the predictive effect of the two scales on the risk of deep venous thrombosis (DVT), degree and compare the value of the two scales in predicting the occurrence of thrombus in tumor patients. Results: (1) Basic situation comparison: There is no statistical difference between the two groups ($P < 0.05$) (2). The scores of Caprini and Khorana scales in tumor patients with deep vein thrombosis were higher than those in control group ($P < 0.05$); In the risk degree of Caprini scale, the proportion of patients in thrombus group according to the risk grade of Caprini scale are as following: extremely high risk group (49.2%) > high risk group (47.4%) > middle risk group (3.4%) > low risk group (0); The risk grade of the control group is as following: extremely high risk group (35.9%) > high

risk group (3.3%) > middle risk group (23.1%) > low risk group (7.7%) and the difference of the risk grades between the two groups is significant ($P < 0.001$). However, there is no significant difference in the risk grade of Khorana score between the two groups ($P > 0.05$). (3) The Kappa consistency is weak between the Caprini scale and Khorana scale. Caprini and Khorana thrombus risk assessment models can predict the risk of deep venous thrombosis in cancer inpatients to some extent and the Caprini scale has some certain guiding significance in predicting the risk grade of patients. However, the predictive value of Khorana scale for risk grade of tumor patients is weak. There was a weak consistency between the two scales in predicting the risk of DVT in hospitalized tumor patients.

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STANDARD AND COMPLEMENTARY PREVENTION STRATEGIES FOR CHEMOTHERAPY AND RADIATION INDUCED MUCOSITIS: A REVIEW

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Mucositis, an inflammatory condition affecting the gastrointestinal system, is a complex condition to manage after radiation and chemotherapy. Patients can have detrimental physical as well as psychosocial side effects that can greatly impact their quality of life. Often times due to the severity of mucositis, treatment doses are decreased, which can affect success of treatment for a terminal illness. The emphasis for mucositis should be on prevention rather than treatment. Cryotherapy has been widely studied for prevention of mucositis but has only shown moderate effects. Since this is such a distressing side effect, this review aims to investigate alternative prevention strategies that may have a more substantial effect than cryotherapy alone. A thorough search of the literature through Pubmed, Cinahl, Ovid, and Embase was completed and both pilot and established studies were reviewed. Studies included were those in the last 6 years that investigated novel complementary alternative medicine (CAM) treatments as well as established treatments such as cryotherapy. These treatments were looked at for their success of prevention of mucositis in multiple chemotherapy regimens as well as radiation. In addition to randomized and non-randomized control trials, this review also looked at a systematic review and literature reviews. Risk of bias of the trials was assessed and grading resulted in a range of low to moderate bias. Risk of bias was higher in pilot studies and was noted by

study authors. The review has shown success of many of these treatments, which is incredibly promising for improvement in quality of life for oncology patients undergoing chemotherapy and radiation. Success was identified as decreased weight loss, lower pain scores, or decreased treatment delays. It is vital to educate oncologic nurse practitioners and nurses about the discussed treatments that can have major impacts on the life of their patients. This may be the first step to helping a larger population of patients.

190 **SIMPLE SOLUTION TO MAINTAIN VENOUS ACCESS PATENCY**

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Maintaining patency of implanted port and peripheral inserted central catheter line in outpatient settings continues to be a challenge. Periodic review of current policies along with keeping abreast of updated research could alleviate the issues of patency for patients with venous access. While flushing venous access lines have been in practice for many years, more discussions have recently surfaced among nurses related to this topic. Although limited consensus is available in literature, one common theme echoed throughout discussion: using pulsatile, positive pressure technique during normal saline flushes. Due to paucity of new information in literature on patency of venous access including normal saline flushes, two oncology nurses decided to initiate discussion groups in the infusion clinic. The goal of the discussion group was to examine current practices used to maintain patency of central lines and reintegrate the concept of pulsatile, positive pressure turbulence flushing technique prior to clamping the line. A total of 39 nurses participated and responded to two questions: do they aspirate and discard the content, and what volume of normal saline is used: 10 milliliters (mL) versus 20 mL. Nurses shared their responses: 65% responded aspirate, discard and will use normal saline bag to flush; 15% responded aspirate with pulsatile, positive pressure prior to infusion; 20% responded use 10 mL of normal saline, “not necessarily” using positive pressure turbulence. Ninety-eight percent flushed lumens with 20 mL after blood-draw for lab specimen. The importance of pulsatile, positive pressure technique prior to infusion was shared in staff meetings. Infusion nurses were open to changing their current practices to comply with standards. Nurses provided feedback that flushing venous lines is considered one of the fundamentals of nursing, and

reevaluating their practices can lead to best patient outcome. By reinforcing the fundamental technique of pulsatile, positive pressure in literature and reviewing current practices, oncology nurses expressed willingness to change their practices. By incorporating recommendations from organizations including Oncology Nursing Society and Infusion Nurses Society and examining current practices, issues with line patency will be minimized. Oncology nurses continuously look for measures to promote and enhance patient care. By examining current practices and integrating new data, nurses can promote safe practices ultimately leading to a positive patient outcome.

191 **A QUALITATIVE RESEARCH OF THE MOTIVATION OF SMOKING CESSATION AND RELAPSE FOR LUNG CANCER PATIENTS**

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The objective is to describe the experience of smoking lung cancer patients to explore the motivation of smoking cessation and relapse. This study adopted the phenomenological approach of qualitative research with a sample of 15 lung cancer patients. The researchers used semi-structural interview questionnaire to collect message, based on several key issues as followings. Why did you want to quit smoking? What troubles do you met after quit smoking? What factors do you think were helping you keep cessation? How long was the longest cessation last? Why did you relapse? What factors were making you relapse? What did your families and friend think about smoking? What did they think when you decide to quit smoking? What do you do about smoking and quit in the future? The interview took about 1 hour each patient. The most frequently mentioned quitting motivation was health and illness, all the interviewees had uncomfortable smoking-related symptoms, such as cough, throat discomfort, shortness of breath and so on. The second one was important family members, many interviewees mentioned their families were against smoking. Some interviewees wanted to quit for family members' health reasons. The third reason was no-smoking policies including public places regulations and work place policies which all made smoking difficult. Tobacco cost was also a reason for quit smoking, especially for low-income smokers. The first motivation of relapse was social contact needs,

tobacco was an important tool for social communication between friends, colleagues and business partners. The second reason was smoking habits, many people smoked when calling, drinking, waiting for green light. After quit smoking, they were very easy to relapse when doing same things. The third reason for relapse was withdrawal symptom, such as irritable, nervous, depression, insomnia and so on. Nurses should take effective measures to foster smoking cessation motivation and reduce relapse so as to help smokers quit.

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INVESTIGATION OF PREMONITION GRIEF REACTION IN PATIENTS WITH ADVANCED CANCER

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The objective of the project was to investigate the prophylactic sadness response of patients with advanced cancer by using Chinese version of PGAC scale, and to reveal the related factors affecting the occurrence of sadness response of patients with advanced cancer and their family members. 388 patients with advanced cancer were investigated by Chinese version of PGAC scale. The related factors affecting the sad reaction of cancer patients were analyzed by single factor analysis of variance, Pearson correlation analysis and stepwise multiple linear regression analysis. There were significant differences in PGAC scores among advanced cancer patients ($P < 0.05$) in age, education level, family economic level, personality, time of knowing disease diagnosis and disease diagnosis. PGAC scores were positively correlated with personality, and negatively correlated with age and time of knowing disease diagnosis. The number was statistically significant ($P < 0.05$). The scores of PGAC in Chinese version of advanced cancer patients with different demographic characteristics (such as age, education level, family economic level, personality, time of disease diagnosis, disease diagnosis) were significantly different. The scores of PGAC were positively correlated with personality, and negatively correlated with age and time of disease diagnosis. Correlation coefficient and correlation coefficient were statistically significant.

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BIOSIMILARS ENTRY TO ONCOLOGY PRACTICE: KEY NURSING CONSIDERATIONS

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With the advent of biosimilars into the United States health care market, knowledge deficits exist for

nurses and patients alike regarding the regulatory approval process and key nursing considerations for each of these new medications. This presentation will provide essential clinical information for the oncology nurse who is directly involved in patient care who will be administering any of the four Food & Drug Administration (FDA) approved biosimilars for oncologic use to date: Zarxio® (Filgrastim-sndz), Mvasi® (bevacizumab-awwb), Ogivri® (trastuzumab-dkst), and Fulphila® (pegfilgrastim-jmdb). Oncology nurses must be informed on their therapeutic uses, mechanisms of action, and administration considerations. Each FDA-approved oncology biosimilar medication will be described in detail. Oncology biosimilars are safe and effective treatment options that will likely increase patient access, possibly decrease health care costs through competition, and undoubtedly improve the lives of patients suffering with certain malignancies. Oncology nurses are in key roles in patient care to foster the transition from previously patented, branded, and expensive medications to biosimilar ones that should achieve the same desired effects for less. United States legislators do not understand this process and oncology nurses can help educate them in particular with legislation that may be developed in the future regarding policies that pertain to biosimilars. More oncology biosimilars will be developed in the future stemming from a continuous pipeline of emerging biologics thanks to the evolving science of epigenetics advancing cancer care. Oncology nurses should stay abreast of new and developing practice changes that affect patient care through their professional organizations, conferences, journals, and other reputable publications to gain or improve their clinical understanding and to offer practical information and guidance to their patients.

QUALITY IMPROVEMENT

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DECREASING INPATIENT LENGTH OF STAY FOR ALLOGENEIC STEM CELL TRANSPLANT PATIENTS: AN ANALYTIC PERSPECTIVE

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Timely transition of allogeneic stem cell transplant (SCT) patients to outpatient care may reduce overall healthcare costs and risk of nosocomial infection. Shorter length of stay (LOS) may also lead to improvement in physical strength, quicker social rehabilitation, diminished mental stress, and lower risk for non-relapse SCT readmission. Literature suggests that early white blood cell (WBC) reconstitution can be a predictive factor for clinical outcomes post-SCT. We propose using the electronic health record (EHR) to trend laboratory values, evaluate SCT patient-related and treatment-related factors, and patient stability. A retrospective analysis of allogeneic SCT patients at a comprehensive cancer center has been conducted. Linear regression models were used to evaluate the factors which may be related to LOS. LOS is defined as day of transplant through day of discharge. Factors included: presence of Central Line Associated Blood Stream Infection (CLABSI), presence of *Clostridium difficile* infection (*C.diff*), readmission versus no readmission, quantity of medication orders, pain medicine at discharge, number of red blood cell (RBC) transfusions, number of platelet transfusions, days with stable white blood count (WBC) $\geq 1.5/\mu\text{L}$, and days with stable platelet count $\geq 25 \mu\text{L}$. 165 allogeneic SCT patients were evaluated between January and June 2018. LOS ranged from 24.03 to 34.42 days. There were no statistically significant associations in LOS with CLABSI, *C.diff*, readmission, quantity of orders, pain medication at discharge, or number of transfusions. There was a statistically significant difference between LOS and number of days with a stable WBC $\geq 1.5/\mu\text{L}$, and a significant, but weak, correlation with LOS and number of days with a stable platelet count $\geq 25/\mu\text{L}$. In this small retrospective evaluation of allogeneic SCT patients at a comprehensive cancer center, we did not find significant correlations between several patient and treatment-related factors and LOS. However, the patients who had more days with stable WBC counts had longer LOS, potentially indicating the need to establish a practice standard for discharge. Generally, a stable WBC count demonstrating engraftment before discharge is required, but there is limited literature related to acceptable platelet count before discharge. We will continue to evaluate factors which may facilitate SCT patient readiness for discharge to outpatient services.

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“CHEMO CHECKER”: TRANSFORMING CARE TO INCREASE PATIENT SAFETY IN AN

AMBULATORY SETTING BY REDUCING NURSE DISTRACTIONS

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A medication event that reached the patient following four independent nurse checkpoints led to brainstorming medication error prevention strategies. Medication event data from January through March 2018 showed 58 medication events, with seven (12%) related to administration. Current practice in the chemotherapy unit requires two independent nurse verifications after the chemotherapy is dispensed from pharmacy. Staff reported multiple distractions during this independent verification process. A review of the literature supports removing distractions from the nurse in order to decrease medication errors. The goal of this quality improvement project was to improve patient safety through team collaboration targeted at reducing nursing distractions during the chemotherapy verification process. The chemotherapy unit performed a literature review and determined innovative solutions through shared decision making. The team first created a chemotherapy verification sticker listing the required checks according to unit policy. This sticker was filled out independently by two verification nurses. Secondly, the role of “chemo checker” was created to perform the first independent check when chemotherapy is dispensed from pharmacy. This nurse does not provide direct patient care and resides in a quiet area of the unit, in order to be free from distractions. Medication event data in the first three months post-implementation of the “chemo checker” pilot showed an 8% decrease in medication events related to administration. Nurse reports of distractions during the chemotherapy verification process decreased from 95.4% to 15.39% within the first six months. Additionally, the average time spent waiting for second independent nurse check to be completed dropped from 7.72 minutes to 2.43 minutes with utilization of the “chemo checker”. Early review of post intervention data indicates a positive impact to patient safety and nurse satisfaction utilizing the chemotherapy verification sticker and the “chemo checker”. The majority of staff reported they prefer to pull a nurse from direct patient care to be the “chemo checker”, even when the unit is understaffed. As the team continues to make a daily effort to utilize both of these interventions, we expect

quarterly medication event data to show a downward trend in administration errors. No research could be found on implementation of a “chemo checker”. This groundbreaking intervention has shown great benefit to a high-volume chemotherapy unit.

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OUTCOMES OF AN EVIDENCE-BASED CHANGE: BLOOD TRANSFUSIONS

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Cancer and its treatment are frequently accompanied by anemia, neutropenia and thrombocytopenia. Approximately 90% of cancer patients experience anemia due to disease process, treatment side effects or other comorbidities. As many as 15% of anemic cancer patients are treated with red blood cell transfusions, to relieve symptoms of fatigue and shortness of breath. Prophylactic platelet transfusions are given to reduce bleeding risk by approximately 7%. In the outpatient setting spending five plus hours in the infusion center results in decreased patient satisfaction. Inpatients with poor venous access and multiple IV medications, administering blood products over 5 hours or longer may be challenging for the patient and the nursing staff. An evidence-based practice project (EBP) was initiated by nursing to evaluate safe rates of blood product administration to minimize transfusion time and increase patient satisfaction. This unique project resulted in a hospital wide policy change that yielded an increase in patient satisfaction. The purpose of this project was to implement practice changes to a blood transfusion policy based on recommendations from the EBP project “Rapid Transfusion of Platelets”. Examined sources of evidence during an EBP internship on transfusion practices and synthesized evidence about blood and platelet transfusion. Based on the evidence it was determined that blood products could be safely administered at increased rates compared to current practice and vital signs monitoring frequency could be decreased. Current policy was updated to reflect standards set by the American Association of Blood Banks. The outcome was decreased transfusion time. The average time for platelet transfusion after implementation of new rates was 57.9 minutes which was 31 minutes faster than the previous year. The average time for red blood cell transfusion was 106.9 minutes which was 24.52 minutes faster than the previous year. Patient satisfaction scores based on question “Likelihood of Recommending Services” have continued to rise since implementation of policy changes. There

was no increased incidence of transfusion reactions. By decreasing transfusion time it enables the patient to spend less of their time in clinic and allows the clinic to accommodate additional patients. Current blood transfusion policy was revised to reflect evidence-based recommendations.

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IMPROVING FALL RISK ASSESSMENTS AND INTERVENTIONS IN THE OUTPATIENT ONCOLOGY SETTING

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Robust evidence documents inpatient oncology fall prevention programs; however, there is scant documentation relevant to patient falls at home. Falls impact treatment decisions, quality of life, and survival outcomes. In our ambulatory community cancer center, patients are asked if they have fallen within the past 30 days, have felt dizzy or unsteady, and if they have stumbled or tripped. A retrospective chart review revealed that 7% of patients reported falls at home, indicating the need for a fall risk assessment, intervention, and prevention program. The purpose of this project was to create a standardized nurse-led protocol for fall risk assessments and interventions for ambulatory cancer center patients. A multidisciplinary team gathered for weekly work sessions to create a falls prevention program. The Patient and Family Advisory Committee reviewed the program and medical providers, nurses, physical therapist and support staff approved the program for implementation. Interventions included the optimization of an electronic fall risk screening and assessment tool, implementation of screening for all patients, weekly fall risk assessments for patients receiving therapy, just-in-time fall prevention education for patients, and initiating referrals to physical and occupational therapy. The nursing team will track metrics of the program through audits of the electronic health record. In February 2019, a comprehensive annual evaluation will be completed. Metrics for evaluation include: percentage of initial fall screens and weekly fall risk assessments performed correctly, number of referrals placed to physical and occupational therapy, and percentage of patient-reported falls at home. A standardized process for identifying high fall risk patients and intervening prospectively enhances patient safety and facilitates improved long-term outcomes. With standardized screening intervals

and electronic tool utilization, we will obtain a comprehensive analysis of oncology patients' fall risks. With this knowledge, referrals can be made for interventions to build increased safety and patient centered care through enhanced nursing practice. This program will be a model for ambulatory community cancer centers to facilitate improved awareness of falls at home and bring necessary support to oncology patients for best clinical outcomes.

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CENTRAL LINE-ASSOCIATED BLOODSTREAM INFECTION PREVENTION IN THE AMBULATORY INFUSION CENTER

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Central lines are commonly used in inpatient and outpatient settings for the administration of intravenous fluids; including chemotherapy, medications, blood products and parenteral nutrition. Central lines are the most frequent cause of health care-associated bloodstream infections (CLABSI). Patients with CLABSI are at higher risk for morbidity and mortality, hospital admissions and increased costs. The purpose of this project was to promote a culture of safety among nurses and to ensure safe use of central venous access devices in a newly established ambulatory oncology infusion center. The goal was to achieve and sustain a 0% CLABSI rate. The following interventions were implemented from September 2017 to September 2018. Peer-to-peer re-education was provided on CLABSI prevention. Education included proper hand hygiene; appropriate use of chlorhexidine before accessing CVAD and optimal barrier precautions, i.e., sterile gloves, mask, gown if needed. Hand hygiene was highly reinforced as a CLABSI prevention core strategy. Handouts were provided to RNs, and in some instances return demonstration was utilized. CLABSI rates at our new ambulatory infusion center have been kept at 0% since September 2017 through September 2018. Nursing staff knowledge was reinforced successfully and nurses are now positively engaged in a culture of safety at this infusion center as evidenced by active involvement in our monthly peer to peer hand hygiene quality improvement process. Oncology patients are at greater risk of CLABSIs; therefore, infection prevention is paramount in every step of maintaining a CVAD. At this ambulatory infusion center, re-education has played a major role in keeping CLABSI rates at 0%. Peer-to-peer re-education and quality assurance monitoring has reinforced infection prevention practices among

nurses leading to a culture of safety in the unit. There is a high risk of CLABSI in patients receiving chemotherapy through central line devices. An organized CLABSI prevention program in the ambulatory setting will help prevent and or minimize the number of CLABSI incidents and promote a culture of safety among nurses.

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DECREASING FALLS THROUGH HEIGHTENED AWARENESS AND COLLABORATION OF THE INTERDISCIPLINARY TEAM

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Oncology patients are at an increased risk for falling due to thrombocytopenia, chemotherapy, and other forms of treatment. A patient fall can impact their quality of life, admission rates and lengths of stay. Oncology patients are at risk for complications due to low platelet counts, polypharmacy and other factors. In 2016, a hematology-oncology unit transitioned from 27 to 30 beds and an increase in falls was noted. Thorough evaluation showed evidence there were inconsistencies in how staff were transferring patients and awareness of falls. The purpose of this project was to engage a collaborative, interprofessional approach to falls and increase staff awareness to promote patient safety. Nursing and physical therapy collaborated to improve patient safety. Physical therapy evaluates the patient upon admission and ICU transfers within 24 hours. Once physical therapy is done evaluating the patient, they will record the patients ambulation status on a dry erase board near the entry of a patient's room. This allows any staff member to accurately and safely assist patients with transfers. In addition, physical therapy changed their practice by documenting their recommendations on how staff is to transfer patients to the top of their note for ease of visibility. Physical Therapy also created an algorithm to use in the absence if assessment needs to be completed before they have availability. Nursing created a Fall Wall to promote awareness to staff on when the last fall occurred and how long in between falls. Nursing also reviews a falls contract with the patient and family, making them aware of safe patient handling recommendations and the need to call for assistance. Our goal to improve the rate of falls, with increasing assisted vs unassisted, and incorporating a partnership with physical therapy has seen positive results. Our falls have decreased by 20%, with a 4% increase in assisted vs unassisted falls. Collaboration and timely evaluation of fall risk and appropriate interventions, such as education and safe

patient handling, has shown to reduce the amount of falls. We have seen an increase in assisted falls, which can lessen the chance of injury.

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SYSTEMATIC APPROACH TO NCCN DISTRESS THERMOMETER SCREENING VIA IPAD

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Continuous screening and management of patients with distress has been linked with improved quality of care for cancer patients. UH Seidman Cancer Center was challenged to develop systematic approach for implementing patient self-reported Distress screening at Main Campus and nine community infusion centers. “National Comprehensive Cancer Network (NCCN) Distress Thermometer for Patients” screening with third party vendor and Seidman IT Support was built into iPads for individual patient screening. All patients are screened at initial provider visit. Continuous screening is completed at provider visits not tied to infusion visit. Once patient screening is completed, patient results are automatically scanned into patient’s electronic health record for staff to review and follow-up on patient concerns. Interventions implemented include: (a) Standard operating procedure for Distress screening and follow-up, (b) Coping assessment infusion nurses utilize to assess patients between provider visits, (c) Patient education sheet, (d) Paper copy of screening tool for EMR downtimes and patients who prefer not to utilize iPads, (e) Distress screening follow-up note in electronic medical record, (f) Medical assistant speaking points to introduce screening tool to patients, (g) Staff education webex and job aides for training, and (h) Automatic referral of score 4 or greater: a. Practical, family, emotional or spiritual requires referral to social worker or navigator. b. Physical problems are managed by provider team referred as clinically indicated. Evaluation includes: (a) Meetings with stakeholders for evaluation and continuous improvement of screening process, (b) Review monthly reports which include patient distress scoring, reasons for distress, decline rates and site specific screening via iPads, and (c) Monthly report of distress screening follow-up note usage in the Electronic Medical Record. Challenges included: (a) Wi-Fi connectivity; had to implement long term paper downtime while improving Wi-Fi technology, (b) iPad re-roll out was initiated in March 2018 with initial pilot

site. Quality staff met with front line site at pilot site to improve workflow prior to rolling out to all other sites, (c) Complete roll out to all infusion sites by July 2018, (d) Main Campus roll out supported by student volunteers in order to manage larger volume of patients, and (e) EMR follow-up challenging- patient results scan as EMR PDF which add steps to staff EMR workflow. Discussion: (a) Share ideas with ONS members about distress screening and follow-up referral processes, and (b) Share lessons learned throughout our journey.

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NUTRITIONAL SCREENING AT TIME OF ADMISSION COMPLIANCE AND IMPORTANCE

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Weight loss and malnutrition are major issues in Oncology patients, as those with cancer are more likely to be malnourished than patients treated in other specialties. With 79% of cancer patients experiencing at least one nutrition impact symptom within a month of starting chemo early identification with a screening tool is extremely important. Prior to this project 38% of patients were not being screened at the time of admission for nutritional deficits which in turn provide a consultation for the Registered Dietician. The purpose of this project was to increase use of the nutritional screening tool at admission to evaluate the need for nutrition support for inpatient oncology patients. Multidisciplinary approach to education of the nursing staff using registered dietician assigned to oncology, oncology educator and management team. Nutritional topics including appetite, mouth sores, increasing calorie intake, nausea/vomiting, constipation and diarrhea and taste and smell changes selected for educational rounding to help build awareness of the importance of good early nutrition screenings for the oncology population selected. Tips sheets were created and dispersed at selected interval rounding done by the manager and educator approximately 2 weeks apart for a three-month period. These rounding sessions were timed for shift change to impact both off going inpatient oncology nurses as well as oncoming with open periods for questions and interaction. Updates on the project and compliance were presented at quarterly staff meetings. Monthly audits performed to monitor use of screening tool completed during education roll outs and continues currently showing an increase in usage of the screening tool and patients being identified at time of admission for nutritional deficits creating a consult for a RD. Starting in November 2017 at 62% of patients

being screened and currently in September with 96% of patients being screened. With a multidisciplinary approach to educating nursing staff on the importance of using a nutritional screening during purposeful rounding and small education sessions you can greatly impact compliance. Stressing the why to nurses with data to support makes a difference in compliance. Having multiple disciplines educate and a time for questions and answers helps nurses understand the importance of early nutritional screenings for oncology patients. This in turn has decreased delays in care and compliance in screenings.

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DECREASING CHEMOTHERAPY ADMINISTRATION TIMES FOR ELECTIVE ADMISSIONS ON AN INPATIENT ONCOLOGY UNIT

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The purpose is to implement a nurse driven quality improvement project to decrease the time taken to hang chemotherapy for elective admissions on an inpatient oncology unit. Admitted oncology patients often face treatment delays in the inpatient setting leading to unnecessary delays in treatment and low patient satisfaction. The aim of this quality improvement project is decrease the wait time for inpatient chemotherapy treatment when admitted. After administering chemotherapy, nurses filled out a qualitative survey to identify common themes that caused delays in treatment. The most common issue that was ascertained was infrequent pharmacy deliveries. Our team met with pharmacy who added additional deliveries to the floor. Nurses were in-serviced at daily huddle for two weeks about the new delivery times and the relevance of timely treatment. Using four data points, we have shown a 20% reduction in wait time for therapy from 4.09 hours to 3.3 hours. Long wait times for planned therapy lead to delays in treatment and patient dissatisfaction. Using qualitative methods and interdisciplinary collaboration the time to administration was cut by 20%.

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COLLABORATING TO SUSTAIN POSITIVE OUTCOMES: IMPROVING THE CARE OF THE ONCOLOGY PATIENT OUTSIDE THE ONCOLOGY UNIT

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Caring for oncology patients in the inpatient setting is becoming increasingly complex and evidence shows that their care is best managed by an experienced oncology nurse. However, patients requiring a higher level of care are transferred to another unit which means they are in the care of a nurse who may not have the necessary skill set or knowledge to identify/address oncology specific conditions. The purpose of this quality improvement project was to support Medical Progressive Care Unit (MPCU) nurses by increasing their confidence of caring for oncology patients and improving patient outcomes. The nurse leaders and clinical nurses in both units and patients in MPCU collaborated to ensure that high-quality evidence-based care was delivered. The multipronged intervention of this project included providing live education and resources to nurses and conducting structured weekly visits to MPCU. During the weekly visit, the oncology nurse would interact with every oncology patient to ensure proper symptom management interventions were in place, ensure appropriate interdisciplinary team members were consulted and address any psychosocial concerns the patient expressed. This oncology nurse would provide appropriate education to the patient and their support system and the nurse caring for the patient. There were additional interventions that supported further interdepartmental collaboration. Following intervention implementation, days beyond geometric mean length of stay (GMLOS) decreased from 3.42 (confidence level 2.26) to 0.76 (confidence level 1.15). The completion of oral assessments by MPCU nurses increased from 28.5% to 66.6%; a 38.1% increase. In addition, self-reported confidence level in MPCU nurses who attended live education sessions increased 15%. Of the same nurses, 75% reported they were able to utilize knowledge gained from the education to better care for oncology patients. Caring for oncology patients is undoubtedly challenging, especially as their needs become more complex. Oncology nurses need to take a lead to support nurses who provide care to oncology patients outside the oncology unit. Supporting these nurses ensures high quality care and improves the collaboration within different patient care departments. Patients outside the oncology unit would benefit from intentional collaboration led by oncology nurses to ensure the highest quality care is being delivered.

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QUALITY IMPROVEMENT IN THE OUTPATIENT SETTING—IMPROVEMENT IN INTERDISCIPLINARY COMMUNICATIONS BY DEVELOPMENT OF DAILY HUDDLES IN THE INFUSION DEPARTMENT

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Scully Welsh Cancer Center opened 3 years ago. With any new center, processes and procedures had to be developed and implemented. One challenge, affecting patient care was communications between departments. Physician orders for chemotherapy were completed the same day as the treatment was scheduled, causing delays in patient care. We implemented daily huddles to promote communication between departments and streamline patient care. Daily huddle is a forum for interdisciplinary communications between pharmacy, navigators, finance, nursing, physicians, and radiation. Once the huddles were implemented, the time for the physician chemotherapy orders went from being received 24 hours to 72 hours in advance allowing for the needed safety checks to deliver safer patient care. The primary reason for implementing huddles was because multiple EMR's were used at our center and unfortunately they did not communicate with each other. An important reason for the integration of medical records is the reduction of medical errors, and the reduction of lost paperwork, and insurance reimbursement. Developing huddles in the infusion center aided in communications between departments that were otherwise missed. To improve communication, a daily huddle was developed to provide each department the opportunity to discuss vital patient safety information, scheduling, medical information, social issues and financial concerns. An example of a patient variance encountered due to a breakdown in communication was that growth factors were being missed on the orders. With the implementation of our 10 minute huddles, the growth factors not only became part of the order sets, but were reviewed in the daily reports. The huddle is now a well-oiled machine with representatives from all departments attending. With the development of a written procedure and easy to follow guidelines, our huddle has improved patient safety, and allows each morning the organization of the infusion center's daily practice. Chaos has reduced with the introduction of daily huddles. The

implementation of huddles in the oncology infusion department provides an opportunity to discuss any outstanding orders, announcements from the institution, updates on new policies or procedures, and staffing challenges for the day. This procedure has created an environment to develop relationships and communicate vital information which has improved staff satisfaction, clinic efficiency and patient safety.

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FROM CRISIS TO PREVENTION: A STORY OF SAVING THE SKIN OF ONCOLOGY AND STEM CELL TRANSPLANT PATIENTS

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Oncology patients are at high risk for pressure injuries due to the weakening and deconditioning related to chemotherapy treatment and the friability of radiated skin. The development of pressure ulcers in the immune compromised oncology patient may have significant and life threatening sequelae. Keeping patient's skin intact assures that unnecessary secondary infections didn't occur in immune compromised patients. At our tertiary care center the prevalence rate of pressure ulcers on the oncology/stem cell unit of 36 beds was 2.56 at the metric beginning of FY18. The organizational prevalence goal was 1.64 or less. A Root Cause Analysis was performed. In response, a multiple pronged approach was implemented: a daily shift manager rounding tool became ingrained in unit practice during discharge rounds and throughout the shift. Concurrently, the unit based Skin Champion began weekly Electronic Medical Record (EMR) and bedside spot assessments of at risk patients, the unit store room was evaluated and adequate par levels of pressure ulcer prevention tools were established, and extra Skin Champions were recruited to participate in monthly pressure ulcer prevention surveys. The unit base pressure injury prevalence rate decreased from 2.56 to 0.63 from the beginning of FY18 to the close of FY18. Well below the care center's goal of 1.64. The implementation of focused shift manager rounding, weekly Skin Champion spot assessments of at risk patients, availability of resources, and recruitment of extra Skin Champions effectively and sustainably reduced the prevalence rate of pressure injuries in the oncology/stem cell patients. This work reduced the HAPU rate in a vulnerable and high-risk patient population. This 4 pronged approach is reproducible and should be implemented on oncology units with patients at risk for skin breakdown.

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TO IMPROVE SYMPTOM MANAGEMENT FOR PATIENTS CURRENTLY ON IMMUNOTHERAPY LIVING IN THE LODDON MALLEE REGION

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The Loddon Mallee Region occupies more than a quarter of the state of Victoria-Australia and covers an area of 58,961 square kilometres. Cancer patients in this region receive immunotherapy as outpatients in regional, rural or metropolitan hospitals. They rely on local medical and nursing staff often not specialised in oncology to manage unpredictable and potentially life-threatening symptoms that may arise. The project's purpose was to increase local health care professionals' awareness and management of the symptoms of immunotherapy by developing and trialling a specific immunotherapy patient alert card and an immunotherapy patient pathway for emergency department staff and immunotherapy education for general practitioners and emergency staff. The resources were trialled across four health care services to include; Bendigo Health Cancer Centre, Swan Hill District Health, Kerang District Health and Maryborough District Health Service. A working group of stakeholders from all sites was established and met monthly by teleconference. A patient alert card and patient pathway was developed. Emergency Department and General Practitioner Education was provided at the four sites. Emergency staff and general practitioners found the education on immunotherapy and immune related adverse events beneficial with 85% of respondents identifying a better understanding of immunotherapy after the education. The Bendigo Health emergency department informed the emergency category for the patient alert card. The project identified that while immunotherapy has very quickly become part of oncology treatment, there is an information gap for non-oncology health professional when managing these patients particularly in rural and regional settings. By making the patient alert card a different colour and very different to the chemotherapy alert card—it has helped identify to general practitioners and emergency departments in addition to the education that the patient needs to be managed differently to someone having chemotherapy. While we are just rolling out the patient alert card and pathway within the region we have had encouraging support from relevant health professionals. We aim to review the implementation of both these in the next six-twelve months using a patient quality of life tool and a pre and post questionnaire. Immune checkpoint inhibitors are very new in Australia. This quality

improvement project has ensured non-oncology health professionals in non-metropolitan settings are better equipped to care for patients receiving immunotherapy in their local area.

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“SIMPLY” FULL OF KNOWLEDGE

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Education is a vital part of the patient's Chemotherapy journey. As oral chemotherapy administration continues to grow, we must improve the education provided to our community of patients. We must arm our patients with the tools needed to participate in their care, and understand the necessity and effectiveness of medication compliance. I decided to survey our practice based on the education level and supportive needs of our community. I found many of our patients were unable to define some of the basic words used in the educational material. For example, multiple patients were unable to define nausea or vomiting. We needed to examine our educational material and present uncomplicated information based on the needs of our population. Examples of improvements included: Enlightening patients on medication delivery methods of oral chemotherapy, providing patients with oral thermometers to monitor temperatures at home, and discussing information to provide when seeking emergency medical attention. We also introduced the use of diaries to monitor for symptoms, and calendars to ensure correct day of administration. We had all of the tools, we just needed to simplify the matter and the instructions. Patients welcomed the information when provided on their educational level. They have become more interactive and responsive. It is rewarding to see patients feel empowered simply by arming them with knowledge. Patients are given the responsibility to take their chemotherapy pills home. We must be confident in their understanding in the importance safe handling, dietary guidelines, and symptom management. Through the process of simplifying the educational material already in use, we can be confident of their knowledge. It is rewarding to witness patients feel empowered simply by arming them with knowledge. They become “Simply” Full of knowledge.

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AN LPN MOBILITY NURSE IMPROVES PATIENT OUTCOMES ON THE INPATIENT ONCOLOGY SERVICE

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Evidence supports that hospitalized oncology patients who are ambulated early and often, experience improved clinical outcomes, decreased length of stay, and an improved ability to maintain their pre hospital functional ability after discharge. In contrast, low mobility is common during hospitalization and associated with a loss or decline in ability. Approximately 40% of older adults experience a decline in the ability to perform activities of daily living with one-third failing to recover within a year after discharge. Although high risk oncology patients are routinely evaluated by a physical therapist in the acute care setting, there may not be the resources to follow through on an active treatment plan that includes daily ambulation. The purpose of this project was implementation of a LPN mobility nurse to impact outcomes for high risk hospitalized oncology patients. A full time LPN mobility nurse was implemented to ambulate patients at high risk for deconditioning on 3 units: Hematology-Oncology, Surgical Oncology, and Bone Marrow Transplant. The mobility nurse worked each day with the unit's physical therapist and charge nurse to identify patients on each of the units who would benefit from increased ambulation. During the 7 month pilot, the LPN mobility nurse mobilized 626 patients. More than half, 59% maintained their mobility at admission baseline; 25% actually showed improvement and 3% declined. A few, 13% were not applicable as they were referred to hospice. Of the patients that were seen by the mobility nurse: Most, 88% were discharged according to the plan of care on admission and length of stay decreased on all 3 units by an average of 0.95 days. Importantly, there was a 13% decrease in the occurrence of pressure injuries on all of the units comparing pre and post mobility nurse. After the trial the LPN mobility nurse was made into a permanent position. Oncology patients want quick hospitalizations to help improve their survival but also, to improve their quality of life. If a LPN mobility nurse can actually maintain the patients' strength and conditioning, in some cases improve it as well as have an associated decreased in pressure injuries, this is an important intervention to provide.

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EVALUATION OF PATIENT THROUGHPUT IN AN OUTPATIENT PEDIATRIC HEMATOLOGY,

ONCOLOGY, AND BONE MARROW TRANSPLANT CLINIC

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Outpatient oncology clinics are complex environments. The multi-step, interdisciplinary, and sequential nature of oncology treatment contributes to delays. Prolonged wait time has been shown to impact patient compliance, satisfaction, and perception of the quality of care. Inefficient throughput has also been linked with staff dissatisfaction. Patients often encounter delays at our outpatient pediatric oncology clinic. Prolonged wait time is frequently cited on patient satisfaction surveys and our nursing staff has identified that disorganized throughput reduces overall clinic functionality. The purpose of the study was to explore throughput times in the outpatient pediatric oncology clinic. A secondary purpose was to explore the staff's overall assessment of patient throughput and their opinions of what might be improved. Our descriptive-comparative study used retrospective reviews to measure five time intervals for 312 patient clinic visits at our mid-Atlantic outpatient clinic. Patient and appointment-specific factors impacting throughput were also explored. Prospective survey data were obtained from 48 clinic staff about their opinion of clinic throughput and how it can be improved. Mean clinic interval times were calculated and differences in factors impacting throughput were analyzed using ANOVA. Recurring phrases and themes from the staff survey regarding issues that contribute to delays and what can be done to improve throughput were also evaluated. Data collection is in process. We will present the mean time intervals for the five clinic intersections. Difference in mean throughput time based on appointment type and appointment time will be presented. Staff input about throughput will also be discussed. Study findings will likely identify intersections within the clinic visit that contribute to significant delays. Additionally, the findings may identify patient and appointment-specific factors that result in prolonged throughput times. The staff surveys may also highlight issues within the clinic flow that cause delays and inefficiencies. These findings can be used to develop an action plan to improve throughput and efficiency in the outpatient oncology clinic. There is a trend in our health care system to provide oncology care and chemotherapy in the outpatient setting for cost-effectiveness. The

complex nature of oncology treatment contributes to delays. The first step to improve throughput is conducting an evaluation of patient flow to identify clinic intersections and patient factors that contribute to inefficiencies.

210 **CODE LAVENDER FOR COMPASSION FATIGUE**

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As a quality improvement project we have implemented a “Code Lavender” program to support the oncology nurses dealing with the complex oncology patients and the hospice patients seen in our facility. As the inpatient oncology unit was seeing an increasing amount of hospice/end of life patients we also began to see more turnover in our staff and dips in patient satisfaction scores. Nurses were questioning how to best care for their end of life patients, as most were new to the oncology setting. There was also a visible sense of stress building with the nurses. Our first step to address the needs of the nurses was to hold a two hour class on Death & Dying. This class ended with defining compassion fatigue, why we see it in oncology nurses, how it can affect our patients, and how to care for ourselves. Through these classes it was apparent that we needed to do something more to support the oncology nurses. Code Lavender brings a defined process for debriefing. It is used by the oncology staff as they feel it is needed after a difficult patient transition. The nurse notifies the charge nurse that a “Code Lavender is needed”. The chaplain, nurse manager, or nurse educator will be paged to facilitate the code. The debriefing sessions will focus on 3 questions and should take about 10-15 minutes: How did you help the patient and/or family through this transition? What stood out to you the most during this patient experience in regards to teamwork? What impact is this patient’s death having on you or will have on you moving forward? The nurses have been educated on signs of compassion fatigue to watch for that could benefit from having a debriefing session. Evaluation will take place with the oncology nurses completing a professional quality of life survey at given intervals, monitoring changes in the turnover rate, and watching for increases in patient satisfaction

scores. Oncology nursing can be very rewarding but it can also be stressing leading to compassion fatigue. A Code Lavender program will lead to supporting the nurses’ wellbeing which in turn will allow them to care for our patients with more compassion and empathy.

211 **ASSESSMENT OF CHEMOTHERAPY RELATED COGNITIVE IMPAIRMENT IN BREAST CANCER PATIENTS—DNP CAPSTONE PROJECT**

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Chemotherapy Related Cognitive Impairment (CRCI), a mental fog experienced by some patients receiving cancer treatment, can be debilitating and present negative effect on Quality of Life (QOL). CRCI is reported in approximately 75% of patients receiving chemo with the highest non-CNS incidence in patients with breast cancer (BC). Evidence supports distress due to lack of acknowledgement by healthcare team, decreased job performance, feeling emotionally drained, inability to focus, decreased executive functioning, and negative impact on social relationships. Despite its prevalence and impact on QOL, oncology nurses often fail to discuss CRCI symptoms with patients and make referrals for further assessment, presenting a need to provide nursing education and tools to integrate CRCI assessment into practice. The purpose of the project was to improve assessment and acknowledgment of CRCI in BC patients receiving adjuvant/neo-adjuvant chemotherapy at an academic cancer center and make appropriate referrals for symptom management. The project encompassed 2 phases. Phase 1 involved a retrospective chart review of 58 patients with BC receiving chemotherapy during the first quarter of 2016. Phase 2 focused on CRCI education for the oncology nurses and utilization of a Patient Reported Outcome Measurement Instrument (PROMIS) tool as an aid to assessment. The tool was offered to all patients receiving adjuvant/neo-adjuvant chemotherapy for BC during the first quarter of 2018. Patients identified with CRCI were referred to CBT trained Social Workers or a Multidisciplinary Cognition Clinic. Phase 1 chart review identified 6 patients out of 58 (10.9%) reporting CRCI with 3 patients (6%) referred for treatment. Phase 2 data (n = 44) revealed an improvement in identification of patients with CRCI from 10.9% to 59% (26 patients) using the PROMIS tool. This translated to a four-fold improvement, with 100% of patients referred for treatment. Nurses reported improved awareness of symptoms of

CRCI. This QI project empowered oncology nurses to participate in improving QOL for BC patients with CRCI. With systematic evaluation using a brief tool, oncology nurses can give patients an opportunity to voice intimate details of their struggles with CRCI and make appropriate referrals for symptom management. Recommendations include creating practice guidelines for CRCI assessment using the PROMIS tool; referral guidelines for intervention/symptom management; and establishing a multidisciplinary support group for patients with CRCI.

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INTERDISCIPLINARY COLLABORATION AND COMMUNICATION: KEY IN DISCHARGE PLANNING FOR THE ONCOLOGY PSYCHIATRY POPULATION

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The complexity of cancer patients with psychiatric disorders requires diligent care coordination as the patient transition in different settings. At this comprehensive cancer center, there is no standardized inpatient psychiatric transfer process and no collaboration established with inpatient psychiatric facilities. As a result, communication lapses occur among the psychiatric and medical team and other disciplines which result in treatments delay, patient and family dissatisfaction, ineffective transfer processes, medication errors, and delays in discharge which in turn increases hospital length of stay and utilization costs. The goal is to develop a standardized transfer protocol to prevent adverse outcomes, reduce hospital's length of stay, enhance patient and families satisfaction, and to foster collaboration with post acute care settings. This new protocol provides a workflow for role identification and process and procedures to facilitate transfer and to intervene if any issues arise. The Case Manager (CM) works with the psychiatry team, social worker, and administration. The CM is notified upon admission to start transfer, contact the insurance company, and inpatient psychiatry facilities. The SW and psychiatrist provide support to patient and family. Once the patient is accepted every discipline provides report to prevent medical errors and medication reconciliation is performed. The transfer handoff tool has allowed the disciplines to provide a verbal medical report as well as the ability to perform medication reconciliation. The CM was added to the psychiatry outpatient clinic. The CM provides

support and education about community resources to patients, coordinates behavioral home care programs, and educates about financial assistance to cover expensive, medications. We work with inpatient psychiatry facilities to ensure that appropriate services are arranged and continuity in oncology treatments. Since we implemented this change hospital length of stay has decreased, patients are being transferred timely, enhanced team communication, and patients reported being supported and satisfied and most importantly increased the quality of life. Discharge planning for patients needing inpatient psychiatric treatments starts at admission. This new policy and standardization of practice have allowed better management of patients receiving active treatment and psychiatric interventions. Active involvement by the entire multidisciplinary team and collaboration with post acute care providers is what made our program successful, and we hope to expand to other oncology areas.

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STANDARDIZING A PATIENT ACUITY TOOL TO IMPROVE APPOINTMENT AVAILABILITY AND CHAIR UTILIZATION

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Infusion appointments are not created equally. Scheduling treatment appointments is a challenging task due to many complex elements involved. We experienced patient and provider complaints related to limited appointment availability. Addressing these complaints requires looking at the scheduling process and decision-making tools used. Our primary goal is to increase appointment availability especially for patients needing same-day supportive care appointments. Subsequently a secondary goal is met to minimize unused time blocks. First, we standardized an existing tool by assigning a relative value (acuity) to an appointment to provide scheduling guidelines. Second, we scheduled appointment times according to the standardized tool's acuity levels (1-6) instead of setting a number limit per day. Level 1 appointments allot 30 minutes or less (e.g. a blood draw/injection). Level 6 appointments allot up to 8 hours (e.g. multi-agent chemotherapy regimen requiring frequent reassessments/interventions). This acuity tool accurately captures patient's clinical complexity as it relates to nursing workloads and accurately assigns the appropriate time block. Third, we implemented a

nursing process to oversee the appointment schedule, treatment plans and laboratory results the day prior to proactively address any foreseeable cancellations or scheduling errors. First, this standardized acuity tool has improved scheduling accuracy by providing guidelines for the schedulers. Second, there is increased appointment availability for supportive care appointments such as transfusions and hydrations. Reviewing the schedule the day prior has minimized many same day cancellations by simply addressing abnormal laboratory values before the patient's arrival. Last, we concluded a nurses' daily acuity assignment of 14–18 per day is realistic with consideration for patient safety. This acuity goal is sustainable to meet productivity and budgetary goals without accruing significant overtime. The innovation lies with utilizing an existing tool to create additional capacity where additional capacity was unexpected. The nursing and scheduling staff updated the acuity tool after a 6-month implementation period for accuracy. Staff is comfortable adjusting appointment acuity when indicated. For example, acuity adjustment to laboratory results not meeting treatment parameters or hypersensitivity reactions requiring additional interventions/time. The nurses anticipate the day's workload according to the set acuity goal each day. This standardization and improved workflow not only improved chair utilization, it also promotes teamwork and enriched communication amongst schedulers and nurses.

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DEVELOPMENT OF A MULTIDISCIPLINARY SURVIVORSHIP CLINIC FOR A HEAD AND NECK CANCER PROGRAM: NEEDS ASSESSMENT AND FIRST STEPS

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Head and neck cancer patients require particularly complex care that typically involves multidisciplinary treatment planning, psychosocial support, and multimodal therapies. After completion of treatment, these patients can experience a range of long-term and late effects that can negatively impact function, quality of life, and survival. Delivery of survivorship care is critical for this patient population but remains challenging. The purpose of this project was to conduct a comprehensive needs assessment of UCLA's recently established multidisciplinary Head and Neck Cancer Program to inform the development and implementation of a survivorship care program. According

to the Guide for Delivering Quality Survivorship Care, put forth by the National Cancer Survivorship Resource Center, a needs assessment is the first step in implementing a successful, high-quality cancer survivorship care program. In this project, we followed the six components described in the guide to identify needs, opportunities and challenges in this institutional setting. Key informant interviews and focus groups with clinical staff, patients, caregivers, and administrators (n=29) identified survivorship care as a high priority. Barriers and facilitators of survivorship care were described by stakeholders including the "drop-off" that occurs after the completion of treatment as well as delays and communication failures across major care transitions. To characterize the patient population, we analyzed data from the institutional tumor registry over the past five years (n=1541) and mapped the sequences of common clinical pathways to determine patient flow. We consulted with various departments to synthesize internal and external resources into a single repository and considered unique strengths and weaknesses of both the program and overall health system. These collective findings serve as the basis for a high-quality survivorship care program that is responsive to the needs of multiple stakeholders and compatible with the institutional context. The need for a more systematic and proactive survivorship program has become evident as patients struggle with long-term and late effects of treatment and unmet physical, functional and psychosocial needs. There is particularly strong interest from clinical champions in building out a program that 1) extends the multidisciplinary clinic format into the post-treatment period and 2) draws from the Head and Neck Cancer Survivorship Guideline, published in 2016 by the American Cancer Society and endorsed by the American Society of Clinical Oncology.

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RAISING AWARENESS AND RESPONSIVENESS TO DECREASING FALLS ON AN INPATIENT HEMATOLOGY/ONCOLOGY UNIT

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Falls continue to be one of the top adverse events occurring in an inpatient hematology/oncology setting at a large, urban, academic medical center. In 2017, 21 falls occurred on one of the units. Falls can be detrimental for patient outcomes, resulting in injuries, increased length of stay, and sometimes death. The goal of the project is to raise awareness and responsiveness amongst the staff of high-fall risk patients,

and in result decrease the number of falls within the patient population. A high fall-risk acuity section was supplemented to the daily assignment board. Every shift, RNs were instructed to note their high-fall risk patients. During morning huddles, the Charge Nurse highlighted these patients so that the nursing team had a shared understanding of who was at risk. If a high-risk patient were to call and the patient's nurse and nurses' aide were unavailable, the rest of the team would be aware of the possible adverse event and promptly provide assistance. This platform also created open communication amongst the team to brainstorm whether any additional patients should be noted and how the team would collectively keep these patients free from falls for the shift. In May–September 2017 there was an average of 2 falls/month. During the post-intervention period of May–September 2018 the fall rate increased to 2.6 falls/month. Analysis of these events showed that many falls were unanticipated physiological falls due to orthostatic or syncopal episodes. Pre-intervention surveys for the nursing staff showed that 50% of nurses were “somewhat aware” of the high-fall risk patients on the unit and 87% were “very likely” to respond to a bed alarm. Post-intervention surveys showed that 64% were now “very aware” of these patients and 89% were “very likely” to respond to bed alarms. Team members have verbalized benefits of this fall prevention intervention. Oncology patients are at a high-risk for falls with and without injury as they start to require more assistance. Oncology nurses have the opportunity to prevent falls by increased awareness of the patient's status and quickly reacting to alarming situations. Improved communication amongst the entire team regarding the patient's fall risk will preemptively create multiple lines of reinforcements to prevent these adverse events, rather than implementing interventions after a fall.

216 **STRIVING FOR RECTAL CANCER EXCELLENCE: AN NAPRC JOURNEY**

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The National Accreditation Program for Rectal Cancer (NAPRC) standards were published for the public on October 2017. The first NAPRC accredited program was in March 2018. Florida Hospital Cancer Institute (FHCI) had the privilege to be selected as one of six pilot sites to test drive the standards in the fall of 2015 given the high quality of specialized care

available at our institution. The journey to become an NAPRC accredited program, included several engaged surgeons, medical oncologist, radiation oncologist, pathologists, radiologist and oncology nurses. The purpose of this poster is to share the journey to become an NAPRC accredited program in two years. There were several processes that were developed ranging from establishing a patient identification process, creating new roles, developing a new rectal cancer tumor board conference, policy writing, staff/patient education and creating robust data management process. The culmination of nearly two years of hard work by the rectal program team members led to a successful accreditation visit in June 2018. We have continued work to do to maintain this prestigious new accreditation. Nurses have led the way in the development a multidisciplinary rectal cancer program by bringing a team together as we continue to strive for excellence in rectal cancer care.

217 **COMMUNITY ENGAGEMENT IN THE TRANSPLANT CONTINUUM**

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The Stem Cell Transplant and Cellular Therapy Program at Wake Forest Baptist Health has created a unique partnership with referring oncologists to facilitate completion of the autologous stem cell transplants performed in the outpatient setting. Many outpatient transplant programs require relocation of both patient and caregivers within a designated radius of the hospital for thirty days post-transplant. Patients receiving an autologous transplant at Wake Forest Baptist Health are seen in the Outpatient Transplant Clinic daily from the onset of the conditioning regimen through the time of engraftment, usually fourteen to twenty-one days. They are subsequently cleared to return home, regardless of distance from the transplant center, to continue with close follow-up care under their referring oncologist. During this critical follow-up period, it is imperative that communication between the transplant team and the referring provider is effective and clear. After collaboration with referring providers and members of our transplant team, we developed and implemented the use of a discharge letter detailing both the scheduled dates for the 30-day follow-up at our facility and

follow-up with the referring provider, including guidance for labs, the initiation of maintenance therapy, where appropriate and post-transplant vaccination. We have found that the implementation of this communication tool has facilitated the smooth transition of the patient's care back into the community setting by improving scheduling practices, strengthening relations with referring providers and bridging gaps in communication. Although we had previously established modes of communication with the outside referring physicians, there were at times concerns of communication gaps jeopardizing patient care. This resulted in a practice change to ensure adequate exchange of information. Allowing patients to receive follow-up care with their local providers has resulted in stress reduction for both patients and caregivers by decreasing time away from home.

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RESULT OF USING THE SIX SIGMA TOOL IN REDUCING PRESCRIPTION MISTAKES BEFORE THE INFUSION

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The high rate of mistakes and interventions involving prescriptions demand the need to develop ways to reduce them, seeing that these imply waste of operational capability, delay in the start of patient care and, above all, weaken the patient x institution relationship because of communication failures. The institutions seek permanent search for improvement in care to offer innovative and safe treatments to the clients, incorporating the use of new technologies and speed in internal and external processes and providing a larger range of quality and safety for the patient. The use of Six Sigma method comes toward this proposal because it seeks the enhancement of processes through defect monitoring (Defects per Million Opportunities—DPMO) as a way of guaranteeing service quality and productivity increase. The benefits are associated to productivity increase, cost reduction, company results enhancement, analytic capability improvement, decision making and clients satisfaction. This assignment's goal was reducing in 30% the Defects per Million Opportunities (DPMO) related to medical prescription mistakes before medication infusion in patients. 400 pharmaceutical

interventions were analyzed in December, 2014, and 316 in May, 2015. For data analysis, we used six sigma's measuring tools, Gage R&R* and Hypothesis Test (Chi Square), found in the Minitab program. The main causes of mistake were: prescription without recalculated dose, above average dose without system's block and cumulative doses with no system control. Implemented improvement actions involved blocking maximum therapeutic dose in Tasy system and clinical body training, focusing on the main identified problems. There was, thus, goal achievement because the DPMO, which in December, 2014 was 179.909, in May, 2015 was 54.045, which corresponds to a 31,9% decrease. The Six Sigma tools used showed how important is the development of projects that prioritize patients safety through the use of a method that guides the maintenance of well-aligned processes and effective and safe results.

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MULTIDISCIPLINARY MORNING ROUNDS IN AN INFUSION CENTER

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In our community cancer center, the majority of patients receive chemotherapy treatment in the outpatient setting (i.e. infusion center). The infusion center is located across a hallway from the treating oncologists. However, even with close proximity to the treating clinician, it was found that there were length delays in timely administration of treatment due to long response times in addressing needed orders and lab results. Administration, nursing staff, and patients reported dissatisfaction in treatment wait times and lack of quick response from treating clinician. Inpatient multidisciplinary rounding is well documented in the literature. Demonstrating that rounding is patient-centered, emphasizing safety and efficiency, and enabling all team members to provide expertise that contributes to patient care. We could find no literature to help guide multidisciplinary rounding in our community cancer adult infusion center. The purpose of this project was implementation of multidisciplinary rounding in the infusion center to improve patient safety through coordinated care and improved communication between caregivers. Collaboration between oncology nurses, clinic nurse practitioner, administration, and oncologists

took place in January 2018, and resulted in the development of “infusion rounding worksheet” to help guide key points of information that the RN would provide to the multidisciplinary team during morning infusion rounding. It was decided that the multidisciplinary team would be comprised of the treating RN, NP, on-call oncologist, manager or director of the infusion center, and infusion pharmacist. Multidisciplinary rounding was implemented in February 2018. Prior to January 2018, any discrepancies in chemotherapy order entry or questions regarding lab values/parameters were messaged to the treating oncologist throughout the day. Beginning in February 2018, majority of questions were addressed in morning rounds prior to patient care starting. Over the course of 8 months we have continued to make changes to the rounding process to not only improve the quality of report given, but to streamline the timeliness of rounds. This pilot project has resulted in increased nursing, clinician, administration, and patient satisfaction by addressing patient care issues that would delay treatment start times. This multidisciplinary approach and collaboration has strengthened our team approach to patient care. This project is innovative in developing an inpatient tool of rounding to the outpatient adult infusion center.

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HOW CREATION OF A TOBACCO CESSATION OVERSIGHT COMMITTEE CAN FOSTER SYSTEMWIDE CHANGE

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Tobacco is the leading cause of preventable death in the United States, accounting for half a million deaths annually. Smoking causes multiple cancers, and weakens the effectiveness of cancer treatment. Current guidelines recommend that tobacco usage be identified at every office visit. While electronic medical records document tobacco usage, and there are many tobacco cessation resources to help intervene, physicians, nurses and allied health professionals are not familiar with these tools, or how to initiate conversations about tobacco cessation with their patients. The objective of this project was to highlight the importance of nurses working with an interdisciplinary team, in order to overcome provider knowledge deficits about tobacco cessation education and resources. The Tobacco Oversight Committee (TOC) was created by a small team comprised of a physician, two RNs, and a health systems management professional. One of the RN’s chairs

the committee with the physician member. Committee members are chosen informally, but intentionally selected to ensure diverse representation across the hospital system. Key factors include specialty, work setting, location, and interest in tobacco cessation initiatives. The TOC is in the process of implementing important tobacco cessation initiatives which include creating a tobacco cessation smart set within the EMR, to standardize the tobacco cessation resources patients receive across the institution; another initiative is conducting multiple trainings, for healthcare clinicians, on how to ask, advise, and refer patients to tobacco cessation resources. The committee meets monthly with a WebEx option available to offsite members. Currently the TOC is in its 7th month of existence. Since its establishment, the nurse chair has worked with members to strategize how the smart set has been built. Furthermore, the other founding nurse member has planned 3 trainings, in collaboration with respiratory therapy, pharmacy, and social work, for employees across the institution. TOC meetings consist of members sharing their tobacco cessation projects within their field, robust conversations about tobacco cessation initiatives and policy, combined with great enthusiasm and engagement from members. The TOC is a great example of how nurses can create interdisciplinary forums, to address important issues of patient care. While the TOC is still in its early stages, we hope to continue increasing conversation, and awareness about tobacco cessation initiatives throughout the institution.

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DEVELOPMENT OF AN EMERGENCY FIRST RESPONSE TEAM IN AN OUTPATIENT ONCOLOGY CENTER

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Hillman Cancer Center (HCC), an ambulatory outpatient facility, is located adjacent to UPMC Shadyside Hospital, connected by a walking bridge. The hospital’s Rapid Response Team (RRT) answers to HCC’s emergencies from serious anaphylactic reactions to loss of pulse/breathing. The amount of time it takes the RRT to arrive at HCC can be up to eight minutes. In addition to the time factor, the staff nurses felt uncomfortable

handling infrequent emergencies. Our objective was to improve current process for response to emergencies, especially within the time frame prior to the RRT arriving by developing a Hillman First Response Team (HFRT), staffed by nurses educated in Advanced Cardiac Life Support (ACLS) to improve patient safety. Fifteen staff nurses volunteered to be members of the HFRT. All members were required to complete ACLS training. In addition, meetings were led by the Advanced Clinical Education Specialist to develop responsibilities of members, review emergency protocols, and solidify team cohesion. Each member was assigned a pager, which notifies them when an emergency is called. Prior to the implementation date, an email with pictures was sent to all Hillman staff to introduce the concept and team members. Beginning on April 2, 2018, HFRT members began responding to emergencies within the building. Emergent care is provided by the HFRT nurses while awaiting the arrival of the RRT from the hospital. Upon that arrival, the HFRT continues caring for the patient in conjunction with the RRT. When appropriate, the patient is transferred to the Emergency Department by members of the RRT. Immediately after each emergency, the HFRT holds a debriefing, guided by the Quality Improvement Specialist, to determine what worked and what needed improvement. Process and equipment issues have been identified and evaluated. Since the go-live date the HFRT has responded to 18 emergencies. Survey results after six months show that 87.5% of treatment room nurses felt more comfortable knowing that, in an emergency, the First Response Team would arrive prior to the RRT. Additionally, 96% of survey respondents felt that implementation of the First Response Team has improved patient safety at Hillman Cancer Center.

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UTILIZATION OF A TEAM BASED CARE MODEL TO TRANSFORM CARE IN THE ERA OF VALUE BASED CARE

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Across the country we are seeing shift from traditional fee-for-service payment models toward value-based care models. This changes the way

services are delivered, managed and reimbursed. In traditional models, there may be over provision of services and less emphasis on outcomes; care may be fragmented and disjointed, leading to inefficient delivery and duplication of services. Alternative payment models, such as the Oncology Care Model, focus on quality metrics and care to drive down the cost of care. The team based model was developed to provide high quality, efficient services to our patients with the aim of reducing the overall cost of care. Our model centers on the patient by utilizing a multidisciplinary team to navigate the patient from diagnosis through survivorship. We created standard work and quality metrics for each team member and we created strategies for effective care coordination to minimize risk of hospital admissions and emergency department utilization. We implemented comprehensive patient education to set expectations about patient symptom reporting and to establish an appropriate point of contact for questions and concerns. We implemented multi-disciplinary huddles to identify higher risk patients that may need medication counseling, psychosocial distress management, financial counseling and more frequent outreach calls. Care Coordinator RN's are the primary patient contact for patients; they initiate outreach calls after initial chemotherapy, hospital discharge, and as needed to evaluate toxicities and provide access to same day urgent appointments. We are tracking compliance with multiple metrics, including outreach calls, patient education, urgent visit access, social work intake and distress management as well as completion of pharmacy initiated symptom management and survivorship visits. Through these coordinated efforts we are beginning to see a decrease in the number of inpatient admissions and moderate decrease in overall ED utilization. We continue to review team based care practices and their associated metrics to determine the most effective interventions to maintain/improve the quality of care while decreasing overall spend.

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IMPLEMENTING PREGNANCY SCREENING FOR WOMEN OF CHILDBEARING POTENTIAL PRIOR TO CANCER THERAPY: A COLLABORATION BETWEEN PHYSICIANS AND INFUSION

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Many cancer therapies currently available are teratogenic in nature. Several patients cared for within our community ambulatory oncology infusion center are

women of childbearing potential. Pregnancy testing of these women within our oncology infusion center was sporadic at best. There currently are no standardized guidelines related to pregnancy testing of these women. The purpose of this project was to implement a standardized process for pregnancy screening of women of childbearing potential prior to initiation of cancer therapy in an community ambulatory oncology infusion center. Collaboration occurred between nursing and a physician champion from the oncology practice to define “childbearing potential” and develop a process for pregnancy screening. A protocol was developed in which women under 50 years of age, without a history of hysterectomy or tubal ligation qualified as “childbearing” potential. The nurse-driven protocol allows for the infusion nursing staff to order a pregnancy screen to be done within the infusion center if testing has not already taken place within 48 hours of initiation of treatment. Point-of-care urine pregnancy screening equipment was obtained. Nursing staff were educated on the protocol, proper use of the equipment, and expectations of continued patient teaching throughout cancer treatment related to pregnancy risk. Initial evaluation at six months showed improved screening of qualifying patients, though there remained fall outs. Nursing staff reported “forgetting” to screen and expressed discomfort with conversations surrounding the topic. The protocol was again reviewed with the nursing staff. Based on feedback, signs with the protocol algorithm were placed strategically throughout the department with additional visual cues attached to each of the computers. Recommendations for scripting were also shared. Although initial protocol implementation did not result in 100% compliance, feedback from nursing staff allowed for process improvements resulting in greater compliance and engagement. The nursing staff now feel as though it is a process they can incorporate into their current workflow. Collaboration with the oncology physician practice and input from nursing staff has influenced the successful development of a protocol that keeps women of childbearing potential safe from teratogenic effects of cancer therapy. This protocol is currently being implemented at the larger system level including 8 additional ambulatory oncology infusion centers.

224 **EMPOWERING PATIENTS WITH CENTRAL VENOUS LINES ON A BONE MARROW TRANSPLANT UNIT**

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Bone Marrow Transplant (BMT) patients are an extremely vulnerable population. Hospital acquired infections are a cause of morbidity and mortality, with central line associated bloodstream infections (CLABSI) being 1 of the top 4 causes. Our current CLABSI rate on the BMT unit is 8.5%. This led to increased CLABSI surveillance and our quality improvement project to increase patient education and participation with Central Venous Lines (CVL). Patient participation, awareness, and knowledge of CLABSI are crucial to prevent the development of these life-threatening infections. Patient empowerment begins with information and education and includes patients seeking out information and actively participating in the care of their CVL. The purpose of this study is to encourage patients to take an active role in the care of their CVL through prevention strategies and the implementation of a CVL bundle. Evidence suggests that when patients are active participants in their care it encourages compliance with treatment strategies and helps remove barriers to recovery. Our first step is to standardize patient education regarding CVLs among nurses on the BMT unit using a CVL Patient Packet. Included in this packet will be a patient education tip sheet on CVLs, a daily checklist for preventing CLABSI, and a contract for patients to sign indicating the patient has reviewed all of the information and agree to be an active participant in the care of their CVL. The CVL bundle checklist covers central line maintenance and monitoring and includes actions such as a daily Chlorhexidine bath, proper hand hygiene, dressing changes, Ultra-site cap changes, and other evidence based CLABSI prevention strategies. Nurses will review the CVL packet with patients daily reinforcing information provided and ensuring the daily checklist is completed. This packet will provide a patient-centered approach to improving the quality of care on the BMT Unit. We will analyze our CLABSI rate prior to and post implementation of the CVL Patient Packet. In addition, a survey will be given to all patients evaluating the efficacy and receive their feedback on the CVL Patient Packet.

225 **A BILINGUAL NURSE NAVIGATOR CAN IMPROVE CARE COORDINATION FOR LATINOS WITH CANCER**

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Navigating the U.S healthcare system is complicated for any person, but especially for those who are non-English speaking and for patients who are unaware of how the U.S healthcare system is structured and how it functions. According to the American Cancer Society, one in three Hispanic men and women will be diagnosed with cancer in their lifetime. Cancer is the leading cause of death among Latinos, for a total of 22 percent of all deaths in 2012. The utilization of a bilingual nurse navigator for Latinos with cancer has the potential to improve patient's outcome, adherence to plan of care and ability to cope with psychosocial, physical, social and spiritual symptoms. The Levine Cancer Institute (LCI), in Charlotte, NC received grant funding to hire a bilingual nurse navigator to assist their Spanish speaking cancer patients. The main role of this navigator is to assess and overcome barriers among the Hispanic/Latino patients. The bilingual nurse navigator works in collaboration with tumor specific navigators and interdisciplinary teams at LCI. Referrals are received from the nurse navigator team. Once received, the bilingual nurse navigator starts navigating the Hispanic/Latino patients throughout their cancer continuum journey which begins at diagnosis and goes into survivorship. Ten Nurse navigators, eleven medical oncologists and twelve registered nurses at the Levine Cancer Institute were surveyed on five questions using a 5-point Likert scale asking whether they thought it was helpful and beneficial to have a bilingual nurse navigator onsite to coordinate patient care, assess patient's needs and remove language, culture and healthcare barriers. A total of 809 out of 825 points were received for "strongly agree", 16 points were received for "Agree", zero points were received for "neutral, disagree and strongly disagree". Nurse navigators, medical oncologists and clinical registered nurses feel that having a bilingual nurse navigator is beneficial to navigate Hispanics/Latinos with cancer and can improve coordination of care and remove barriers to help close the disparities gap among Hispanics/Latinos with cancer.

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EXCELLENCE IN PAIN MANAGEMENT: THROUGH ASSESSMENT AND REASSESSMENT

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In doing monthly pain audits we were noticing a decrease in documentation. The documentation was

lacking in both assessments and reassessments. We also noted that our patients satisfaction scores or HCAHPS scores were also dropping. The purpose was to improve our compliance with pain documentation per our policy. We also wanted to increase our patient satisfaction scores throughout this process. We started by doing retrospective chart audits to get a baseline. We then educated the staff RNs on the unit through posters, power points, and monthly audits of our patient's charts. We would give feedback to the nurses on what they were doing well, and also what was missing from their documentation as it applied. After a significant amount of time we did extensive chart audits. We found at that time that documentation and HCAHPS scores had not improved. We re-educated our staff again with posters, power points, pain reminders on our computers, pain badge cards, information at our staff meetings, and emails. This re-education included newer staff as we had had a lot of turn over since the first education had been done. Once that second re-education was completed we did our final chart audits. To summarize our documentation and HCAHPS scores did not improve after the first round of education. We went back and re-educated staff and added some new reminders for staff. Our second round of audits showed that our documentation still did not improve but it got staff talking with the patients more about their pain as our HCAHPS scores did improve to above the hospital threshold. We also determined that most pain assessments and reassessments were being done except nurses were forgetting to complete the sedation scale which made it incomplete documentation. We created a badge card that we had laminated and given out to all staff RN's in the hospital to remind them about pain assessment and reassessments.

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NAVIGATING THE QOPI CERTIFICATION PROCESS

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ASCO's Quality Oncology Practice Initiative (QOPI®) Certification Program is a three-year certification that recognizes high-quality care for outpatient hematology/oncology practices in the US and select countries. Adapted from the 2016 ASCO/Oncology Nursing Society (ONS) Chemotherapy Administration Safety Standards, the 28 QOPI Certification standards intend to reduce errors related to chemotherapy administration, and guide best practices in oncology care. Practices receive Certification based on their full compliance with all standards as assessed

during an on-site survey. Over half of the standards are directly tied to nursing practice, and many quality improvement activities stemming from the on-site survey are nurse driven. Preparing for Certification can feel daunting, but many Certified practices agree that participating in the QOPI Certification process directly improved the quality of care they provide their patients. The purpose of this abstract is to provide an overview of the Certification process, recommendations for preparation, and summary of benefits for Certified practices. The first step in preparing for QOPI Certification is conducting an internal audit of your practice's policies, processes, and patient documentation requirements. All staff involved in the ordering, preparing, and administering of chemotherapy should be involved in this review to ensure your practice is capturing all processes accurately. Practices should also conduct a mock on-site survey in preparation for patient observation. In 2018, the QOPI Certification Program published the QOPI Certification Standards Manual which provides a standard-by-standard analysis to assist practices with standards interpretation and application. Staff can then focus on areas for improvement. Once the audit and any quality improvement projects are complete, practices are encouraged to apply. Following the on-site survey, the surveyor will provide a preliminary summary of findings along with recommendations for quality improvement. The final Certification Compliance Report will identify requirements for partially met or not met standards. Examples include updating EMR documentation, process improvement activities, and staff education and compliance monitoring. Once a practice has completed the requirements and submitted supporting documentation, Certification will be awarded. Benefits include: 20 ABIM MOC points, CME/CNE credits for all oncology professionals, CMS Quality Improvement Activity Points, and a 10% discount on malpractice insurance with The Doctors Company, as well as demonstrating public trust and earning a competitive edge as one of 300+ Certified practices.

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STANDARDIZATION OF SURGICAL POST-OP PAIN ASSESSMENT IN A BREAST CLINIC AMBULATORY CARE SETTING: A QUALITY IMPROVEMENT PROJECT

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Pain is a common side effect after a lumpectomy or mastectomy procedure. But with a reduced postoperative

pain can lead to earlier mobilization, enhanced patient satisfaction, and reduced hospital costs. Lumpectomy and mastectomy procedures are two types of breast surgeries which require the removal of the cancer tumor from the breast. With the current technology and promising treatments for breast cancer, a woman who had a lumpectomy or mastectomy is able to go home in less than 24 hours. Women who went undergone these types of surgeries were concern about their recovery particularly about post-op pain, resuming ADLs, work schedules and assuming other obligations. Post op patients are required to come back to the clinic about 7-10 days after the surgery date. Incision sites, or drains are being checked during this time, together with the discussion of their final pathology reports with the surgeon. Pain rating are being assessed during this clinic visit, patients are being asked on how much pain medicine they have taken that was prescribed to them since they were discharged to home from the hospital, and if they have taken non-controlled pain relievers. It is also noted if these patients had a sentinel lymph node biopsy involved or if they had any type of breast reconstruction on the same day of their surgery. Post-operative pain is one of the greatest concerns of most patients undergoing any surgery. With the increasing healthcare costs and decrease patient satisfaction that may result from inadequate pain management, it is imperative to include post op pain management in the overall surgical plan.

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MANAGING DIABETES IN THE ONCOLOGY SETTING

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It is believed that approximately 8-18% of patients with cancer have a concurrent diagnosis of diabetes. Up to 60% of cancer patients, even including those not diagnosed with diabetes previously, were found to have hyperglycemia. Overall studies have shown that poorly controlled sugars in cancer patients are associated with increased complications and shorter survival. At our large multi-office oncology practice in central New Jersey, we currently check random glucose but

not hemoglobin A1C prior to the initiation of chemotherapy. Being aware of a patient's diabetes prior to initiating treatment will enable proactive changes to medications and interventions before any potential complications occur. Contacting the diabetes care provider will inform them of the treatment plan, the patient's increased risk for elevated sugars and allow them to better manage hyperglycemia. We will check random glucose for every patient at the initial visit, as well as A1C for patients with a known history of diabetes. An A1C will be drawn at the chemotherapy education appointment for patients whose random glucose is above 150 at the initial visit. For patients with an A1C above 6.5, we will contact the provider who will manage the patient's diabetes. It is anticipated that better communication with the patient's diabetes provider will improve glucose control, potentially reducing complications and increasing survival. Our goal is to have less than 10% of chemotherapy patients with documented sugars over 200. Communication between oncology and diabetes providers may also increase patient and provider satisfaction with overall medical treatment. Our second goal will be to have greater than 50% documented communication amongst ourselves and managing diabetes provider for patient's with sugars greater than 200. Other co-morbidities are often overlooked once a diagnosis of cancer is given. Better management of all co-morbidities is vital to the overall health of the patient. We anticipate reduction in hyperglycemia in patients receiving steroids/chemotherapy for their cancer care which may reduce complications. We anticipate that patient's general feelings of health will also be improved. The goal is for every patient prior to the initiation of treatment, especially if glucocorticoids are being used, to be screened for complications of hyperglycemia followed by the intervention of improved communication if prompted.

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SURVIVORSHIP CARE PLAN: OPTIMIZING QUALITY OF CARE

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In 2016, there were an estimated 15.5 million cancer survivors in the United States. The number of cancer survivors is expected to increase to 20.3 million by the year 2020 according to the National Cancer Institute

(<https://www.cancer.gov/about-cancer/understanding/statistics>). In 2006, the Institute of Medicine issued a report recommending that every cancer patient receive an individualized Survivorship Care Plan which is a document that includes a treatment summary, recommendations for follow-up visits, psychosocial care and other information to enable survivors to anticipate and address long-term and late-term effects of treatment. Without the Survivorship Care Plan cancer survivors may not have a clear sense of the next steps upon completing their treatment. The Survivorship Care Plan is discussed with the patient upon completion of active, curative treatment and recorded in the patient's medical record. Survivors are encouraged to provide a copy of their care plan to their primary care providers and other health care providers throughout their life. In the Department of Radiation Oncology Survivorship Care Plans were developed in May 2017. The Survivorship Care Plan is reviewed by the Radiation Oncology Nurse with the patient and their care givers. To date there have been 686 care plans distributed. The main benefit of the Survivorship Care Plans is increasing patients' adherence to recommended care. 1439 patients have been compliant and returned for follow-up visits after completion of their radiation treatment. Having the Survivorship Care Plan can influence the patient's behavior in regard to post care follow-up, surveillance and symptom management. The Department of Radiation of Oncology has recently been included in the Consumer Assessment of Health Care Providers and Systems (HCAHPS) where the patients rate their experiences and care after treatment. Survivorship Care Plans can enhance the patient's experience and improves the quality of care. In light of our results and patient feedback the Department of Radiation Oncology is planning to incorporate the Survivorship Care Plans into other disease entities such as Breast Cancer. Future implications would be for nurses to do further research to monitor if there is increase in patient satisfaction and improvement in communication between patients and their primary care providers.

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IMPLEMENTATION OF STANDARDIZED CHEMOTHERAPY NURSE ROLE

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In 2011 the nursing leadership at our site recognized opportunities for improvement surrounding chemotherapy and biotherapy medication administration.

A proposal was made for a standardized, budgeted chemotherapy nurse role (1.0 FTE) to increase both patient safety and nurse satisfaction. This proposal outlined a designated chemotherapy/biotherapy RN to coordinate care for oncology patients throughout the hospital including, but not limited to, chemo/bio administration, patient and family education, coordination with outpatient clinic and navigation, staff education and interdisciplinary care and communication. The implementation of this role in FY12 resulted in a 50% reduction in chemotherapy related errors due to nursing, a reduction in chemo start time by an average of 90 minutes and a significant improvement on the nurse satisfaction survey from 2011 to 2012. Intangibly, nurses reported increased confidence and knowledge of these high risk-high alert drugs, their side effects and their administration skills. They also expressed pride in the impact their role has in supporting nurses on other units caring for oncology patients, and in ensuring continuity of care in the discharge process and hand off to the outpatient clinic. Patients identified feeling thankful that the nurse does not have any other focus than to concentrate on them while beginning chemotherapy or biotherapy. They have given us very positive feedback about the importance of having one on one interaction during this time to allay their fears and concerns and to ensure their safety. Since implementing this role in 2012, this has become a standard practice at our site. We have fostered relationships with our outpatient clinic and grown our oncology care to include complex regimens such as Blinatumomab. The chemo nurse is now known throughout the hospital and is an established resource to all units for all oncology related care, such as port maintenance, neutropenic fever, oral chemo/bio administration and hazardous drug management. This unique, designated role has exceeded the initial goals and has transitioned into a cornerstone of the collaborative oncology care we provide at Dell Seton.

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CLINICAL NURSES PROMOTE SAFETY IN ONCOLOGY PATIENTS BY REDUCING CLABSIS

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Oncology patients receiving chemotherapy and stem cell transplants are at an increased risk for infection due to their compromised immune systems. Many of these

patients have central venous catheters in place, putting them at risk for central line associated bloodstream infections (CLABSIs). Over a 13 month period (November 2016 to December 2017) there were nine CLABSIs on the hematology and stem cell transplant unit at an academic medical center. The purpose is to determine if nursing-focused interventions decrease the incidence of CLABSIs on an 18-bed hematology and stem cell transplant unit. A number of interventions occurred over a four month period from August through December 2017. A unit based CLABSI reduction taskforce was formed to evaluate current practice and discuss methods for improvement. All staff nurses were re-educated and validated on central line dressing changes and needle-free port changes. The unit began requiring two nurses to be present for all central line dressing changes. Weekly audits were established to observe central line dressings and care, intravenous tubing, chlorhexidine patches and to identify patients at risk for compromised lines. Central line care door signs were created to include when the dressing and tubing are due to be changed as well as when the line was last accessed for lab draws. Color-coded tubing change stickers were ordered to improve compliance with changing tubing at the appropriate interval. The staff on the unit received ongoing emails and posted reminders about the CLABSI reduction initiatives. These were also discussed during shift huddles and during annual nursing education classes. Since these interventions, there have been zero CLABSIs (January 2018 to October 2018). Because of the success on the unit, a hospital-wide CLABSI reduction taskforce was formed to disseminate successes in best practice. Having clinical nurses engaged in interventions to reduce CLABSIs is imperative in promoting safety in hematology and stem cell transplant patients.

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ADDRESSING THE OPIOID EPIDEMIC IN COMMUNITY ONCOLOGY PROGRAMS

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In 2016, the rate of opioid-related deaths was skyrocketing. It was becoming apparent that no community or clinical provider was immune to this epidemic. In addition, new regulations and guidelines for prescribing opioids for pain management were announced

by state Medical boards and the CDC. The CDC responded by releasing “Guidelines for Prescribing Opioids for Chronic Pain”. The Duke Cancer Network (DCN), a network of community oncology programs, recognized that oncologists used opioids frequently to manage cancer pain. DCN sought development of best practice: aligning emerging regulations and eliminating systematic vulnerabilities in the prescribing and management of opioids. A work group, Pain Initiative Team (PIT), defined the scope, created tools/resources, and processes at four pilot sites. PIT stakeholders included: clinical providers, advanced practice nurses, pharmacists, and nurse administrators. Cancer Committees, as part of the Commission on Cancer, were engaged to provide accountability and to meet quality standard requirements 4.7 and 4.8. Following recommendations from CDC, North Carolina Board of Medicine, and Duke University Health System, the following strategies were employed: (1) optimal non-opioid pain management, (2) informed consent (IC) prior to initiation of opioid therapy, (3) prescribers, pharmacists, and delegates enrollment in relevant state prescription drug monitoring program (PDMP), (4) comprehensive staff/patient education, and (5) comprehensive assessment (CA) prior to refill prescriptions. The PIT conducted baseline assessments of pain management agreements or IC completion rates, naloxone prescriptions utilization, status of enrollment and frequency of queries into PDMP. Engaging with site Cancer Committees and key stakeholders, the strategies above were implemented in phases. Phase I addressed 1–4, and Phase 2 implemented CA prior to refills, utilizing all clinicians to full scope of practice. In three rural communities, a comprehensive nursing pain assessment visit model prior to refills was implemented. A collaborative PIT developed optimal opioid management processes with tools and education/training in 4 rural communities that effected change through engagement. Extensive communication was provided through multiple forums, including email, practice alerts, team meetings, education and site calls. Rates of IC, utilization of the PDMP, patient education, and CA have increased in all four communities. Providers, nurses, and administrators report increased satisfaction with this effort.

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SAFE HANDLING OF BODY FLUIDS POST ADMINISTRATION OF ANTINEOPLASTIC/HAZARDOUS MEDICATIONS

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It has been identified safe handling of body fluids during and after Antineoplastic/Chemotherapy administration practice lacks consistency and signage availability. Pre-survey conducted by nursing identified staff knowledge deficit regarding safe handling of body fluids post Antineoplastic/Hazardous medication administration. Lack of required personal protective equipment (PPE) and hazardous waste containers available was also identified. Exposure to hazardous medications/wastes can create health risks in individuals who handle hazardous drugs/wastes during their procurement, transport, preparation, administration, or disposal. The potential for exposure during the handling of body fluids exists for at least 48 hours after medication administration and can last for up to 7 days after the administration of some hazardous drugs. Per Oncology Nursing Society (ONS) guidelines some medications may require at least 14 days. The purpose of this project was to increase staff awareness of the importance of safe handling of body fluids post antineoplastic/chemotherapy medications. Assessment included a five-question survey for baseline data. Education initiated December 2017 with go live January 2018. Safe handling practice improvement workgroup initiated and collaborated with nurses, educators, clinical informatics, pharmacy, and supply management. Education included educational materials: SBAR, Single-point lesson sheet for clinical staff, and a Practice alert for non-clinical staff. Information shared with facility leadership team to cascade to their teams, and presentation at staff meetings and safety fair. Collaborated with supply management to increase hazardous waste containers, and chemotherapy gowns. Nursing post education survey conducted April 2018. Post-survey demonstrated a 37% increase in nursing knowledge of safe handling of body fluids post Antineoplastic/Chemotherapy administration. An increase in Antineoplastic Precaution knowledge has occurred. Continued education and support is critical in maintaining and/or improving staff knowledge. Further studies may include earlier recognition of patients on precautions and identification while moving throughout the continuum of care. Also identified the need for patient/family education regarding this topic. Final survey will be conducted October 2018.

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SAFETY CHECKLIST FOR ADMINISTERING CHEMOTHERAPY

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Administering chemotherapy medications is a serious task, altering a patient's life for good or bad, forever. It is a challenging task nurses must undertake in the midst of their daily demanding shifts. With new physicians and new nurses beginning their careers in today's healthcare industry, it is of the utmost importance to ensure safety. The purpose of this project is to improve safety during administration of chemotherapy. A computerized survey was given to the registered nurses on the unit, focusing on the circumstances and issues surrounding chemotherapy administration. The feedback from the survey indicated a need for a more formal standard routine to ensure safety. One comment read: "When giving chemotherapy in the past I have felt many many times unsafe, as well as worried for the patient since safety is the most important aspect. Interruptions are constant and orders are many times written in a mish mosh manner. A revision is needed for the future to ensure patient SAFETY." The feedback comments prompted us to comprise a list of points on which to focus, under two headings: Chemotherapy Orders and Chemotherapy Administration. The new list was used with 100% of patients receiving their treatments with zero errors. We continue to use the chemotherapy checklist, in our daily clinical practice. We will be conducting another survey in December 2018 to re-evaluate the effectiveness of implementing this checklist.

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UTILIZING PATIENT SAFETY REPORTING TO ADAPT A PRACTICE CHANGE FOR FLUOROURACIL 46 HOUR INFUSIONS VIA HOME INFUSION PUMP

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22 Patient Safety Event Voluntary Reports were reported through the UH voluntary reporting system 1st Quarter 2018 related to patient 5FU 46 hour infusions of 540 ml running dry and delivering medication as well as calculated overfill. Investigation was completed by Medication Safety Officer with Quality Nurse Coordinator to look at: (a) nursing practice for hooking up medication to patients and initiating pump, (b) pharmacy compounding and preparation practices, (c) CADD pumps function and calibration, and (d) infusion bags and equipment use. Findings of the investigation were shared with Seidman

Ambulatory leadership and physicians to implement a short term solution as well as a long term practice change. Short term interventions: Change compounding practice for 46 hour 5-FU infusions to total volume 506 mL (no overfill). Long term practice change: (a) Switch to 100 ml bags infusion with CADD cartridge throughout the system Seidman Infusion, (b) create process for regular CADD pump calibration process, (c) develop EMR order set of practice change, (d) update Standard Operating Procedure with practice change, (e) pharmacy education on of mixing and dispensing, (f) development of patient education booklet, (g) nursing education of cartridges, tubing and patient connectors, and (h) closed system transfer device utilization for home infusion as required by USP <800>. Evaluation: (a) Continue to utilize voluntary reporting to track safety concerns, (b) weekly calls lead by quality coordinating nurse with system nursing, pharmacy, EMR, CADD representative, medication safety officer, leadership, home care, nursing and patient education to report any concerns and update all on any changes to the process, (c) periodic call with disease team physicians to advise on medication protocol changes, and (d) continue PDCA cycles in weekly call to adjust practice change as safety concerns identified. Discussion: (a) Share systematic journey with ONS Congress, and (b) discuss and share ideas that other centers have implemented for home infusion pumps. Innovation: (a) Early adopters for closed system transfer device utilization for home infusion as required by USP <800>, (b) systematic approach to practice change, and (c) utilize the power of voluntary reports to make change.

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INTEGRATION OF TREATMENT CARE PLANNING (TCP) INTO THE ONCOLOGY NURSING PATIENT EDUCATION PROCESS IN A COMMUNITY PRACTICE

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The Institute of Medicine (IOM) 13 Point care plan provides the blueprint for TCP content across quality care models. Quality care measures from the Oncology Care Model (OCM) and Quality Oncology Practice Initiative (QOPI) require health care providers to actively participate in cancer care planning and communication. Chart

audits at a QOPI certified, multi-site physician-owned oncology practice in Houston, Texas revealed inconsistent treatment planning documentation. The clinical quality committee (CQC) including nurse informaticist, quality improvement nurse, and oncology nurse educators collaborated to develop an integrated TCP process with documentation retained in the medical record. The CQC recognized a need to improve processes. The team created a centralized document intended to meet all program standards. Multidisciplinary processes were revised and include designated roles and oversight. The TCP offers a proactive approach to integrate technology, reduce documentation disparities, and improve communication. The CQC dissected education and documentation processes across all disciplines. A new collaborative workflow was defined with the objective of meeting IOM standards. Improved electronic documents incorporating required fields which import into the TCP were created for each discipline. Providers enter diagnosis, stage, regimen, intent, prognosis, and toxicity discussion in the planning note. Authorization specialists enter anticipated costs in the Estimated Cost of Care (ECOC) note. Nurses and providers participate in patient education regarding disease, treatment and toxicities. Nurses audit source documentation for completion and contact the responsible party for any missing component. The nurse then creates the TCP using the content from each discipline. The TCP is printed for the patient and published via patient portal during the first treatment visit. The TCP offers a proactive approach, integrates technology, and improves documentation of patient education and treatment plan discussions. Providers, authorization specialists, and oncology nurses must collaborate to achieve cohesive documentation and to implement the process effectively. The CQC conducts ongoing audits of 50% of all new treatment starts to assess for integrity of documentation and process compliance. Since the program launched in 2016, data shows increasing adherence in TCP creation. Nurses continue patient education about intent, treatment, stage and prognosis confidently in collaboration with providers. The TCP facilitates communication between the health care team and patient concerning disease process and treatment goals.

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CLINICAL QUALITY IMPROVEMENT: A UNIQUE NURSING ROLE IN COMMUNITY-BASED ONCOLOGY

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Community oncology practices are challenged to thrive in a constricting market where hospitals and large institutions are absorbing private practices. Simultaneously, most public and private insurance plans require provider participation in increasingly complex quality care programs. National trends in nursing include quality improvement, professional development and the opportunity to practice to the full extent of education and licensure. To address national trends in a competitive urban market, a multi-office private practice in Houston, TX chose to participate in multiple clinical quality initiatives (CQI). CQI in private practice settings involve multidisciplinary participation, often with limited resources. The practice needed a leader familiar with oncology clinical competencies, practice culture, and broad health care trends which resulted in a unique nursing position titled Clinical Quality Integration Manager (CQIM). The CQIM utilizes the proficiencies of a seasoned oncology nurse to coordinate CQI. The CQIM leads the practice in participation and provides oversight for the ASCO Quality Oncology Practice Initiative, CMS Oncology Care Model, National Committee for Quality Assurance Oncology Medical Home certification, and multiple insurance Oncology Medical Home models. The CQIM established a multidisciplinary implementation and management team to rapidly gain mastery of diverse program requirements. A series of intense meetings occurred to align policies and procedures. The review revealed existing strengths and areas for improvement, as well as a need for staffing expansion to support triage and compliance. Significant process changes were launched into practice. The CQIM coordinated revision of policies, workflow and change processes across all departments in collaboration with clinical and operations administrators. To maintain adherence with CQI, the CQIM provides continuous monitoring and navigation. Assessing compliance, reviewing documentation, and managing participation status became cumbersome with program growth. Expansion of CQIM responsibilities include collaborative management with providers regarding chemotherapy regimens and implementation and monitoring of oncology pathways. Workload growth led to the incorporation of new staff and technological tools to assist with data mining, including utilization of an electronic population health management application and clinical pathway software. The CQIM encourages the interdisciplinary team to apply

quality care innovations to daily practice through CQI requirements. The advancement of the CQIM role offers an important opportunity for mentorship of the next generation of oncology nurses and can promote role expansion into quality care in a community-based practice.

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TAKE A LOOK AND USE THE HOOK: IMPROVING FOLEY CATHETER COMPLIANCE

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Research has shown that utilization of “care bundles” for urinary catheter insertion and maintenance have reduced the incidence of catheter associated urinary tract infection (CAUTI), the most frequently acquired hospital infection. These “bundles” are evidenced-based best practices implemented by nursing staff which include: frequent emptying of the foley bag; use of a securement device; eliminating kinks and dependent loops in tubing; keeping the drainage bag below the level of the bladder at all times; and keeping the bag off the floor. Upon performing foley care and maintenance, it was observed by this writer that two main factors impede full compliance with CAUTI prevention bundles: dependent loops in foley tubing and drainage bags on the floor. In addition to allowing pockets of urine to be trapped in the tubing where bacterial biofilm may form, it is suspected that dependent loops are responsible for slowing or halting drainage of the bladder, leading to increased urinary retention; thus, increasing the risk of developing CAUTI by an odds ratio of 2 to 1. Resting the foley bag on the floor is a safety hazard and a gateway to infection. The purpose of the project was to improve compliance with best-practice urinary catheter care by preventing kinking and keeping the bag off the floor. To effectively solve these problems, nursing staff of 23 on an adult inpatient oncology unit trialed a single commercially manufactured hook, designed to attach to an IV pole, on which to hang the foley bag to prevent catheter kinking and remain off the floor. The hook is durable, removable, reusable, cost-efficient, and eliminates the need to continually move the bag when the patient is transferring or ambulating. In addition to improved “care bundle” compliance, ease of use was noted while the patients were placed in special beds, performing therapy, and utilizing assistive devices. Written survey results of nursing staff were 100% positive and affirmed the quality improvement initiative. Nursing interventions have a positive effect on clinical practices and outcomes. Although

premature at this stage of our initiative, potential improvement may be measured by observing CAUTI rates. The use of bag hooks would be applicable to other oncology centers, as lowered immunity puts these patients at greater risk of infection.

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DEVELOPMENT OF ELECTRONIC, STANDARDIZED ONCOLOGY-SPECIFIC SYMPTOM MANAGEMENT ALGORITHMS TO IMPROVE TEAM COMMUNICATION AND PATIENT CARE OUTCOMES

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Within a large academic health system's high-volume cancer center, a lack of standardized nursing documentation and oncology symptom management were identified. This contributed to inefficient communications between triage, care team, and patients which led to care intervention delays. Therefore, the need to standardize care may improve patient and staff outcomes. The purpose of the project was to develop oncology-specific evidence-based computerized telephone triage algorithms within the electronic medical record (EMR) and promote integration across the health system. Six phases of implementation were identified. Phase 1: Forming charter workgroup comprised of nursing administrators, managers, and advanced practice nurses. Phase 2: 1-Conducting a baseline assessment through feedback from providers and triage staff. Opportunities for improvement in care delivery included poor utilization of inefficient hard-copy disease-specific guidebooks, management not grounded in evidence. 2-Performing a literature review and benchmarking with like-centers. 3-Designing an audit tool to analyze recorded calls for comparison with EMR documentation to identify practice variances. 4-Developing triage nursing and provider surveys to measure current practice satisfaction. Phase 3: Developing algorithms for the 5 most common symptoms and working with information technology (IT) regarding computerized algorithm development. Phase 4: Obtaining physician leadership approval on symptom management algorithms. Confirming IT build timeline of 6 months. Phase 5: Establishing go-live date for health system,

followed by expanding electronic algorithms for all other symptoms. Phase 6: Monitoring telephone audits, post-implementation surveys, and identifying outcome trends through organizational performance department. Preliminary trends justify this quality improvement project implementation as Phases 1–4 are completed. The surveys and audit tool have aided in the algorithm development and approval. It is expected that post-implementation staff survey results will indicate improved satisfaction with new care model delivery. The audit tool will demonstrate standardization and improved timeliness to interventions. Phase 5 is still being developed with anticipated full implementation in 2019. Organizational performance department will assist in identifying outcomes related to new computerized algorithms. It is expected that evidence-based triage algorithms will empower triage nurses to practice to their fullest licensure scope by providing an immediate selection of symptom management strategies. Staff have reported satisfaction while working towards collaborative goals to positively impact responsiveness to patient concerns. If successful, this project could be duplicated within other cancer centers using an EMR.

241 **EFFECT OF IMPLEMENTING CHLORHEXIDINE GLUCONATE TO REDUCE CLABSI IN IMMUNOCOMPROMISED CANCER PATIENTS**

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In the third quarter 2017, Karmanos Cancer Center (KCC) had an increase in central line infections. All of the infections were related to skin flora organisms. With the goal of zero institutional central line associated blood stream infections (CLABSIs), the nursing education department was charged with implementing daily CHG showers and baths for all patients with central lines. As a specialty cancer hospital, the majority of KCCs patient population are immunosuppressed and have central lines. Central line infections lead to an increase in length of stay, morbidity and mortality. First, a CHG product was identified that could be tolerated on transplant patients experiencing mild graft-versus host disease. After a product was identified and trialed, a policy and procedure were developed and for showering and bathing. Staff education included in-service presentations, demonstrations, posters and handouts. Training included documenting in the electronic medical record for both registered nurses and care associates. Over the course of 4 weeks, all inpatient staff were trained on the use

of CHG for baths and showers and provided with scripting for patients trying to refuse the bath. Competency was validated at the bedside. Over the course of 12 months, improvement efforts demonstrated a decrease in healthcare acquired CLABSIs (monthly average 1.0 to 0.5). From the 4th quarter of 2017 to the 2nd quarter of 2018 there were no reported CLABSIs. In April of 2018, KCC implemented CHG bathing prior to surgery. For this the department developed a unique set of teaching tools for staff to use in the ambulatory setting (discharge instruction sheets, posters, charting cues). Instructions for CHG bathing are now included in all pre-surgery education classes. To ensure use patients, are given the product at the teaching session. To keep the momentum going, hospital inquired infections are reported to leadership at daily huddles and KCC remains below benchmark.

242 **FOSTERING AND PROMOTING RESILIENT INTERDISCIPLINARY TEAMWORK FOR BED EXPANSION WHILE MAINTAINING SAFE HIGH QUALITY PATIENT CARE IN THE BLOOD AND MARROW TRANSPLANT UNIT**

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Change and growth is always a challenge. There have been many reports and concerns over the years about layoffs and hiring freezes in the inpatient setting, yet continuous debates are ongoing to support the need for adequate nursing staff to promote safe care at the bedside. The constant need to address adequate staffing and workload is a vital part of improving and promoting safe high quality patient care, maintaining patient and staff satisfaction, and quality outcomes. The purpose of this project was building and empowering an environment of teamwork, accountability and professionalism on a BMT unit in preparation for a six bed expansion. Two potential gaps identified were: (1) the need for adequate staffing to provide safe competent care to our BMT and oncology patients. For this, we hired 12 new nurses and provided tools and support for both the preceptors and new nurses, such as weekly 1:1 meetings, monthly educational in-services, support groups and town hall meetings. (2). Improve Nurse–Provider communication. The bed expansion meant extending care beyond BMT to include a general oncology population. This change required an interdisciplinary approach that included non-BMT providers. Daily bedside rounds with nursing involvement is an established culture on our unit and we needed to obtain the buy-in from

non-BMT providers. Nursing meet with non-BMT providers to establish standards to promote the culture of a cohesive nurse-physician team, including the understanding that nursing must always be a part of the daily bedside rounds to promote continuity of safe patient care. Over an eight month period, we oriented 12 competent, safe and productive RNs. The Nurse-Provider communication has been very effective and efficient and is on-going. This initiative has also had a positive impact on teambuilding and promoting an interdisciplinary care team for better patient outcomes. Based on HCAPS results, staff and patient satisfaction levels were maintained. Supporting and empowering a nursing staff in an environment that fosters and promotes cohesive and collaborative efforts to promote safe high quality patient care and better outcomes have shown to be effective. The six bed expansion and all the initiatives taken to have a successful transition have also impacted operational excellence, with more available inpatient beds, less ED waiting hours, and a decreased stay for oncology patients.

243 **EVIDENCE BASED PRACTICE STAFFING MODEL TO SUPPORT HIGH QUALITY PATIENT-CENTRIC CARE**

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Defining the appropriate nurse staffing model and workflow in outpatient oncology infusion settings is a complex undertaking, which significantly impacts patient experience and nursing satisfaction, and drives operational efficiency, growth, quality and patient safety. UCSD Moores Infusion Center, which serves the only NCI-designated Comprehensive Cancer Center in Southern California, has experienced rapid growth volumes, primarily driven by ambulatory oncology care, non-oncologic infusions, and clinical trials with novel therapeutics. Our previous workflow involved one charge nurse as the “gatekeeper” for over 110 infusion patients daily. This role involved verification of lab results, treatment parameters, order completeness, pharmacy check, and coordination with multidisciplinary clinics. Once all verifications were completed, the charge nurse would assign each patient to an infusion nurse based on chair availability, acuity, and patient schedule. This workflow generated patient wait times exceeding two hours, which were further exacerbated during the

peak hours of 1000-1400 secondary to limited chair and staffing capacities. The purpose of this project was to establish an evidence-based staffing model that would decrease patient wait times, support nursing autonomy, facilitate growth and expansion while ensuring safe, high-quality patient-centric care. A thorough review of ONS publications and collaboration with different cancer centers of similar size and complexities was undertaken. This review served to inform us of ONS guidelines related to nurse-patient ratios and acuity standards, and to identify successful and efficient staffing models in other cancer centers. Implementing a nurse to chair assignment strategy, we subsequently divided our 52 infusion chairs into 6 pods, with each pod including 3 nurses covering 8-9 chairs. This strategy allows each nurse to care for 3 patients simultaneously on average. The scope of practice of the infusion nurse was modified to embrace a primary nursing model, in which the treating nurse is now responsible for reviewing their patients' charts, evaluating labs and collaborating with the multidisciplinary team for optimized care coordination. Since implementing this model, a 50% reduction in patient wait times has been observed, including during peak hours. In our first month, we only reached maximum capacity once, whereas this was a daily occurrence with the prior workflow. Future directions include rigorous evaluation of the sustainability of this new model and how it directly impacts operational efficiency, patient safety and experience, and nursing satisfaction.

244 **CHEMOTHERAPY TRANSFORMATION FROM INPATIENT TO THE AMBULATORY SETTING. COMPLIANCY, CARING, CURING, COST, CHAOS**

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Health care policies change daily. Healthcare facilities search for ways to manage their admissions and ambulatory care in a cost effective way. A university county hospital moved from a large hospital to a smaller facility. It was assumed the affordable health care act would change the schema of our work load, not the case. Downsizing cost 40% loss of oncology inpatient and ambulatory infusion clinic beds. Chaos ensued while both areas tried to manage their patient population, staffing and space. A team of oncology nurses and Physicians were established to develop interventions to improve performance, stop treatment delays and free up expensive inpatient beds. Our performance

improvement included several stages. Stage one, was the most difficult. Educating Administration on the need for expanding the infusion clinic space, adding additional nursing (including Navigators) staff, and improving computerized systems. Stage 2 included the remodel of the infusion clinic, hiring of staff, additional staff education and a review of treatments to transition to the outpatient setting. Stage three, the transformation from inpatient to the ambulatory setting. It took about two years to stabilize the transformation. A chaotic journey for the nursing staff. In the end lessons learned included. Upfront Identification of patients not appropriate for the ambulatory setting was a mandatory safety issue. New grads were not a good choice for the infusion clinic. Nurse Navigators are priceless. Only having chemo certified RNs handle the scheduling system, maximize chair space. Nursing administration realized how complicated this patient population was and became more generous in their support to meet the needs of this patient population. Additional education programs were allotted for the staff on symptom management. Open inpatient bed space decreased delays in inpatient treatments and saved critical dollars. At this time we are still dealing with a rapidly growing patient population. Still working on hiring experienced staff and developing more space in the infusion area. The chaos and cost have downsized. Treatment compliancy, caring and curing improving with each day.

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WE ARE STRONGER TOGETHER: CO-MANAGEMENT OF ONCOLOGY QUALITY IMPROVEMENT PROJECTS

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Quality improvement (QI) involves participation and collaboration from many health care team members. This includes nurses, physicians, and clinical/support staff. At this large private hospital-based academic cancer center we collaboratively strive to improve the reliability of our systems, structures, and processes vital to provide a safe environment, operate within a “just” culture, optimize patient/family involvement in care, and meet regulatory requirements. Nursing leaders identified a need to improve the delivery of clinical care and enhance patient experiences. A Co-Management (CM) QI program was developed to integrate clinical and administrative management to align the interests of the hospital and physicians.

The primary goal is to achieve significant quality and performance improvement in clinic operations and patient satisfaction. A secondary goal is to implement a single standard of care for multiple oncology conditions across medical, surgical, and radiation oncology clinics. The CM-QI program contract is created each year between the hospital and each physician group (medical, surgical, and radiation oncologists). QI Indicators are selected and defined, and the desired measurable outcomes set. For example, indicators may address processes affecting patient safety and quality of care. A measurement period is identified and monthly dashboards are posted indicating team progress (e.g., process is 50% developed). Teams meet regularly with nurses as facilitators and a designated physician as the leader. Additional team members include assigned clinical and support staff. Between the years of 2012–2018 over 50 QI projects have been completed. Greater than 80% of the projects have met the desired measurable outcome and greater than 70% of the projects have been sustained year over year. In medical oncology there are five CM-QI teams. In the early stages of these teams the nursing participation in relation to the physician participation was unbalanced. In 2018 the physician team leaders have taken ownership of the QI projects as evidenced by 100% participation. The subsequent success of the CM-QI program is the positive relationship between nursing leadership and physicians to collaboratively reach this high rate of success. Providing physicians QI opportunities to collaborate with the healthcare team gives them a voice in clinical hospital operations, ensures favorable outcomes for clinic operations, and positively impacts patient, nursing/employee, and physician satisfaction.

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BEST PRACTICE MEDICATION RECONCILIATION IN THE OUTPATIENT SETTING

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Medication safety is a focus of the Joint Commission's National Patient Safety Goals and as such is a priority in all healthcare settings. Research supports improved medication reconciliation as a strategy to reduce medication errors and adverse drug events. In a busy, outpatient hematology-oncology clinic where patients are routinely considered for high-risk pharmaceutical therapies, a thorough, ongoing medication reconciliation process is essential for patient safety and positive health outcomes. The purpose of this project was to

improve consistency of medication reconciliation in this high-risk outpatient setting. Based on a gap analysis between evidence-based and current practice, a medication reconciliation quality improvement intervention was implemented to increase patient engagement in the medication reconciliation process. Reminder prompting to come to appointments prepared to review medications was added to automated appointment reminder calls. Additionally, verbal cues to patients along with a printed copy of the medication list in their health record were added to the check-in and rooming process. A report was created to capture whether medication reconciliation was completed at the same time as provider-patient visits. By utilizing the number of completed reconciliations per number of completed provider-patient visits, a rate of reconciliation completions was calculated. Prior to implementation of this quality improvement project, medication reconciliation completion rates were calculated at an average of 35.6% over the three months prior. During the six-week intervention period, reconciliation rates improved in the range of 4.4–10.7% over that of the pre-intervention average rate. Medication list completeness and accuracy, however remain a challenge. Increased patient engagement showed a positive effect on medication reconciliation completion rates in the outpatient setting, though not enough to surpass the goal of at least 50% reconciled. Further interventions, including perhaps training of staff to improve competency for how to complete a thorough and comprehensive medication reconciliation is warranted.

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STANDARDIZING PATIENT EDUCATION IN RADIATION ONCOLOGY: A MULTIDISCIPLINARY QUALITY IMPROVEMENT PROJECT

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There will be an estimated 1.7 million new cancer cases diagnosed in the United States in 2018. Nearly two-thirds of cancer patients receive radiation as part of their treatment plan. Radiation is a complex modality with potential debilitating treatment-related side effects. Patients may have limited knowledge about radiation, including treatment-related side effects and how to manage them. The American Society for Radiation Oncology's (ASTRO's) Accreditation Program for Excellence (APEX) standards mandate that patients are educated in the management of treatment-related side effects. Education should continue from consultation throughout treatment.

Multidisciplinary team members (oncologists, residents, radiation therapists, RNs, advanced practice providers) provide this education at varying time points in the process, necessitating the provision of consistent, standardized education. The purpose of this project was to develop a standardized patient education process in a Comprehensive Cancer Center's radiation oncology department, minimizing variability in the management of treatment related side effects. The education process includes the assessment of a patient's learning needs, abilities and preferred learning methods, as well as the provision of standardized, evidence-based information regarding the management of treatment-related side effects. A variation in the pre-treatment patient education process, including who is providing patient education and the content of the education was identified by the radiation oncology department. Guided by the FOCUS/PDCA quality improvement method, a multidisciplinary team of department members was formed. Seeking input from department RNs and radiation therapists, the current education process was clarified. Fifteen charts representing faculty oncologists, all disease sites and radiation treatment modalities will be audited by the team for documentation of learning assessment, content of education and identification of department member providing the education. The team will evaluate the findings to understand variation in the education process and content of the education and identify a root cause. Improvements will be selected based on these findings and implemented. Results of the implemented improvements will be checked by performing a post implementation chart audit utilizing the same parameters. Patients receiving radiation therapy will receive standardized education about their treatment from all department members, including potential treatment-related side effects and how to manage those side effects. Oncology nurses play a key role in learning assessment, patient education and providing evidence based side effect management.

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CERTIFIED BREAST CARE NURSE (CBCN®) COORDINATOR LED INITIATIVE TO IMPROVE THE NEW BREAST CANCER PATIENT EXPERIENCE THROUGH A MULTIDISCIPLINARY APPROACH TO CARE

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At Smilow Cancer Hospital Breast Center, a National Cancer Institute designated Comprehensive Cancer Center, 5 breast surgeons and 7 medical oncologists see over 1,500 new cancer patients each year. A breast cancer diagnosis can be overwhelming and patients are often stressed and overcome by fear of their breast cancer diagnosis. After multiple appointments over several days, patients walk away confused and overwhelmed by information provided by different specialties. Based on patient feedback, a plan to streamline the initial patient visit was established. A Multidisciplinary pilot was initiated. In place of multiple appointments on different days the Certified Breast Care Nurse (CBCN®) Coordinators (NC) organized same day multidisciplinary appointments. The NC scheduled the appointments, provided education about the diagnosis and what to expect at the visit while providing support. The team, comprised of a medical oncologist, breast surgeon and radiation oncologist reviewed the patients' medical records and agreed upon a plan of care. The Multidisciplinary team completed the consultation, shared their recommendations and collaborated with the patient for treatment. The NC played a critical role in providing patient education and emotional support during the Multidisciplinary visit. Patients were asked to complete a satisfaction survey. Multiple providers were involved with the patient at the same time which created confusion. An alternative approach was for providers to have their own scheduled appointment on the same day. The patient would visit the radiation oncologist after they completed surgery unless radiation therapy was in question or patient request. Twelve patients completed the survey and 12 (100%) were in favor of continuing the multidisciplinary appointments. According to the survey, anxiety was reduced and decision making was enhanced. Treatment recommendations occurred concurrently decreasing confusion and overload. The time from biopsy to surgery was decreased from 28 days to 20 days and time from initial appointment to surgery decreased from 19 to 14 days. The feedback was positive from both the patients and providers. The NC led initiative improved the patient experience, decreased time to surgery and provided a personalized and timely approach to treatment. This significant shift in the delivery of care was a positive experience for both the patient and the providers which led to a new model of care in the Breast Center.

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THE ACT OF BEING PRESENT: IMPROVING SURGICAL ONCOLOGY CARE AT A COMPREHENSIVE CANCER CENTER

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Recently, patients expressed concerns and dissatisfaction about not seeing any staff members at 05:30 in the morning as they waited with their family members to be checked in for surgery. Patient's stated that they were not sure if they had been directed to the correct area, because no one was present to greet them. Instead of being greeted by a warm and caring smile, families and patients were met by an empty front desk. This raised concerns among staff about the quality that was not being delivered when a team member was not present. The problem was apparent, our team members needed to be present both physically and emotionally for our oncology patients, especially prior to surgery. The oncology perioperative staff met with the volunteer department and collaborated on ways to improve our staff's presence in the surgical waiting area. The idea was to have trained volunteers to be the hub of communication, supportive and provide presence. The purpose was to have an individual present at all times for family and patients, thus improving patient centered care. Collectively, the volunteer director and the perioperative educator created a job description and training program for the volunteers. Once the training was completed, our volunteers took their place as front desk navigators and assisted patients and family members by escorting them onto the surgical unit, answering questions, contacting the OR for updates and being present for the patient and their families. Surveys were utilized to reflect the need of having staff present prior to surgery and after to improve overall patient satisfaction. Many patients and family members expressed having staff present improved their overall waiting experience. They expressed that their needs were met and overall satisfied. The anticipation of surgery can be daunting. The anxiety of the unknown unwavering and lonely for some of our patients. Having trained individuals present for our patients prior to surgery can make the difference in patient outcomes and quality of care. Creating a volunteer training program to support specific specialties such as, perioperative services, can greatly support patient centered care and overall improve the quality of care by improving patient satisfaction scores. The process requires collaboration, ingenuity and mindfulness.

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USING A FALL CHECKLIST AS A SAFETY DEFENSE AGAINST HOSPITAL FALLS: RESULTS OF A 30-DAY PILOT STUDY

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Comprehensive fall prevention interventions are meant to be safety defenses against hospital falls. Prevention interventions can be helpful if used consistently. However, during clinical rounds at a teaching hospital, it was noted that implementation of all components of the hospital's fall prevention protocol was inconsistent. This process improvement (PI) initiative was undertaken to promote patient safety by improving adherence to the hospital-approved fall prevention protocol. Specific aims of the initiative were to evaluate the impact of introducing a "Falls Prevention Checklist" (FPC) on: (1) the adequacy of implementing fall prevention standards of care and (2) the incidence of falls on participating units. A 30-day PI pilot study was conducted to evaluate the effect of the FPC on fall incidence. Data were collected on day and night shifts. Thirty-seven staff members participated in the pilot study and completed 90 FPCs. Of the 90 FPCs completed, incorrect bed alarm settings occurred 19% (n = 17/90) of the time; the prevention intervention missed most frequently. There were no patient falls during the pilot study. By using the FPC, frequently missed prevention interventions were identified as areas for improvement in the hospital fall prevention program. In addition, falls incidence rates declined sharply during the pilot study compared to the three previous months. It seems reasonable to think that the zero falls occurring during the pilot study contributed to the decrease in fall rates. An insight that came from this study was the observation that within the institution there seems to be a steadfast allegiance to the one-size-fits-all approach to fall prevention. However, nurses who participated in the survey consistently reported that the reasons their patients fell could not be captured by using a checklist of conventional prevention interventions. Instead, the nurses believed that patient-specific factors, such as medications, were a contributing factor that needed to be reported during shift handoffs. A more comprehensive test of the FPC impact on fall prevention is needed. In moving forward, the falls checklist will be modified to allow for reporting and documentation of patient-specific risk factors during change of shift handoffs.

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IMPROVING THE MANAGEMENT OF EMERGENCY SITUATIONS IN AN OUTPATIENT INFUSION CENTER THROUGH MOCK CODE SCENARIOS

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Code blue situations and infusion reactions are realities in outpatient infusion centers. A code blue poses several unique challenges to the Bing outpatient infusion center, due to, access to resources, knowledge, comfortability and location. These situations occur so infrequently that staff do not get the opportunity to practice the process or their skills. This poses a significant safety risk to patients and decreases staff confidence in their abilities. Infusion reactions occur more frequently, allowing staff to streamline the process and build on knowledge. Through discussion and survey, specific insecurities were uncovered, which highlighted areas in need of improvement. It was found that most staff felt uncomfortable with the overall management of a code blue and infusion reaction, as well as the supplies and medications required in each process. The percent of new nurses in the infusion center did contribute to higher percentages of overall insecurities. To clarify and improve the management of these emergency situations, staff participated in two mock scenarios, along with being provided supportive resources in the form of a power point and flowsheets. A pre and post exam were given to assess learning and facilitate conversation and change. As a result the infusion center has implemented several new changes that greatly impact the management of a code blue and infusion reaction, staff confidence and patient safety.

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SURVIVORSHIP CARE PLANS: A PROCESS TO COMPLY WITH ACCREDITATION STANDARDS

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American College of Surgeons (ACoS) accreditations, Commission on Cancer (CoC) and the National Accreditation Program for Breast Centers (NAPBC), include standards requiring that a Survivorship Care Plan (SCP) be created and delivered to each patient receiving curative treatment within one year of cancer diagnosis and no later than six months after completion of adjuvant treatment (other than long-term hormonal therapy). The Comprehensive Breast Health Center (CBHC), a division of UCSD Moores Cancer

Center, one of 49 NCI-designated comprehensive cancer centers, was not meeting this standard. Recent changes to accreditation standards allow registered nurses to create and deliver SCPs. The standards require that 50% of patients receive a SCP soon after the completion of active treatment. Prior to project initiation, July 2016–June 2017, 45 SCPs were created and 25 were delivered (5.5% of eligible patients). This project was initiated to create a simple, sustainable process to improve compliance, meet accreditation standards and ultimately improve patient care. The CBHC Nurse Navigator initiated an interdisciplinary root cause analysis. A plan of action included the following: assessment of SCP requirements, interdisciplinary collaboration to create a sample SCP document, partnership with information technology nurses to build an electronic medical record template, crafting a sustainable SCP workflow, and working with cancer registry analysts for monthly performance reporting. From July 2017 to June 2018, 529 SCPs were created and 200 were delivered (37% of eligible patients), an improvement of 31% over baseline. During the accreditation audit, 100% of randomly selected charts had a SCP. The CBHC is on track to be compliant with CoC/NAPBC standards, and receive reaccreditation, by the end of calendar year 2018. Oncology Certified Nurses (OCNs) are at the forefront of the SCP compliance initiative, comprising > 80% of staff creating and delivering SCPs. Many dynamics have contributed to the success of this project. Paramount were: having a “champion” to foster the initiative, extensive staff education and nurturing staff “buy-in.” The Nurse Navigator served as “unit champion,” providing leadership, education and coaching; OCNs quickly endorsed the project, recognizing how SCPs could improve patient outcomes. Next steps will include monitoring patient outcomes and compliance to recommendations in SCP. Utilizing technology and a multi-disciplinary approach where key to the successful implementation of this project.

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WHERE ARE MY CANCER SURVIVORS? A SYSTEMATIC METHOD FOR CANCER SURVIVORSHIP CASE FINDING WHEN CANCER REGISTRY DATA ARE UNAVAILABLE

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Commission on Cancer (COC) Standard 3.3 requires survivorship care plans (SCP) be delivered to >50% of eligible patients within 6 months of completing definitive treatment for cancer. One barrier to meeting this goal is timely identification of eligible patients,

particularly if cancer registry data are unavailable. This analysis assessed completeness of case finding utilizing readily available, real-time data sources to identify patients potentially eligible for SCP. Data sources used for cancer survivor identification include tumor board notes, survivorship consults, pathology reports of malignancy, infusion and radiation oncology clinic schedules, and the cancer navigation database. Urologic cancers were excluded as survivorship was provided within Urology clinic. Data sources were queried by the Survivorship nurse practitioner every 1–2 months to identify cancer patients who were then tracked in a database. Chart reviews confirmed SCP eligibility and appropriate timeframe for patient outreach. Patients were offered an appointment 1–2 months after completing treatment. This patient list was compared to tumor registry cases from 2016 to assess case finding completeness for that year. In 2016, queries of available data sources identified 388 cancer patients, 85 of whom were eligible for cancer survivorship care plans. The tumor registry reported 602 non-urologic analytic cases in 2016, 208 of whom were recorded as meeting eligibility criteria for survivorship care plans. The queries above had identified 158 of these patients. An additional 22 patients from the registry did not meet criteria for SCP (advanced cancer stage, palliative treatment intent, or no treatment received); 2 were duplicates. Twenty-six eligible patients were not identified, the majority of whom had melanoma (73%). Overall, 117 patients were eligible for survivorship care plans in 2016 according to the tumor registry and 53 were delivered with 32 patients declining. The survivorship care plan completion rate per COC standard 3.3 was 62%. Care plans were provided within 6 months of completing cancer treatment for 71% of patients who received them. On review, melanoma was inadvertently excluded from the pathology query; this has now been corrected. When real-time cancer registry data are not available, other data sources can effectively identify cancer survivors. Tumor registry data may overestimate the numbers of patients eligible for a survivorship care plan and require a careful review prior to COC compliance reporting.

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APPLICATION OF TEAMSTEPS IN THE PROCEDURE SUITE OF AN AMBULATORY COMPREHENSIVE CANCER CENTER

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Oncology patient care in the Procedure Suite of a busy ambulatory comprehensive cancer center (CCC) is

delivered by a multi-disciplinary team with specialized knowledge. Ineffective teamwork and communication can contribute to breakdowns in patient safety and diminished clinical outcomes. Dysfunctional teamwork is often the cause of preventable medical errors as noted by the IOM. TeamSTEPPS was developed by the Department of Defense's Patient Safety Program in collaboration with the Agency for Healthcare Research and Quality and focuses on training healthcare teams to achieve improved communication and teamwork skills. The purpose of this project was to utilize the TeamSTEPPS model key tools of communication and teamwork to increase the culture of safety for the Procedure Suite multi-disciplinary team. A Steering Committee (SC) was convened to assess and plan for addressing the unit culture of safety. The SC completed master training in TeamSTEPPS methodology. The Team Perception Questionnaire (TPQ) on perceived teamwork and culture of safety was administered and results were used to determine training priorities. TeamSTEPPS communication and teamwork tools were taught to the multi-disciplinary team during an interactive off-site mandatory training. Yearly administration of the TPQ will be done to evaluate the perceived culture of safety and compared year over year for current state analysis of the team. We will also obtain qualitative feedback on implementation of TeamSTEPPS tools during internal continual readiness procedure tracer audits. Issues with communication rank in the top three most frequently identified root causes of sentinel events reviewed by JACHO. Training for team members on how to work together is required for truly effective teams. TeamSTEPPS provides a training process that focuses on four skills to improve team effectiveness: leadership, situational awareness, mutual support and clear communication. The literature on TeamSTEPPS is reported primarily in hospital settings. This project adapted the TeamSTEPPS tools to the special needs of a procedural area in an ambulatory comprehensive cancer center environment. The combining of teams from the Quality Department and the Procedure Suite created a collaborative team that further demonstrate the importance of interdisciplinary team training and positive institutional culture of safety.

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DESTINATION FINANCIAL EASE: DECREASING FINANCIAL TOXICITY BY USING COPAY ASSISTANCE AND GRANT PROGRAMS

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Financial toxicity is becoming a newly recognized phenomenon associated with cancer care. This toxicity can lead to non-adherence to treatment plans, medical debt, bankruptcy, distress, and can be associated with poor outcomes. Additionally, this toxicity can lead to increased hospital charity utilization. There are programs available to assist both insured and uninsured patients with the costs of some medications and treatments. Many of these funds, especially the pharmaceutical copay assistance funds, continue to be underutilized. At Baylor Scott and White Medical Center Vasicek Cancer Treatment Center (BSWVCTC), it was identified that roughly 99% of patients were not screened for available assistance programs. Approximately half of the patients seen at BSWVCTC potentially qualified for a copay program. Additionally, there were grant programs for Medicare patients that were also untapped by this facility. There was a financial counselor (FC) available, but her primary role involved enrolling qualified patients into hospital charity care. The initial step to implementing a copay assistance program was to identify what programs were available. Various drug representatives were contacted to learn about their programs, including any look-back that was available. Staff attended a Financial Advocacy Boot Camp to learn about financial advocacy. Infusion room schedules were reviewed to identify current patients that qualified for copay assistance programs. All new patients were scheduled to meet with the financial counselor, sign a release of information for assistance programs. To assist the financial counselor, the nurse navigator (NN) was cc'd in every infusion chair request to review for copay programs and would forward appropriate patients to the FC to complete enrollment. All patients now meet with the FC prior to initiating treatment to screen for available assistance programs, including copay programs and grants. Enrollment in these programs not only assists the patients, but also guarantees reimbursement to the facility. Added benefits include: denial assistance for enrolled patients, timely identification of unfunded patients for drug replacement programs, and identification of underinsured Medicare patients that also qualify for free drug from programs. Next steps include adding an additional FC, removing the NN from the chair request process, and development of a work que for patients enrolled for EOB submission. By utilizing available programs, both the patients and the facility benefit.

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A COLLABORATIVE APPROACH: REDUCING PRESSURE INJURIES IN HEAD/NECK AND PLASTIC SURGICAL ONCOLOGY PATIENTS

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With pressure injuries (PIs) occurring after as little as 15 minutes without pressure redistribution, surgical oncology patients are at high risk for skin injury. Patients can be in the operating room (OR) for several hours with procedures ranging from hemipelvectomy and cytoreductive surgeries for sarcomas to tracheostomies for patients with head and neck cancers. In a National Cancer Institute-designated comprehensive cancer center a review of current pre-operative skin assessment tools, intraoperative prevention, and management of post-operative patient care were evaluated in an effort to identify evidence-based practices to reduce PIs among oncology patients undergoing surgeries of greater than 3 hours. The aim of this quality improvement initiative was to evaluate the occurrence of PIs in our surgical head and neck patient population and examine both assessment tools and interventions to reduce their occurrence. This abstract presents results related to the use of a prevention pad in the pre-operative setting to reduce pressure injury intra- and post-operatively. A nurse-led interprofessional team consisting of collaborators from perioperative services, materials management, head and neck oncology, and thoracic surgery reviewed internal data as well as the literature to identify trends in PIs and preventative interventions. The team reviewed data of patients who developed an intraoperative PI over an 18 month period (September 2016–January 2018). The average time under anesthesia was 11.6 hours for 72 patients for whom intraoperative PIs were reported (all stages), of which 12 involved stage 3 or greater sacral injury. Based on the literature, adhesive pressure pads, pressure mapping, and pressure redistribution mattresses were introduced as part of this initiative. In a pilot period from May 2018–July 31, 2018, 92 patients received the prevention pad to the sacral area. The average intraoperative PI rate was reduced by 37% from 1.6 per month to 1 per month following implementation of the prevention pad, with one stage 3–4 PI occurring during the pilot period. Pressure mapping suggests that while the dressing does not reduce pressure it appears to reduce moisture and shear which are identified contributors to

pressure injury. Among oncology patients undergoing prolonged surgeries, interventions to reduce pressure injury should be implemented and standardized across the peri-operative enterprise to improve quality outcomes for patients.

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DEVELOPMENT AND DISSEMINATION OF SURVIVORSHIP TREATMENT SUMMARIES AND CARE PLANS USING ELECTRONIC HEALTH RECORD SYSTEMS

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The *Red Flags for Cancer Survivors* report, a guide for managing survivors, posits that comprehensive treatment summaries and follow-up plans, i.e. survivorship care plans (SCPs), may improve survivor's outcomes. Appropriate electronic health records systems (EHRS) to facilitate data abstraction and mining to generate these documents are limited. This analysis sought to assess advanced practice providers' (APPs); i.e. advanced nurse practitioners and physician's assistants, 1) use of EHRS to develop and provide treatment summaries and care plans to disease-free survivors and 2) adoption of providing these documents to survivors. An interdisciplinary team was formed to identify whether the institutional EHR system could extract data for integration into internet-based SCPs. eEnhancements were made to an institutional off-the-shelf EHRS (EPIC) to auto-populate demographic and clinical characteristics to a generated care plan which included a treatment summary and survivorship care plan. SmartLinks were used to transfer data from the EHR to the care plan platform. APPs created the SCP during scheduled clinic visits. SCPs were reviewed by clinicians who manually populated blank or missing data fields. Electronic routing functions which interfaced with the medical records department, facilitated distribution of TSS to the survivor's community-based provider. For this analysis, electronically generated SCPs were stratified by treatment summary template, clinic, and provider. From 2016 to 2018, a steady growth in the completion of SCPs occurred with a total 3476 SCPs completed across 12 survivorship clinics. Of these

2896 (83.4%) were completed by APPs and 547 (16.6%) by MDs. Clinics with the 3 highest rankings of completed SCPs were thoracic (736), lymphoma (508), and thyroid (485). Dissemination of SCPs included distribution of 2344 to survivors and 1341 to primary care providers. Our findings suggest creating a reliable interface between an existing institutional EHR system and electronically generated SCP encouraged clinicians to complete SCPs. Results also show that APPs had greater participation in completing SCPs. Advanced practitioners with expertise in both survivorship care and informatics have an essential role in the design of such systems. Ongoing advances in EHRs' capabilities may contribute to better adoption and distribution of SCPs when electronic systems can autopopulate critical data needed to generate internet-based SCPs. Further research is warranted to identify universal data elements that can easily fit across different electronic health record systems.

258 **THE IMPORTANCE OF BUILDING RESILIENCY AND FOCUSING ON SELF-CARE IN NURSES WHO WORK WITH ONCOLOGY PATIENTS**

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Oncology is an area of nursing that is immensely challenging to the body, mind, and soul. Nurses who work with oncology patients are proven to be amongst the highest rates of compassion fatigue and burnout in the nursing profession. Literature shows that compassion fatigue and burnout can negatively impact nurse's health, turnover, and job performance. The purpose of this project was to implement a mandatory self-care and resiliency program which allows nurses to choose between multiple options to design their personal self-care package. A mandatory self-care and resiliency program was developed to allow nurses to choose between multiple options for their personal self-care. Every package included at least one in person class and one self-led activity. Examples included courses such as power of reflection, team building- getting to know your strength, compassion fatigue, and stress management. A pre-implementation survey (n=83) indicated that work stress impacts nurses food, alcohol, exercise, and relationship choices. The survey also indicated that work stress effects nurses ability to cope with stress, to sleep, and to participate actively in their lives outside of work. Nurses were introduced to the project and then were given six months to complete and submit documentation. A post-implementation survey (n= 68) indicated that the mandatory resiliency and self-care project

increased nurses work/life balance and their ability to deal with stress. 77% agreed or strongly agreed that the self-care education requirement increased their ability to be more resilient in the nursing profession. It is important that nurses know that management values their health just as much as they expect nurses to value the health of their patients. When leadership invests in the well-being and development of their staff it directly affects the care of our patients. Happier, healthier, and more resilient nursing staff will provide patients with a higher level of service and care.

259 **IMPLEMENTING AN EPIC BASED STANDARDIZED COMMUNICATION PROCESS SPECIFIC TO CLINICAL TRIALS**

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A lack of a consistent communication method related to clinical trial requirements and study visit scheduling was identified as a system failure causing treatment delays, missed appointments, missed research data points, and protocol deviations resulting in increasing staff and patient frustration. To strengthen the communication and scheduling processes, a standardized tool and process was developed utilizing the EPIC Research Tab. The purpose of this project was to create a reliable source of clinical trial related information on each individual participant, accessible to all clinical and study staff resulting in a streamlined and effective process. A standardized EMR research communication tool was implemented providing a mechanism of communication for all study specific information from the clinical trial staff to the care providers. The Research Tab and processes were implemented using a team approach led by research nursing that included research coordinators, clinic nurses, infusion nurses, and scheduling staff. Multiple education and training sessions were conducted prior to implementation to educate staff on the importance of the Research Tab. After implementation, continuous reviews and reporting sessions were conducted in an effort to provide feedback and further fine-tune processes. The nursing staff, coordinators, and Research Nurse collaborated with the aim of achieving the accuracy and completeness goal of 100%. Measurement of metrics via chart review began 3 months after go-live for each scheduled CT patient visit and included: the percentage of updated research tabs; study calendars in the standardized format; and study visit type used. Within 5 months of go-live

overall compliance was at 98% for research tabs; 52% for study calendars; and 30% for study visit type. At 8 months compliance increased to 100%, 91% and 59%; respectively. The implementation of a standardized communication tool and process within the EPIC EMR has provided a consistent method of communicating critical CT information to the entire team. The improved communication process facilitated the development and implementation of a dedicated clinical trial infusion pod which has further streamlined patient care. Future research should include identifying gaps or risks to the system at various points due to the complex communication processes. A standardized tool and process for communicating clinical trial specific information was created utilizing the EPIC EMR to provide information to the entire study team in real time.

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AVOIDABLE? PATIENT EDUCATION AND INTER-PROFESSIONAL COLLABORATION TO DECREASE ED VISITS AFTER OUTPATIENT INFUSION TREATMENT

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Hospital encounter (ED or inpatient) after cancer treatment is emerging as a key quality indicator in oncology care. Although not yet incentivized by the Centers for Medicare and Medicaid Services (CMS) like congestive heart failure and pneumonia, oncology professionals would be wise to proactively examine their role in preventing avoidable emergency department (ED) visits and inpatient admissions. Nursing may play an important role in preventing those visits through patient education, symptom assessment, and proactive management of probable treatment complications. The purpose of this project was to decrease ED visits in cancer patients within 30 days of outpatient infusion treatment. Interventions: (1) Develop report to track ED visits within 30 days of treatment. Visit reasons include symptom management, treatment complications, and pain. (2) Conduct literature review and select intervention. (3) Propose pre-treatment education session for new infusion center patients. Historically, education was provided during the first infusion visit—increasing anxiety for patients and workload for nurses. (4) Meet with inter-professional

oncology team to identify information to include about available services: Physical Therapy, Registered Dietician, Physician, Social Work, Nurse Navigator. (5) Identify patient characteristics that could trigger recommendations for proactive referrals to supportive care services: malnutrition, history of falls, and uncontrolled pain. (6) Organize pre-treatment education materials. (7) Develop symptom summary document—the ZONE Tool for Oncology Patients. It is a one page, large font, color-coded self-assessment tool with instructions on when to call the oncologist and is available in English, Spanish, and Armenian. (8) Propose plan to cancer committee. Plan approved as 2018 Commission on Cancer Accreditation Clinical Goal. (9) Educate oncology nurses to use the ZONE Tool. (10) Implement pre-treatment education session. (11) Work with main referring oncology practice to encourage attendance at education session and use ZONE Tool in their practice. Laminated copies hung in exam rooms. (12) Monitor education session attendance and patient reasons for declining. Evaluation: 2018 ED visits are being analyzed quarterly and compared against 2017 quarterly rates. Preliminary results are promising, including an increase in calls to oncologist office resulting in outpatient hydration visits. IRB application in process to access individual patient charts to (a) examine reasons for ED visits and (b) determine impact of program. Discussion: Focused education by oncology nurses and inter-professional collaboration may decrease avoidable ED visits in patients receiving outpatient infusions for cancer

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MORE THAN JUST A BATH: BARRIERS TO CHLORHEXIDINE GLUCONATE BATHING ON AN ADULT HEMATOLOGY/ONCOLOGY/BONE MARROW TRANSPLANT UNIT

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Central-line associated bloodstream infections (CLABSI) are a critical health concern especially in high risk populations such as oncology/bone marrow transplant (BMT) given the number of central lines and sometimes prolonged, severe neutropenia. Despite limited data in this high-risk group, clinical evidence strongly supports the use of chlorohexidine gluconate (CHG) bathing in the prevention of CLABSIs. Using evidence-based quality improvement practices, our facility used line care bundles to decrease the incidence of CLABSIs. Bundles included: dressing, line,

and cap change protocols, use of sterile techniques for all line care involving caps and dressings, and daily hygiene with chlorhexidine gluconate. CLABSI occurrences were reduced but not eliminated. One critical element of CLABSI prevention that showed decreased compliance was CHG skin treatments. To address this gap, we used the model for change to evidence-based practice established by Rosswurm and Larrabee to identify and eliminate barriers to compliance of CHG bathing on an adult hematology/oncology/BMT unit. Based on the research evidence, three main barriers were identified: 1) lack of knowledge pertaining to the severity of the problem of both line infection risk and compliance to CHG use, 2) lack of communication including patient handoff and documentation, and 3) and lack of patient education. Phase one of the project assessed both the need for and barriers to change in practice using staff and patient surveys. The goal was to establish gaps in perception and knowledge. The second phase was to educate staff and patients highlighting barriers to use and key communication actions (such as documentation, patient education, and patient handoff). Line infection rates were compared to CHG compliance using chart auditing of daily routine care. The last phase of the project was to maintain compliance by obtaining patient and staff feedback, continued chart audits, and communication with nursing and provider leadership. This strategy brings all stakeholders to the table and improves the longevity of compliance. Ultimately, we hope to improve staff-to-staff and staff-to-patient communication to have a more rigorous conversation about central line infection prevention, which will improve patient outcomes.

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KEEP CALM AND OCM ON . . . THE ROLE OF NURSES IN ONCOLOGY CARE MODEL IMPLEMENTATION

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The Oncology Care Model (OCM) is the first CMS bundled-payment program for oncology. The overarching goal of the OCM is to provide higher quality, better coordinated care to cancer patients at a reduced cost to Medicare. Under the OCM, Medicare fee-for-service beneficiaries trigger 6-month episodes

of care upon the administration of chemotherapy or hormone therapy. Nurses have been engaged in nurse-sensitive OCM quality measures for the purpose of increasing overall quality of care for patients and compliance with the CMS guidelines. There are nurse-sensitive patient outcomes that are directly correlated with OCM quality measures. Office practice nurses are educated about the OCM and how it impacts the health system. Medication reconciliation: By adding the “Med Rec” tab to the homepage on the EPIC schedule, we are able to see if the medication reconciliation was completed. We are able to toggle the ‘Yes’ and ‘No’ to see if it has been done within the proper timing of 24 hours. Pain scores: By adding the “Pain Score” tab to the homepage on the EPIC schedule, we are able to see if the pain score was documented on the patient. If the pain score is greater than 0, we then review the chart for the plan of care for pain. Plan of care for pain: Every patient should have a pain score, while those with a pain score greater than 0 should have a plan of care for pain. Evaluation: Total cost of care and quality measure results are measured in 6-month performance periods. Calendar year 2017 included OCM performance periods two and three, while 2018 includes performance periods four and five. Mount Sinai has experienced an increase in the following quality measures after implementing the interventions described above: Pain Score (94% in 2017 to 97% in 2018 and 94% in 2017 to 98% in 2018), Plan of Care for Pain (13% in 2017 to 82% in 2018 and 9% in 2017 to 73% in 2018), and Medication Reconciliation (79% in 2017 to 89% in 2018 and 65% in 2017 to 81% in 2018). Oncology nurses are identified as key members of the care team that have a significant impact on adherence to clinical quality metrics, including those required for the OCM.

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OUTPATIENT ONCOLOGY: FALL REDUCTION STRATEGIES

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Falls are an ongoing concern throughout the healthcare industry. Many patients in ambulatory infusion centers

have diseases that impact the strength of their bones (e.g., multiple myeloma, bone metastases) and are at increased risk for bleeding due to underlying issues (thrombocytopenia, anticoagulant therapy). Thus, patients seen in ambulatory infusion areas are at risk of serious injury if a fall occurs. There is very little guidance as how to implement a falls precaution protocol in an outpatient infusion area. The purpose of this project was to improve safety of patients and quality of care by implementing a falls protocol to prevent falls occurring while entering, attending, or leaving an appointment in the ambulatory infusion area. A fall risk screening tool was implemented as a required assessment form for all patients at each and every visit. Nurses were educated regarding the availability of assistance for patients at risk of falls and were instructed to pass this information along to patients identified as being at-risk. Fall prevention brochures were developed and made available. Patients were given direct education regarding the availability of assistance through increased signage around the infusion area and reminder calls prior to their appointments. Routine environmental rounding was implemented to identify hazardous conditions in the parking lot and other areas surrounding the infusion center. Preliminary data indicates a successful decrease within three months of implementing the above interventions. Further, preliminary data indicates that patients have reported that the ongoing education regarding fall prevention strategies has increased their awareness for risk for falling and was helpful in keeping them safe. Although falls prevention is a major initiative for inpatient care, it is often overlooked in the outpatient setting. Here, nurses can have a large impact because the interventions and teaching they provide can help patients remain safe during their infusion appointments, as well as when they return home to their normal environment. Awareness of risk and education regarding risk reduction techniques appear to be effective strategies in minimizing patient falls in the outpatient setting. Our standardized falls prevention program is unique in that very few ambulatory centers engage in falls prevention. Our program can set a new standard of care for prevention of falls in ambulatory settings.

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PROSTATE FIDUCIAL MARKER PLACEMENT IN PATIENTS UNABLE TO CEASE ANTICOAGULANT THERAPY: IS THERE AN INCREASE RISK OF BLEEDING?

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Fiducial marker placement is required in patients undergoing robotic-based Stereotactic Body Radiotherapy (SBRT) for prostate cancer in order to track the prostate motion, intrafractionally, during treatment. Many patients take anti-coagulant medication due to other comorbidities. Patients on anticoagulation therapy may have increase bleeding during procedures. Generally, anti-coagulant therapy is temporarily discontinued prior to invasive medical procedures to reduce the risk of bleeding. However, some patients may not be able to discontinue anti-coagulant therapy due to an increased risk of a thromboembolic event. From August 2015 to December 2015, the RNs monitored those patients who have received fiducial markers but were not cleared to temporarily discontinue their anticoagulant therapy. The most common indications for uninterrupted anticoagulation therapy in this cohort included: pulmonary embolus (2); recent stent placement (4); atrial fibrillation (2); and recent myocardial infarction (6). All patients had Emla cream placed on the perineum and lidocaine gel placed into the rectum prior to the procedure for numbing purposes. A transrectal ultrasound was placed for visualization of the prostate and the surrounding anatomy, and to provide real time image guidance of marker placement. Two needles, each loaded with two fiducial markers and a spacer, were placed transperineally into the prostate under ultrasound guidance using a brachytherapy grid. The needles were removed after the fiducial markers were placed and pressure was applied to the perineum. All patients were monitored for bleeding afterwards by a registered nurse. No patient experienced significant bleeding and all were discharged home the same day as procedure. Due to the limited sample size of the study, the nursing team will continue tracking patients who are unable to discontinue anticoagulant therapy prior to fiducial marker insertion. Additionally, a follow up phone call will be placed by the RN the next day to determine if the patient remained stable, without any bleeding-related complications. As of September 2018, 49 patients have received fiducial markers while on anticoagulant therapy. 3 of the 49 patients had bleeding immediately after the procedure but reported none the following day. The findings suggest that fiducial marker placement for prostate cancer appears to be safe for patients who are unable

to discontinue anticoagulant therapy following that, anticoagulation use doesn't appear to be an absolute contraindication to fiducial marker placement.

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IMPLANTATION OF FIDUCIAL MARKERS FOR STEREOTACTIC BODY RADIATION THERAPY FOR PROSTATE CANCER TREATMENT: A STUDY CONDUCTED TO MINIMIZE PATIENT DISCOMFORT

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Patients with prostate cancer have a variety of treatment options. One of these options is Stereotactic Body Radiation Therapy (SBRT). In order for prostate cancer patients to undergo SBRT treatment they are required to receive implantation of fiducial markers into the prostate gland. These fiducial markers track prostate motion to provide inter and intrafraction translation and rotation adjustment. This procedure is done under rectal ultrasound guidance with transperineal technique. The nurse plays a vital role during the fiducial placement procedure with the primary goal of infection prevention and pain management. In an attempt to decrease pain related to the fiducial procedures, our nursing department conducted a study to characterize patient discomfort with an objective to minimize patient pain level and improve patient satisfaction. Standard practice at our institution requires the nurses to premedicate patients with EMLA cream 2.5% applied to patients' perineum, and topical lidocaine urojet 2% applied intrarectally. Between December 2017 and February 2018, our nurses monitored 45 consecutive patients with localized prostate cancer during transperineal fiducial implantation. In addition to EMLA and lidocaine, oral benzodiazepine and/or transperineal lidocaine were also administered prior to assessing patients' symptoms and reported satisfaction. 20 (44.4%) patients received transperineal lidocaine injection and 17 (37.8%) ingested Xanax prior to the procedure. Nurses monitored patients' vitals and assessed pain on a 0–10 analog scale, where 0 represented "No pain" and 10 "Unbearable pain". Nurses differentiated pain scores for the rectum (probe) and perineum (needles) and transcribed the results onto a grid. As per our analysis, the mean rectal pain level was 4.7 and mean perineal

pain level was 5.0. Ultimately, the mean perineal pain was lower for patients who elected for transperineal lidocaine (4.2 vs. 5.8), representing a 27.6% reduction in pain. Oral benzodiazepine use did not predict for perineal or rectal pain. Transperineal fiducial marker implantation is a well-tolerated outpatient procedure. Patient reported rectal and perineal pain levels are measurable by the RN and, though correlated, differ in results. Providing transperineal lidocaine, in addition to EMLA and lidocaine uro-jet, significantly reduces perineal pain associated with fiducial placement. These findings enable the nurses to give patients a choice in receiving additional medication for pain management and ultimately lead to increased patient satisfaction.

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THE NAVIGATOR'S PERCEPTION OF TRANSITIONING FROM A SINGLE-FACILITY TO AN INTEGRATED MULTI-FACILITY NAVIGATION MODEL: A SIX-MONTH LONGITUDINAL FOLLOW-UP STUDY

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Limited literature exists in exploring the Navigator's point of view during a transition in management. A quality transition is vital for Navigators' identify, well-being, empowerment, satisfaction, and retention. The purpose of this study was to examine prospectively the perceptions of Navigators from a single-facility model (SF) to an integrated multi-facility model (IMF) with repeated measures at six months follow-up within assumed role in IMF model. A longitudinal design involving a single group of seven Navigators from six medical facilities within the North Florida Division was used to examine Navigator's view of job satisfaction, empowerment, access to resources, job-related training, and relationship with leadership. A blind, multiple-choice survey was distributed online at SF, transition to IMF, and at 6 months post-transition to IMF model. There was a 100% response rate with no attrition. Data was interpreted using a 5-point Likert scale with mean score for each item calculated. SF, IMF, and IMF six-month follow-up scores were accessed using paired sample t-tests. Results demonstrated small increase at IMF six-month follow-up in understanding the Navigator's role ($p > 0.001$ vs. $p > 0.06$), skills effectively used ($p > 0.004$ vs. $p > 0.03$), realistic expectations of navigators from leadership ($p > 0.001$ vs. $p > 0.006$), and satisfaction with IMF model ($p > 0.006$ vs. $p > 0.10$)

compared to initial transition to IMF. There was stability in identified clinical pathways/metrics ($p > 0.0009$ respectively); voice in decision making ($p > 0.01$ respectively), and leadership treated navigators fairly ($p > 0.009$ respectively). A regression score was seen in relation to department isolation ($p > 0.001$ vs. $p > 0.0001$) and career advancement opportunities ($p > 0.008$ vs. $p > 0.005$) at IMF six-month follow-up compared to initial IMF transition. This study demonstrated a positive correlation of the IMF navigation model for employee empowerment, workplace satisfaction, and enriched leadership. Future studies are needed to explore the relationship between the IMF model and navigators' perception of department isolation.

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PATIENT EDUCATION CHECKLIST FOR MEDICAL ONCOLOGY CLINIC

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The Scully-Welsh Cancer Center is a new multidisciplinary oncology service line for Indian River Medical Center. With a team of three Medical Oncologists and supportive staff members including RNs, MAs, and one Mid-level, Scully-Welsh has quickly become a center for exceptional cancer care and breakthrough treatments. Initially, there were varying patient chemotherapy education styles, causing for inconsistencies and process breakdowns. As a result, supportive medications such as Vitamin B12 and folic acid were missed with two patients, and their scheduled chemotherapy needed to be rescheduled to accommodate the supportive medications prior to treatment. The development of the Clinic Patient Education Checklist for new and subsequent patients brought stability and accountability when educating patients on their chemotherapy treatments, supportive medications for chemotherapy, and available resources. The Clinic Patient Education Checklist covers the patient's diagnosis, chemotherapy regimen, scheduled date for chemotherapy class, verification of completed consents and supportive drug information has been provided, in addition to side effect management, facility information and contacts, supportive care documents, medication reconciliation, and additional supportive resources. The nurses carefully discuss side effect management to verify thorough comprehension and that the required supportive medications have been obtained prior to

undergoing the first chemotherapy infusion. Each section is reviewed and completed in accordance to the prescribed treatment plan. This assures that each patient and their support person understand the expectations and the readily available resources such as financial assistance, spiritual service, support groups, and even nutritional consultations. The Clinic Patient Education Checklist for subsequent cycles serve as a guide for reeducation and reiteration of information specific to the patient while discussing any possible changes or concerns since having started treatment. The consistent education process utilizing these checklists has created an environment that instills patient safety, knowledge, and compassion. Chart checks are done monthly for quality assurance to evaluate the ASCO/ONS Chemotherapy Administration Safety Standards. Since implementation of the Patient Education Check list zero patients have not had to reschedule their chemotherapy because of missed instructions for supportive medications. The chemotherapy check list provides consistent education and appropriate documentation throughout the Medical Oncology Clinic. Each chemotherapy regimen is very different and requires attention to specific details around the infusion. Chemotherapy competent nurses embrace this checklist alongside their knowledge base of the chemotherapy patient.

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CHARGE RN AND MD ROUNDING

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As of 2014, UCLA Medical Center, Santa Monica has introduced standardized Registered Nurse (RN) and Medical Doctor (MD) rounding. The current practice is for the RN and MD to round together at bedside. A literature review showed that although physician and nurse teamwork has a positive association with patient satisfaction, the perceptions of physician and nurse teamwork are usually suboptimal. Research showed that rounding at bedside can improve patient perception of teamwork and increase satisfaction related to communication. The inpatient, 26-bed, medical oncology unit at UCLA Santa Monica had poor compliance with RN/MD rounding as perceived by patients. According to our Consumer Assessment Healthcare Providers and Systems (HCAHPS) surveys, which are completed by patients post hospitalization, our compliance rate averaged 30–50% per month. The unit practice council (UPC) facilitated a new practice of charge RN/MD rounding in order

to address and improve RN presence during rounds. Our goal was to reach 65% or greater compliance per month. The oncology unit initiated the practice of charge RN involvement in the rounding process in November 2017. From the hours of 1100–1300 the dayshift charge RN would join the oncology attending and fellow during their rounds for those patients on the oncology service. During the rounding process the attending, fellow, and charge RN present the patient with their plan of care and are available for questions. After rounds are completed it is the charge RN's responsibility to relay pertinent information to the primary RN. The attending and fellow were educated about this new practice during the first day of their inpatient rotation. Complied HCAHPS scores from November 2017–July 2018 show that compliance rates for RN presence during MD rounding were greater than or equal to 65% for each month following the initiation of our intervention. Most months averaged 80–100% compliance. Data indicated that our goal was achieved each month after our intervention was implemented. This practice allows the patient to see a cohesive medical team at bedside when discussing plan of care thus improving overall communication and satisfaction. This intervention is the new practice on the oncology unit and will continue to be the gold standard.

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GETTING THEIR ATTENTION—STREAMLINING PATIENT EDUCATION

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The blessing of the information age is the empowerment of consumers who seek education. This shift in consumer priorities has led to high expectations in healthcare environments. Healthcare consumers expect to be fully informed in order to increase the possibility of positive health outcomes. While motivating patients leads to positive outcomes, retention

of education during an episode of acute illness is difficult. The ability to absorb information and education is decreased when a person has acute anxiety, perhaps due to a cancer diagnosis. Additionally, the Agency for Healthcare Research and Quality reports that nearly 20% of patients experience adverse events within 3 weeks of discharge, with adverse drug events being the most common post-discharge complication. Considering all of these challenges, unit leadership of a busy oncology medical-surgical and progressive care unit recognized a need for emphasis on improving medication teaching in preparation for discharge to positively impact patient outcomes and satisfaction. Last year, unit Hospital Consumers Assessment of Healthcare Providers and Systems (HCAHPS) scores indicated an opportunity for improvement in discharge teaching on our surgical oncology inpatient unit. Our team employed an interdisciplinary quality improvement process to examine and eliminate the barriers to thorough patient education before discharge, with emphasis on medication teaching. The purpose of this quality improvement project was to improve medication teaching before discharge using a new process, unique materials and performance coaching. Before implementing a new process, we collected data from patients and nurses to inquire about their perceptions regarding patient education in the hospital. We then educated the staff via several methods including a journal club before beginning a continuous quality improvement process. This presentation will highlight changes in our process which include development of specialized medication teaching tools, use of a patient driven discharge education checklist and implementation of teaching using a bedside tablet. Pre and post project data will be presented in the form of audit data and HCAHPS scores. Audit data and HCAHPS scores have improved. Unit HCAHPS scores on communication about medication side effects has increased 14% and 5% respectively. Future efforts will focus on efforts to providing surgery specific education before and after discharge via our online portal. Novel audit, staff feedback and patient and family teaching materials will be presented.

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STANDARDIZATION OF CISPLATIN ADMINISTRATION IN AN OUTPATIENT TREATMENT CENTER

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Cisplatin is a principle chemotherapy agent in many cancers. The dose-limiting toxicity of Cisplatin is nephrotoxicity, requiring large amounts of hydration to prevent Cisplatin-induced kidney injury. Cisplatin is also commonly associated with electrolyte deficiencies; specifically magnesium that in turn interferes with absorption and/or promotes excretion of other electrolytes. In the past few years, Cisplatin administration has shifted to the outpatient setting due to evidence supporting maintenance of renal function with adequate hydration and electrolyte supplementation. However, there is wide interpretation of what is an appropriate outpatient regimen. Our large outpatient center had many differing regimens across cancer types and individual providers. Additionally, nurses interpreted and administered these regimens differently, resulting in variances in length of treatment, cost, and potential patient outcomes. Patients questioned the differences in nursing administration and cost. The purpose of this project was to develop standardized treatment plans for cisplatin across cancer types and providers, and to standardize cisplatin administration among nurses. This would result in patients receiving the same quality of care regardless of provider or nurse. We brought the issue to our unit's multidisciplinary Oncology Clinical Practice Council. Among issues to be addressed: (a) measurement of urine, (b) pre and post hydration volumes, overlapping of infusions, and home/oral hydration recommendations, (c) maximum volume to be infused concurrently, (d) baseline electrolyte supplementation, and (e) forced diuresis. We performed extensive literature review, bench-marked with other centers, and collaborated with medical oncology, nephrology, and pharmacy. A treatment plan template that allowed for individual needs was created and approved by providers and entities. Tools were developed to educate nurses. An educational hydration handout was written for outpatients. Standardized treatment plans in the Electronic Medical Record provided best practice and high quality care for all patients. Extensive education resulted in standardized nursing care and billing. Chart reviews and billing audits provided insight to nurse compliance. Consistent nursing care and billing increased patient satisfaction. By developing a treatment plan template for cisplatin, we ensure safe, quality, standardized treatment to our patients. Providing education and written guidelines to nurses resulted in consistent administration and billing.

Over time, there's been some drift in compliance with administration, attributed to staff and preceptor turnover. We will continue to monitor and educate staff and patients using developed tools.

271 COMMITMENT TO PAIN RELIEF THROUGH ASSESSMENTS AND REASSESSMENT WHILE ON A PCA PUMP

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When performing monthly audits on pain documentation while on PCA pumps it was noted that documentation compliance scores had dropped for both assessments and reassessments of pain. It was also noted that patient satisfaction scores (HCAHPS) had also decreased. Based on this a Performance Improvement Project was performed. The purpose of this project was twofold. The first was to improve documentation of pain assessments and reassessment while on PCA pumps per policy. Our second goal was to increase patient satisfaction with pain control and HCAHP scores. A retrospective audit was done of patient charts to determine areas of deficiency in their charting. Staff education was performed via posters presentations, power points, emails, and at monthly staff meetings. Monthly chart audits were done and feedback was given to staff on both good documentation and documentation lacking specific criteria. After several months a more extensive chart audit was performed and after breaking down the data staff education focused on specific problem areas of documentation that we found. A laminated form was developed to place at the patient room when on a PCA pump that the nurse filled out with the times that assessments needed to be done. A badge card was also developed for all nurses to reference on PCA pump assessments. Staff education continued via posters, emails, and power points and monthly audits done with staff feedback. The final chart audits were done after all this was completed. After the round of education and audits it was determined that further education was needed with the staff. Documentation had increased a little but patient satisfaction scores had not. After the second round of education and audits it was found that documentation had increased by 85% and that the patient satisfaction scores had increased to above our hospital threshold. Nurses were having conversations more with their patients about pain control. I believe that the innovations that were used in the

process were the badge cards for all nurses and the laminated PCA pump documentation form at the patients room. The badge cards are eventually dispersed to all nurses at the hospital.

272 REDESIGNING A TELEPHONE SYSTEM TO MATCH A DISEASE-BASED MODEL OF CARE IN THE AMBULATORY SETTING

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During a period of rapid patient growth in an ambulatory hematology/oncology practice in the Southeast United States there was a need to look at utilizing care teams to give the most efficient care to meet the needs of the patients. This practice has eleven subspecialty care teams but all patients would call into one general telephone number for all needs. This telephone hub would receive an average of 230 phone calls a day that could go any of the 5 clinical assistants that answer the telephones. By subspecializing the telephone system patients now consistently speak to the same individual, which helps to create trust in a relationship, thereby causing a decrease in duplicate phone calls. The subspecialization of the telephone system also allows for the clinical assistants, who answer the telephones, to become more embedded in the care teams and become more knowledgeable about one or two particular malignancies, thereby allowing them to better triage messages and improve efficiency within the care team. The telephone system was redesigned from one general line with a phone tree to twenty two (22) total telephone lines; giving each disease care team a clinical line and a re-scheduling line. To notify patients of this practice change a letter went out to all patients who had been seen by the department of hematology/oncology in the last twelve months informing them of the change. Care team cards with the faces of the physicians, advanced practice providers and nurses of each disease-based care team. The card lists both telephone numbers for the team and also outlines that there are medical secretaries, clinical assistants and schedulers that are members of their care team. Increase in patient satisfaction related to “ability to communicate” as rated in the Press-Ganey patient satisfaction. Staff have also demonstrated an stated increase in confidence ratings on a qualitative survey. This redesign of the telephone system and communication with patients and families about who is in their care team has allows for an increase in patient satisfaction and work efficiencies without adding additional resources.

273 STAY ON YOUR FEET: GUIDING THE WAY TO PREVENT FALLS

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During the 2017 calendar year, there was a total of seventeen falls on an adult inpatient hematology/oncology unit. Of the seventeen falls, twelve occurred with no injuries and four with minor injuries. Six falls were patients that were previously identified as “low fall risk” based on their assessment. Patient falls can result from a variety of factors; history of a previous fall, weakness, fatigue, sensory or motor deficits, and side effects from chemotherapy & medication. Fall prevention literature shows that awareness of clinical and environmental factors and patient/family education help minimize falls and injuries. Education remains the most important tool in reducing fall rates. A tailored fall prevention guide was created to improve patient awareness and reduce falls. The Fall Prevention Guide for the Oncology Patient (FPG) pamphlet was implemented in July 2018. The FPG provides information that describes what patients could do to keep from falling and stay safe while hospitalized as well as after they are discharged. The guide consists of the most common oncology medications, such as chemotherapy, pain medications, and sedatives that increase their fall risk. The FPG includes standard environmental and patient safety interventions and reflective questions that give patients the opportunity to participate in their fall risk identification. Fevers are common amongst oncology patients due to low blood counts, leaving the body with the inability to fight infections. Fevers lead to weakness, fatigue, dehydration and even confusion—all of which increase their risk of falling. The FPG was approved by the Patient and Family Education Review committee (PFERC) and is available to all staff on the hospital Infonet. Oncology Service Line fall champions were in-serviced on the new pamphlet and were responsible for educating their individual teams. There have been a total of ten falls in 2018, two of which occurred after the implementation of FPG. The decrease in falls can be attributed to increased patient education and awareness. Nursing leadership rounds identify patients that are not educated on clinical and environmental factors that increase their fall risk. Partnership between oncology nurses, leadership, patients, and families is critical to the success of any fall prevention initiative. Incorporating patients and families in discussions related to fall risk prevention increase collaborative communication and create an environment of safety and continuity.

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APPLYING EVIDENCE-BASED PRACTICE TO NEUTROPENIC PRECAUTIONS

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At the time of this quality improvement project initiation, there were no standard practice or organizational policies related to proper neutropenic precautions. If a patient had labs indicative of neutropenia, a contact isolation cart would be sent to the patients' room and a sign would be placed on the door stating the recommended patient and visitor practices. This practice included the requirement that staff and visitors wear a mask upon entering the room at all times. A review of the literature showed that evidence-based research suggests that wearing a mask does not make a major difference in patient outcomes if the staff/visitor is not sick. The most important clinical practice to prevent infection is hand washing. Based on this information I created a quality improvement project that proposed the removal of the requirement to wear a mask (as long as the individual is not sick, coughing, etc.) as well as the discontinuation of the contact precaution cart at the patients' door. By removing this requirement, staff and visitors are able to focus more on hand washing, and infection can be further prevented. Neutropenic patients often have extended hospital stays and it has been observed that staff/visitors avoid a room that is marked as isolation. By removing the requirement for a mask, this also improves the ability to communicate, especially with health care providers, and patients have less feelings of isolation. The hospital also acquired a cost savings in supply use (decreased number of boxes of masks and decreased usage of isolation carts). I created a standardized neutropenic precaution sign that was distributed house-wide. I also created a "What You Need to Know" handout for patients and families. In-services were provided at the Staff Nurse Council, the Nurse Leadership Council, and unit-based roving in-services were provided with sign distribution. The EHR link that sent an isolation cart when neutropenic precautions were ordered was removed by the IT department. The remaining precautions in place prior to this project were continued in alignment with evidence-based practice.

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DRIVING AWAY ANXIETY IN RADIATION ONCOLOGY

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Many pediatric patients and their caregivers experience apprehension and anxiety in medical environments

that are unfamiliar. Specifically, for patients undergoing radiation therapy: treatment rooms, immobilization devices, and separation of the pediatric patient from caregivers during treatment, can lead to exacerbation of apprehension and anxiety. Pharmacologic measures are often utilized to assist with immobilization and decrease pre-treatment anxiety in the pediatric population. These factors require anesthesia which may delay or extend treatment time, require higher level nursing skills, and expose pediatric patients to sedating or anxiolytic medications once to twice daily for periods of up to 6 weeks. Implementation of distraction techniques have been identified as measure effective in reducing apprehension, anxiety, and pharmacologic measures or sedation for pediatric patients undergoing Radiation Therapy. Battery operated ride on vehicles have been utilized in surgical procedural areas in the United States, with reported improvements in the same outcome measures, however formalized research has not been conducted to date. The purpose of this quality initiative was to improve pediatric patient and caregiver experience during radiation therapy. A battery operated remote controlled ride on vehicle with video and light enhancements was procured. All appropriate measures were taken to address legal, fire safety, and infection prevention compliance. Staff were trained to ensure competency in operating the vehicle. Patient's age, weight and developmental status was assessed, to ensure appropriateness of use, prior to obtaining caregiver consent. As noted by the informal feedback received thus far, this quality improvement project has demonstrated an innovative approach to managing pre-treatment anxiety of pediatric patients undergoing radiation therapy, as well as the anxiety of their caregivers. There is a potential to decrease: use of pharmacologic interventions, reliance on outside disciplines, additional staffing and delays in treatments. Future direction suggests there would be benefit in conducting a formalized study of the mini car program to evaluate the impact the project has on quality of care, quality of life, patient safety and the reduction of nursing resources and cost.

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DEVELOPMENT OF AN OUTPATIENT CARDIO-ONCOLOGY PROGRAM

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The rationale of this project was to develop a collaborative approach between cardiology and oncology

within a multidisciplinary setting of a community cancer center to meet the increasing concerns of cardiovascular health of patients with cancer. The authors organizational leaders supported the identified need to develop the cardio-oncology program to assist in the overall care of cancer patients with or without cardiac disease. The key focus of this cardio-oncology program was to identify the at risk population for cardiotoxicity from cancer treatment, develop monitoring tools and risk stratification models of pathways. The formalization of a cardio-oncology work group was designed for the coordination of program development. This work group identified the top antineoplastic drugs to be monitored, inclusion criteria, and developed a risk assessment tool. The cardio-oncology work group, also designed clinical pathways for identified cardiac risk level and toxicity for management and monitoring guidelines. Additionally, development of education specific to the cardio-oncology program was provided to the oncology nurses prior to the program implementation. The instrumentation utilized included: a learning needs assessment, pre and post knowledge assessment and instructor evaluation. The pre and post knowledge assessment measured key learning objectives using the 5 point Likert scale. The results demonstrated an average mean of 3.4 pre-knowledge assessment and an average mean of 4.5 post-knowledge assessment. Furthermore, the oncology nurses felt strongly that the cardio-oncology program would benefit the patients within the community cancer center scoring this as 4.9. With the implementation of the cardio-oncology program, it is this writer's hope, the multidisciplinary team can decrease cancer treatment related cardiovascular complication and improve overall outcome of survivorship and quality of life. Many future opportunities exist for this program, including future research of the impact of this program, through data collection and outcome measures to demonstrate a decrease in cardiovascular complications in cancer treatment and publish these results.

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DO NO HARM: IMPLEMENTING A MULTI-DISCIPLINARY, INTEGRATED APPROACH TO ELIMINATE CLABSIS IN THE PATIENT CARE SETTING

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CLABSI (Central Line Acquired Blood Stream Infection) is a preventable hospital acquired condition that

can have lethal consequences. A CLABSI increases odds of mortality as much as 2.75. According to the Institute for Healthcare Improvement (IHI), inpatient and outpatient usage of central lines as a long-term venous access for patients has increased over the years. In the setting of a CLABSI, hemodynamic changes and organ dysfunction (severe sepsis) may ensue, possibly leading to death. Evidence-based consistent measures to prevent CLABSI is relevant as approximately 90% of CLABSIs occur with central lines as CLABSIs cause considerable morbidity, mortality, and undue health care costs to patients. Various steering committees were formed at the corporate level of this health care organization to examine current practices (relating to central lines); explore possible alternate evidence-based practices; brainstorm and discuss action plans/strategies that could be standardized and implemented across all facilities in the healthcare system to decrease CLABSI rates. Upon coming up with action plans, key stakeholders and various roles were identified (in each facility affiliated with this healthcare organization) in the development of this initiative. Each facility within the organization was charged to identify 2-4 Facility Champions (FC) (depending on size of facility). These individuals were identified as representatives of their respective facilities with clearly defined roles. The FC's would subsequently collaborate with a contracted vendor to conduct trainings for Unit champions (UC) at their respective facilities. UC's are select, designated nurses identified on each units as staff who would be performing central line dressing changes. They would however validate the nurses on their respective units RN's three identified central line maintenance skills applicable to all nurses regardless of areas of practice. An accompanying online learning module was developed which every nursing staff was required to complete. At the time of this abstract submission, this initiative was nine months into implementation thus there was no substantial analytical data was available yet to truly evaluate the effectiveness of the program. Upon acceptance and prior to the 2019 conference presentation, substantial data would have been collected and will be shared. Also challenges encountered in the course of this project implementation and action plans integrated to mitigate these challenges will also be presented and discussed at the 2019 conference.

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UTILIZING THE S.M.A.R.T. DISCHARGE PROTOCOL TO PROMOTE SURGICAL ONCOLOGY

PATIENTS' READINESS FOR DISCHARGE: A NURSE-LED INITIATIVE

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The surgical oncology encounter is usually first along a lengthy trajectory of cancer treatment. Therefore, it is imperative to minimize patients' readmissions to avoid delays initiating adjuvant therapies and potentially negatively impacting survivorship. In our regional cancer institute, readmissions ranged from 11%–15% for surgical oncology specialties compared to the benchmark of 12.5%. A factor contributing to readmissions was patient readiness for discharge, which is a process strongly responsive to nursing leadership to impact patient outcomes. This presentation describes the implementation of the evidence based S.M.A.R.T. discharge protocol (Signs, Medications, Appointments, Results, and Talk to me) to reduce surgical oncology patients' readmissions. This is a quality improvement effort consistent with the "always events" principle that nurses should partner with patients in discharge planning to improve the transition from hospital to home. A nurse-led interdisciplinary team guided project implementation using Lean methods. A nursing "unit champion" role was created to aid project promotion and sustainability. Patients engaged with the protocol throughout the trial, including a patient journal that addressed the S.M.A.R.T. components and was reviewed daily by the team during rounds, during discharge, and during a post-discharge phone call. Patients were called 3-6 days post-discharge to assess perceived readiness for discharge using the Readiness for Hospital Discharge Scale. Staff perceptions of the quality and the effectiveness of the discharge process and interdisciplinary team were measured by pre-post implementation surveys. This initial effort demonstrated success across a variety of measures. 67 patients enrolled during the 3-week trial. 44 (66%) patients responded to post-discharge phone calls and reported readiness for discharge as 8.3 on a 0–10 scale. The 30-day all surgical specialty readmission rate was 12.3%. Readmitted patients reported lower than average (5.5) ratings on feeling prepared to handle life at home compared to total sample (8.1). Staff reported an increase in

overall quality of the discharge process, as well as an increase in interdisciplinary team effectiveness. The S.M.A.R.T. discharge protocol was adopted eagerly by patients and professionals. Nurses felt S.M.A.R.T. increased communication with providers, was a proactive approach to discharge planning, and increased patient comprehension of discharge instructions. S.M.A.R.T. has become a practice standard on the trial unit and plans are underway to expand the protocol throughout the organization.

279 EVOLVING EVIDENCE-BASED PRACTICE IN SEPSIS MANAGEMENT

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This project describes the process of continuous quality improvement initiatives for implementation of nurse-driven evidence-based sepsis management protocols over a four-year period. In 2014 this Comprehensive Cancer Center implemented a nurse-driven sepsis screening and management protocol aimed to enhance early recognition and timely interventions for patients with possible sepsis having hematologic malignancies and managed in an intensive ambulatory clinic. The screening criteria were highly sensitive, but with low specificity, and as new evidence emerged, screening criteria were revised in 2015. In 2016, patient outcomes were evaluated and the protocol had led to early recognition, and no missed cases of severe sepsis. The clinic experienced reduced infection-related hospital admissions, and lowered the incidence of severe sepsis from 50% to 30% in patients admitted to the hospital for infection. The cause and effect between protocol activities and enhanced outcomes were unclear but presumed to at least in part be linked. Despite these successes, other measures of efficacy were less impressive and it was noted positive blood culture rates had remained 1–4%, yet the costs for diagnostic testing had increased 200% over the four year period. In 2018, the clinical team re-examined the evidence-based literature and ongoing clinic data to revise the screening criteria and threshold for nurse-driven interventions. It is

well known that evidence-based practices can be more costly than care prior to their implementation. Use of bundled interventions often can't be reliably separated to ascertain those which have the greatest influence upon desired patient outcomes. Conscientious performance of the recommended sepsis bundle interventions have consistently reduced sepsis-related mortality. The literature suggests that the relative risk reduction is 25%, and the number needed to treat to save a life (NNT) is four. This success exceeds many proven best practices, yet the bundled interventions are costly and a 2018 update of guidelines have restructured the priority for interventions to enhance use of those deemed most effective. Frequent reassessment of protocol interventions and their intended or incidental outcomes allows for fiscally responsible changes that do not adversely affect desired outcomes. This project exemplifies the importance of constant re-assessment of the evidence with a commitment to change practice using a variety of quality metrics.

280 **NURSE PRACTITIONER-LED SURVIVORSHIP CARE WORK FLOW**

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Starting in 2015, the American College of Surgeons required Commission on Cancer (CoC) and National Accreditation Program for Breast Center (NAPBC) accredited organizations to provide Survivorship Care Plans (SCP) to patients. In September 2017, the Kaiser Permanente Central Valley medical offices hired a Nurse Practitioner (NP) to support survivorship services including completing SCPs and seeing patients in a survivorship clinic. A new workflow and communication plan was needed to ensure all patients being treated for curative intent are identified, receive a SCP and are referred to the survivorship clinic and that the value of the services provided in the survivorship clinic was understood by all departments providing cancer care. Pathologists copy the electronic medical record of newly diagnosed cancer patients to the NP and Nurse Navigators, ensuring that all new cancer patients are identified. New patients are added to a database available to all members of the care team. As patients complete their treatment, referrals to the survivorship clinic are made by the Nurse Navigators

or Physicians, with the database serving as a cross-check that all patients are referred for survivorship services and receive their SCP. Prior to the NP's arrival, the August YTD 2017 data reflected only 36% (N=242) of eligible patients had received a SCP. In 2018, 52% (N=319) of eligible patients have received their SCP through YTD August: a 16% year-over-year improvement. Patients are very satisfied with the care received. The NP's patient satisfaction scores are averaging over 95 out of a 100. On a scale of 1 to 5, when asked if they would recommend their survivorship provider to family members or friends if they needed cancer-related treatment, the NP received a score of 4.36. Referrals from all services to the survivorship clinic have been slow but are improving; presentations were done to sub-specialty departments providing cancer care that included flyers on the value of the clinic and a brief biography on the NP. Medical Assistants shared that patients referred from sub-specialty departments when contacted to schedule their appointment questioned why they needed this service. As a result, an orientation on the purpose of survivorship care with talking points was provided to Medical Assistants that resulted in a reduction in failed-to-keep appointments.

281 **INTEGRATING USE OF AN ELECTRONIC HANDOFF TOOL TO FACILITATE BEDSIDE REPORT**

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Bedside report is a crucial process for passing on important information about patients. If essential information is missing from this shift handoff there is potential for safety issues, errors, or delays in patient care. One avenue to support a successful bedside report is utilization of tools provided within Epic, the electronic medical record (EMR). The EMR provides healthcare workers with a plethora of patient information in a format ideal for bedside handoff which unfortunately is seldom used. The purpose of this project was to improve staff satisfaction, patient safety and timeliness of bedside report by standardizing content and integrating use of an EMR based nursing handoff report. Unit leadership sought a way to create a successful bedside report process, so a literature review was completed. Next a journal club

was done to introduce staff to evidence supporting bedside report. A small group of staff nurses along with the nurse manager and clinical nurse specialist (CNS) met to discuss setting ground rules for bedside report as well as how to utilize the electronic nursing handoff provided by the EMR. This group was challenged to use the electronic handoff for two weeks and keep printed copies. The small group then met again to evaluate use and opportunities to standardize free text content. This group of staff were also utilized as champions to encourage use of the existing tool at a peer-to-peer level. Compliance with tool use as well as staff and patient satisfaction data collected will be presented. The EMR, although complex, provides healthcare professionals with useful tools that can improve processes. Often, staff nurses do not know where to find these or how to use them. Unit leadership developed a plan to provide evidence, educate and implement handoff using the EMR via peer-to-peer training. This program allowed nurses to improve patient safety through comprehensive use of the EMR and aided in implementing a successful bedside report process.

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NURSE PRACTITIONER (NP) LED INTERVENTION TO IMPROVE END OF LIFE (EOL) CARE FOR CRITICALLY ILL BONE MARROW TRANSPLANT PATIENTS: DEVELOPMENT AND IMPLEMENTATION OF A GOALS OF CARE (GOC) REFERRAL SYSTEM

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Evidence shows that critically ill hematology/oncology patients receive medically intense therapy at the EOL, and they have significantly lower rates of hospice enrollment as compared to patients with solid tumors. Given low rates of advance care planning in oncology patients, it remains unclear whether these EOL care patterns are always consistent with patient wishes. The goals of this initiative were to increase communication between patients and their care teams, so that: (1) Patients and families clearly understand current prognosis. (2) All treatment options are offered including palliative care. (3) Patients' wishes are documented, and the care provided is consistent with patients' wishes. In this exploratory initiative, a multidisciplinary team of advanced practice providers, nurses, physician, and social worker developed a workflow in which any member of the care team

could trigger a GOC discussion by emailing taskforce members. After chart review and discussion with care team, taskforce members provided recommendations to primary and rounding attendings within 24 hours of referral. Requests were made for GOC discussions to be held within 48 hours, and outcomes be documented in the medical record. Between January 2017–September 2018, the taskforce received 10 patient referrals, the majority of which were submitted by inpatient nursing staff (9 RNs, 1 NP). All referrals were for patients with poor prognoses, related to: refractory graft versus host disease, disease progression, viral infections, failure to thrive, or refractory idiopathic thrombocytopenia purpura. Most referrals (8 of 10) resulted in a GOC discussion, one generated a palliative care referral, one generated an ethics consult, and one led to patient discharge to hospice. It is critically important that all members of the care team understand patients' wishes for care at the EOL. This intervention increased communication among care team members and between the care team and patients/families regarding patient wishes for EOL care. Future interventions directed at increasing communication and improving EOL decision making should be explored.

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DECREASING UNPLANNED HOSPITALIZATIONS AND ED VISITS IN PATIENTS BEING TREATED FOR GYNECOLOGICAL CANCER

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It is well known that disease, prognosis, and treatment of Gynecological malignancies contribute to increased risk for complications and unplanned hospitalizations and emergency department visits. Instituting evidence-based, nurse-led interventions can reduce unplanned hospitalizations/ED visits and allow GYN/ONC patients to remain on treatment as planned. The purpose of this initiative was to identify criteria placing GYN/ONC patients at increased risk for unplanned hospitalizations/ED visits. Utilizing these criteria, the navigator developed proactive and outcomes-driven interventions to reduce untoward events. The high volume and acuity of GYN/ONC patients prompted us to implement a navigation program. Based on the literature and experience from a former navigation program, patients were identified as being elevated risk if they have history of non-compliance, anxiety/depression, barriers to care, frail/advanced age, and live more than one hour from a treatment facility. Risk stratification was performed at the patient's initial

visit. Weekly navigator assessments were implemented via telephone or onsite throughout treatment. Areas of assessment included general wellbeing, psychosocial issues, treatment/disease, and symptom focused questions. Symptom questions focused on pain, signs/symptoms of infection, fatigue, insomnia, hydration status, nutritional intake, nausea, vomiting, diarrhea, and urinary symptoms. Patients experiencing adverse side effects were referred to their oncology provider for evaluation as needed. A comparison of navigated and non-navigated patients was done with ovarian, uterine and cervical cancer experiencing unplanned hospitalizations and ED visits. We demonstrated an overall decrease in hospitalizations and ED visits. In the first year of starting the program, unplanned hospitalizations decreased by 18% and ED visits decreased by 21% in the navigated population (N=130). In the second-year unplanned hospitalizations decreased by 9% and ED visits decreased by 11% (N=137). In the third year to date, unplanned hospitalizations decreased by 18% and ED visits decreased by 19% (N=101). We found 42% of navigated patients in years one and two met elevated risk criteria. The Gynecological Oncology Nurse Navigator is in a prime position to improve patient outcomes in this elevated risk population. Continuity of proactive telephone assessment approach is imperative to reduce unplanned hospitalization/ED visits, while decreasing the cost to the patient and health care system. Identifying patients at increased risk for complications and implementing proactive interventions will decrease unplanned hospitalization/ED visit rate.

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ADULT ONCOLOGY PATIENTS AND THE NEED TO COME TO THE EMERGENCY DEPARTMENT

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Chemotherapy treatment can have severe, but predictable side effects. If managed inappropriately can reduce patient quality of life and increase health-care cost and utilization. The problem is that CMS (2016) guidelines will be changing to reduce reimbursement for admissions and ED visits for patients receiving outpatient chemotherapy. The outcome measure will calculate visits for ten specific diagnoses following chemotherapy treatment in a hospital outpatient department. The ten diagnoses for patients 18 years of age or older; excluding leukemia and bone marrow patients, are dehydration, anemia, diarrhea, fever, emesis, nausea, pain, pneumonia, sepsis, or neutropenia within 30 days of outpatient chemotherapy treatment. The purpose of this project is

to determine what symptoms bring adult oncology patients currently receiving infusion treatments to the emergency department compared to those receiving only radiation treatment up to 30 days after treatment. To determine what symptoms patients reported when arriving to the ED, a retrospective chart review was completed. The goal was to review 350 patient charts of various cancer types and stages who have visited the ED within 30 days after infusion or radiation treatment. Demographic information was obtained from electronic records. The symptoms that brought the patient to the emergency department were included pain (n=103), fever (n=65), dyspnea (n=44), and nausea/vomiting (n=72) at the top of the list. For the radiation group pain (n=13) was also at the top followed by dehydration (n=11) and nausea/vomiting (n=8). About 80% of the radiation oncology patients did not call to report symptoms before their ED visit. For the chemotherapy group, 66% of the patients did not call to report symptoms prior to ED visit. Although it may be necessary to use the ED for acute health concerns, most ED visits can be prevented with well-coordinated care, appropriate treatment regimens, and symptom management. Symptoms can be treated in an outpatient center reducing cost and improving patient satisfaction. Screening for symptom distress can be used to help distinguish when interventions are needed to reduce ED visits. Recommendations included the use of the patient portal, MyUFHealth to complete a symptom assessment such as the Edmonton Symptom Assessment Scale and the Memorial Symptom Assessment Survey. Those results would be available to view in the patient EHR and allow for earlier interventions.

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IMPROVING SPEED, EFFICIENCY, AND COMMUNICATION OF MEDICAL ONCOLOGY PATIENTS RECEIVING INFUSION TREATMENTS

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In the past decade the number of patients with cancer who receive chemotherapy at hospital based outpatient centers has risen and this trend is likely to continue. Reducing chemotherapy wait times can dramatically affect patient experience, relieve employee frustration, and create opportunities for increasing institutional revenue. This project was developed to meet this increased demand and improve present processes. It addresses the problem of delays in getting infusion treatment started related to orders

not being signed, unclear or incomplete orders, or questions regarding clarification. The purpose of this quality improvement project was to improve speed and efficiency in the adult infusion center by utilizing enhanced communication methods between nurse and provider. The overall goal was to reduce the delay in the start of treatment by an average of 5 minutes related to unsigned or incomplete orders, and other clarification needed before proceeding with infusion treatment. A retrospective chart review of patient delays related to unsigned or incomplete orders was completed over a 2-month period. A two part implementation of new communication process and education was tracked for 4 months post implementation. Intervention phase one included dashboard reports in EPIC for the physicians to see unsigned orders, utilization of Spok secure messaging and interdisciplinary physician and nurse education. Phase two was implemented after initial intervention meetings with charge nurses and providers. These meetings occurred to determine the most important information to be communicated. Bold orange colored communication cards were developed to leave at provider workspace. The pre-implementation data average wait was 16 minutes. After phase one implementation, the average wait decreased to 3.5 minutes. After phase two implementation, the average wait time was 9.5 minutes, which is a 6.5 average wait time reduction from the pre-implementation. There was also an increase in nurse provider communication after phase two implementation. The results of this project show that the overall goal was met and superseded with a reduction of an average of 6.5 minutes. Additionally there was an increase in the number of nurse provider communications which could indicate improved interdisciplinary communication and teamwork. These findings are consistent with research that shows that interdisciplinary communication is key to patient safety and improved outcomes.

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IMPLEMENTATION OF OUTPATIENT TREATMENT SCHEDULING GUIDELINES

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The number of patients requiring ambulatory chemotherapy is increasing year on year, creating problems with capacity in outpatient clinics. Our ambulatory outpatient treatment center was experiencing issues with optimizing treatment chair capacity. It was identified that a lack of structured scheduling guidelines contributed negatively to the patient experience. In

addition, nurses were treating patients past hours of operation which decreased their job satisfaction. The nursing team decided to implement structured treatment scheduling guidelines to: (a) improve efficiency of chair space, (b) ensure treatments were scheduled to be completed within hours of operation, and (c) assist with resource management. To establish a treatment duration, it was imperative to calculate an average length of treatment time based off of a sample of five patients on the same therapy. The duration associated to the treatment included blood work processing, triaging time, pharmacy drug turnaround time, infusion duration, and any additional monitoring. The treatment with a time duration was placed into a time period of when to schedule. For example, a carboplatin and paclitaxel treatment was calculated to take four hours and 30 minutes to complete; therefore, the guidelines stated not to schedule the treatment start time later than 11:00 am. Overall, the treatment scheduling guidelines were successful at improving care delivery during the established hours of operation. This led to a decrease in staff members working past their scheduled eight hour shift. The nursing team was also able to provide accurate feedback to the providers of chair availability. By closely monitoring chair space, it allowed the opportunity to accept same-day treatment additions. This contributed to quality care delivery. Our goal as oncology nurses is to avoid hospitalization of our immunocompromised oncology population by providing services to address therapy symptoms in the outpatient setting; therefore, we have an obligation to be flexible and add on additional patients when necessary. The guidelines better managed our schedule to give that daily flexibility to provide care for ill patients in need of outpatient assistance. Oncology nurse satisfaction is a necessary to evaluate given the increasing number of cases, the complexity of the disease state, and the toxicity of prescribed treatments. Establishing treatment scheduling guidelines assisted with improving care delivery and improving staff satisfaction.

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SAFE HANDLING AND DISPOSAL OF ORAL ANTI-NEOPLASTIC AGENTS

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The significance of risk associated with the handling and disposal of oral anti-neoplastic agents may be overlooked or underestimated by nurses and other individuals handling these agents. Poor compliance with institutional policies can create exposures for

nurses and the work environment when handling these drugs. This can be particularly true for research nurses who are handling investigational oral agents outside of traditional medication preparation areas. An opportunity was identified to increase compliance with safe handling requirements by research nurses at a National Cancer Institute-designated comprehensive cancer center. The aim of this nurse-led quality improvement pilot was to standardize processes and provide resources to increase compliance, as measured by a safe-handling checklist, with institutional safe handling policies, specifically related to disposal of oral investigational agents. A pilot, rapid cycle test of change of this quality improvement intervention was conducted with melanoma research nurses to evaluate outcomes before institution-wide implementation. A team of nurses along with advisory representatives from pharmacy and environmental health & safety, developed a multi-factorial intervention to achieve the project aim, consisting of (a) an educational bundle including a power point presentation, video on improper handling and a quick-tips sheet outlining the proper way to count and dispose of oral investigational agents and (b) a chemotherapy count cart (CC) containing all supplies needed for counting and disposal of drugs was designed and implemented in the ambulatory melanoma clinic, where research nurses traditionally meet with patients on research studies. A 20-item checklist for safe handling procedures based on evidence-based institutional policies was developed for this project. Observational data was collected at baseline (May–June 2017), and at two post-intervention time points (June–July, July–August 2017) and was reported based on the total number of items completed successfully for each nurse at each observation. At baseline, an average of 6.5 process steps were correctly completed, with improvements to an average of 8.25 and 17.07 at the first and second post-implementation measure, respectively. The bundled intervention using nursing education and providing the CC to streamline processes according to institutional policies demonstrated success in pilot testing. The institution is now evaluating roll-out across our ambulatory areas and revising the safe handling policies for increased clarity and consistency with USP-800 guidelines.

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AROMATHERAPY: MAKES “SCENTS” FOR ONCOLOGY PATIENTS

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The control of disease- and treatment-related symptoms is an integral component of comprehensive cancer care for oncology patients. The poly-pharmacy that occurs with oncology patients can often become overwhelming. Patients often look for other options to better manage their symptoms (e.g., pain, nausea, anxiety). Evidence about aromatherapy and the use of essential oils to promote physical and psychological well-being is emerging as one possible solution. The purpose of this quality improvement project was to introduce aromatherapy as a nurse-led symptom management intervention aimed at promoting comfort and reducing symptoms for adult oncology patients seen in a cancer clinic and/or infusion suite within an academic medical center. Guidelines regarding use of aromatherapy in ambulatory settings in the organization were lacking. The Institute for Healthcare Improvement’s four phases of a quality improvement project, including Plan, Do, Study, Act, was used. The “plan” phase included external benchmarking to determine safe administration methods and the essential oil product to use along with a review of different levels of evidence and externally developed materials. Pain champions and nursing leaders were actively involved in the “do” phase to determine logistics. Feasibility was assessed along with analyzing gaps and barriers in the “study” phase. Finally, the “act” phase included revising the hospital policy to include an ambulatory setting along with creating an evidence-based implementation plan and developing resource materials. Go-live occurred in late-July 2017. Evaluation metrics included a pre- and post-implementation nursing questionnaire, post-implementation patient questionnaire, and tracking adverse events. Perceptions of nurses (n=51 pre; n=33 post) improved related to: how to administer aromatherapy (2.08 pre; 3.18 post, 1–4 Likert scale, 1=strongly disagree to 4=strongly agree), how to choose essential oil based on symptom (1.92 pre; 2.91 post), identifying contraindications to aromatherapy (1.92 pre; 2.73 post), and documenting administration and effectiveness (1.76 pre; 2.45 post). Patient questionnaires (n=20) demonstrated peppermint as the most frequent essential oil used and “help relax/less anxiety” as the most common reason for use. The majority of patients (80%; n=16) reported aromatherapy helping at least a little bit. Since July 2017, no adverse events have been reported. Aromatherapy can be successfully and safely implemented in oncology

clinics/infusion suites as a nurse-led non-pharmacologic option for symptom management that results in patient and clinician satisfaction.

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STANDARDIZING BEDSIDE HANDOFF IN AN ONCOLOGY INTENSIVE CARE UNIT: A QUALITY IMPROVEMENT PROCESS

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Four of the 2018 National Patient Safety Goals (NPSGs) were to improve staff communication, use medicines safely, use alarms safely, and prevent infection. In this oncology Intensive Care Unit (ICU), the need to standardize and streamline nursing bedside handoff was necessary to improve communication, decrease corruption of information, decrease time spent on handoff, increase efficiency, standardize intravenous (IV) drip checks, and take on a prospective rather than retrospective view. These goals were aligned with the 2018 NPSGs to improve overall patient safety. Thus, a nursing handoff form and workflow were created to achieve these goals. A group of ten ICU Registered Nurses (RN) reviewed best practice for bedside handoff, revealing that they included: a standardized form, prospective view, transparency, consistency, and patient and family centered care. The ICU RNs created a handoff form and standardized workflow, both which highlighted nursing sensitive indicators. In August of 2018, almost 100% of ICU RNs were educated on the new process and the evidence behind it using the 70:20:10 learning model: 70% return demonstration, 20% mentoring, and 10% didactic teaching. Pre-surveys were completed to measure RN's opinions of the current handoff process related to satisfaction, efficiency, consistency, length of time, and patient safety. After didactic teaching was completed, participants observed a demonstration of the handoff process in the Simulation Lab and performed a return demonstration, receiving real-time feedback from instructors and peers. Pre-surveys showed that half of the ICU RNs felt that the new bedside handoff process was not consistent throughout the ICU. Over 50% of ICU RNs answered "disagree" or "neutral" to

whether the current bedside handoff process ensures efficient handoff for all patients. A post-survey will be conducted three months after implementation which will measure the project goals compared to pre-survey results. Due to the complicated nature of the oncology critical care patient population, standardizing handoff anecdotally increased vigilance, patient safety, and care delivery. Standardizing IV drip checks and including NSIs during handoff can minimize errors and increase awareness of NSIs which can be measured against future NSI rates and quality improvement reports. Due to the extensive and complicated oncology treatments and corresponding comorbidities, oncology patients in the ICU require a higher level of detail oriented care during handoff to decrease corruption of information and increase safety.

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THE IMPACT OF NURSE TRAINING ON PORT-A-CATH RELATED CENTRAL LINE-ASSOCIATED BLOOD STREAM INFECTIONS

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Central line-associated bloodstream infections (CLABSI) are serious and costly complications for patients in the hospital, and are preventable. Appropriate central venous access device (CVAD) care and interventions performed by nurses are integral in prevention. Port-a-cath (PAC) related CLABSI remain a problem within our institution, with 9 port-related CLABSIs in FY17. There is no standard PAC access kit or supply stock among inpatient units and no formal training or education on accessing and deaccessing PAC. The purpose of this project was to create and implement a standard kit, train all inpatient nurses to access and deaccess port-a-caths using standard methodology, and implement an ongoing education and training plan for nurses in effort to decrease port-related CLABSI. A team reviewed literature on CLABSI prevention and PAC care. Data supported using chlorhexidine-impregnated dressings for the prevention of catheter-related infections. Staff feedback and observation supported the use of a single PAC access kit. Inpatient oncology nurses piloted both a chlorhexidine-impregnated dressing and foam disk for PAC use and gathered feedback on ease of use. Based on this feedback, we partnered with institution supply chain to create a standard kit including

the chlorhexidine-impregnated foam disk. Policy and procedure was revised to support the use of the new kit. Formal training was developed to target Hospital Acquired Infection (HAI) champions and Education Coordinators (ECs) on accessing and deaccessing PAC using the kit. The ECs and HAI champions were then supported to provide initial on-unit education for their nurses and incorporate into their existing annual CVAD training. Following the initial education, we partnered with the institution's learning academy to implement these skills into the CVAD/Foley class structure, which all newly hired nurses attend. Online learning module components were also developed, which will be added to new hire training and annual CVAD training. Ongoing review of port-related CLABSI data with an Infection Preventionist was also performed. Percentage of nurses formally trained on port-a-cath access and deaccess increased from 0% to 87%. Average port-related infections decreased from 0.75 port-related CLABSIs per month to 0.625 per month (0.125 reduction), including four consecutive months with no port-related infections. We successfully standardized PAC access supplies and formalized education and training on accessing and deaccessing PAC to reduce the serious complication of port-related infections.

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REVIEW OF FLUORESCENT IN SITU HYBRIDIZATION (FISH) TURNAROUND TIME FOR GERIATRIC MULTIPLE MYELOMA PATIENTS NON-ELIGIBLE FOR AUTOLOGOUS STEM CELL TRANSPLANT

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Timely interpretation of fluorescent in situ hybridization (FISH) analysis is essential in developing personalized treatment plans for older patients with multiple myeloma (MM) who are not eligible for autologous stem cell transplant (ASCT). Treatment for this patient population is often time-sensitive and is based appropriately on the disease heterogeneity determined by FISH analysis. The initiation of one treatment inherently disqualifies the patient to be eligible for another. This pilot study evaluated FISH turnaround time for the aforementioned patients in clinical practice. This pilot study was a single-center, retrospective chart study. A clinical MM database at Princess Margaret Cancer Centre (PMH) was used to identify patients older than 70 who were newly

diagnosed with MM. A total of 74 patients satisfied the inclusion criteria during the study period between May 1, 2010 to May 31, 2018. The median FISH turnaround time was 27 days. The interval of days between FISH report date and the treatment start date was at median of < 3 days. Of these patients, 87% had standard-risk disease, whereas 13% had high-risk disease. Bortezomib-based treatments are indicated for high-risk disease; however only 58% of patients with high-risk disease were initiated on it. Clinicians found the median turnaround time of FISH analysis at 27 days was not timely to review for treatment decisions of older patients with MM. As a result, treatments were often initiated prior to FISH reports being available. Consequently, this pilot study calls for further examination in enhancing timely availability of FISH results including the validation study to determine the accuracy and utility benefit of multi-probe FISH device.

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THE SHIFT TO OUTPATIENT INFUSION: DECREASING WAIT TIMES

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This outpatient infusion area was experiencing increased patient complaints regarding prolonged wait times associated with patient flow. An initiative to decrease wait times was necessary as our center faced a future of increased volume as health care shifts to outpatient services. At the onset of our data collection, wait time to be roomed unfortunately exceeded 60 minutes on high census days. Our desire to improve patient satisfaction by streamlining the registration process would demonstrate to our patients that we were focused our patient centered care and additionally improve the efficiency of our center. The purpose of our project was to decrease patient wait time in our outpatient oncology and infusion center. Our center had been experiencing an increase in complaints related to the amount of time the patient waited between "sign in" and the time they were being "roomed". The implementation of our project began with looking at the entire registration and scheduling process. We found that barring interruption the average time for a patient to be processed through registration, triage by nursing assistant with vital signs, and being "roomed" should be approximately ten minutes per patient. We found that the hours between 7am and 930 am proved to be the hours of the highest activity. Interventions

implemented were hiring of consistent nursing assistant to room, manipulation of scheduling process, and engagement of all staff to be involved with initiative. Our process improvements implemented proved to be a success. We found that our wait time decreased from an average of 22 minutes at the onset of our project down to 12–16 minutes on high census days—and as low as 7–10 minutes on lower activity days. We also gauged our success by a decrease in the volume of patient complaints as related to wait time. Since the start of our initiative to improve the registration process we found an increase in patient satisfaction. We also began to expand on this project by creating a multidisciplinary operational excellence task force to improve process as it relates to turn around time of laboratory results and medication delivery from pharmacy. Process mapping guided our team to interventions needed to create positive change.

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RED ZONE—DECREASING FALLS ON A BMT UNIT

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Until March of 2016, the fall rate on the 6900 Leukemia/Lymphoma unit had been increasing annually. In the first quarter of 2016 division 6900 had 14 patient falls for an average of 4.66 falls per month and leaders and staff on 6900 decided they needed to make a change in practice to positively impact patient safety. In February 2016, a team consisting of the Clinical Nurse Manager, Assistant Nurse Managers, Advanced Practice Nurse, four Staff Nurses, and QI Specialist met to review why falls were happening and why this problem was so prevalent for the BMT patient population. The goal for this project was to develop a process to help identify patients within the 6900 population at risk for falling. This system would allow the division staff to identify at risk patients, implement interventions for fall prevention, provide a comprehensive education, and track patient condition related to fall risk. Through analysis of the previous 5 years of fall data, the team determined 40% of the patients who fell on division 6900 had the following in common: low WBC differential, dizziness, high risk drugs, deconditioning, and diarrhea. These criteria became known as the 5 D's. Any patient identified as having two or more of the 5 D's is placed into

the “Red Zone” and additional interventions are put in place. Once the team formed the “Red Zone” process, they met again to develop training for staff, as well as checklists that would be used for “Red Zone” interventions. In March of 2016, the “Red Zone” process was initiated on the unit. In the second quarter of 2016, after implementation of the “Red Zone,” division 6900 went 42 days without a patient fall. Fall rates for the unit have decreased by 7 falls every year since implementation. Division 6900 utilizes the Managing for Daily Improvement (MDI) process to show the progress relating to patient falls and staff compliance with “Red Zone” interventions. The Division has continued to evaluate the Red Zone criteria through the MDI process and additional A3 meetings. It is a continued effort of all 6900 staff to sustain the “Red Zone” process and decrease patient falls.

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TIMELY IV PLACEMENT FOR INFUSION PATIENTS

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The Infusion Suite of the Norris Cotton Cancer Center at Dartmouth Hitchcock Medical Center, provides infusion treatments to 40–65 patients each weekday. Intravenous access was previously inserted by the treating infusion nurse, negatively impacting nursing workflow and patient wait times. This caused poor patient satisfaction and unmanageable nurse workloads and impacting the units overall timeliness. We have instituted a designated, IV RN expert who performs all intravenous insertion for patients in need of IV access. This frees up the infusion nurse's time, results in fewer intravenous insertion attempts, increases patient satisfaction, and has improved overall on-time performance. The goals of this work were to optimize all resources, and improve patient and nurse experience. We used the Define, Measure, Analyze, Improve, and Control (DMAIC) method for process improvement. In 2016 we instituted a designated IV RN and in 2017 we refined the role by identifying opportunities for timely IV insertions by: reallocating support staff, enhancing communication through instant messaging platform, restructuring information flow, pre-assigning patients, adjusting staff and patient motion/flow, and adding new equipment. Several pilots were run focusing on inserting the

intravenous catheter by an individual nurse. Timeliness and nurse workload were monitored during each pilot. In 2015, it was identified that placing a patient's IV prior to their infusion appointment was found to save the patient a median of 27 minutes in the time it took to receive their first IV medication. New Intravenous workflows for patients receiving an intravenous catheter that take into account patient experience and nursing workload. Sustained improvement results included patients receiving an intravenous catheter prior to appointment start time increased from 8% (2015) to 60% (2018) and time to IV placed improved from 16 minutes after appointment time (2016) to 16 minutes before appointment time. Feedback includes reduced staff frustration with workload and flow as well as increased patient satisfaction with IV insertion and treatment timeliness. Timelier insertions of IV's has improved our on-time infusion treatments, increasing patient satisfaction with wait times by more than 10 percentage points.

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SCREENING WOMEN WITH EARLY STAGE BREAST CANCER AT RISK FOR CARDIAC DYSFUNCTION PRIOR TO ADJUVANT CANCER TREATMENT

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Over 3.1 million women with a history of breast cancer live in the US. Cardiac dysfunction is a serious side effect of certain cancer directed therapies that can interfere with the efficacy of treatment, decreased quality of life and impact survival for breast cancer patients. The American Society of Clinical Oncology (ASCO) published new clinical practice guidelines (CPGs) in early 2017 for the screening and monitoring of adults with cancer prior to the start of cancer treatment to reduce morbidity and mortality. A quality improvement project instituted a new clinical practice guideline for screening of early stage breast cancer patients at-risk for cardiac dysfunction from planned adjuvant breast cancer treatment prior to initiation of therapy to improve monitoring and surveillance of these at-risk patients utilizing ASCO guidelines. Secondary aims involved education including cardiac risk factors and heart-healthy lifestyle. Quality improvement methodology using the Plan-Do-Study-Act (PDSA) engaged an interdisciplinary team to identify champions, develop a clinical algorithm and identify necessary resources to successfully implement the new ASCO CPGs. Newly diagnosed breast cancer cases were tracked over a 3-month period using the

Electronic Medical Record (EMR) to audit provider schedules, weekly Multidisciplinary Breast Cancer Conference and weekly Tumor Board cases. Patient eligibility was established by a review of the EMR utilizing the ASCO guidelines. Over the 3-months study, 86 new breast cancer cases were identified with 58% of eligible cases referred to cardiology oncology prior to the initiation of adjuvant breast cancer treatment. 44% (31 cases) met ASCO criteria for high-risk, while 100% Cardio-Oncology consults were scheduled prior to initiation of treatment. For education, 100% of patients reported improved knowledge regarding cardiac risk factors from treatment while 80% reported plans to change behavior based on this new knowledge. Using the PDSA methodology, screening and referral goals were achieved for a majority of women newly diagnosed with early stage breast cancer at risk for cardiac dysfunction as a result of their planned cancer treatment. A tailored and detailed plan for cardiac monitoring throughout treatment and the project also resulted in establishment of a Cardio-Oncology subspecialty clinic.

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A MULTIPLE MODAL APPROACH TO THE PREVENTION OF CENTRAL LINE-ASSOCIATED BLOOD STREAM INFECTIONS (CLABSI) AND MUCOSAL BARRIER INJURY (MBI) IN THE ADULT ONCOLOGY AND BONE MARROW TRANSPLANT POPULATION

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Research shows that patients with an oncologic diagnosis are at higher risk for central line-associated bloodstream infections (CLABSI). Bloodstream Infections (BSI) are a major cause of complications in patients with cancer, causing delays in chemotherapy, longer hospital stays, suboptimal treatment, and a higher mortality rate. The prevalence of BSI ranges from 11% to 38% and overall mortality reaches 40%. Our institution is a large academic medical center with an inpatient adult oncology/bone marrow transplant (BMT) unit which has a total of 28 (8 designated BMT and 20 general oncology) beds. There was a 23% increase in the CLABSI rate between

calendar year 2014 and 2015, even with normalization of the major change in the National Healthcare Safety Network (NHSN) CLABSI definition between the two years. An interdisciplinary specialty team was formed to address the concern and assess current practice, review literature, and implement changes to decrease the CLABSI rate. The interdisciplinary team implemented the following actions: assessed compliance with chlorhexidine (CHG) bathing for all patients, created education for patients/families and staff on CHG bathing, began masking all patients during sterile dressing change procedures (unless contraindicated), initiated the use of CHG/alcohol impregnated swabs for both the valve and on each lumen, changed our current neutral needleless connector to an anti-reflux needleless connector, standardized our central venous access device kits to include a CHG-impregnated dressing and supplies in order of use, integrated the practice of a 2-person central line dressing change which is documented in the electronic medical record (EMR), and began using an evidence-based Oral Assessment Guide (OAG) and an oral care plan for all BMT patients. Review of pre-versus post-intervention CLABSI rate data displays a decrease of 28%. At this time, the post-intervention period is not long enough to show a statistically significant decrease, however using the NHSN Standardized Infection Ratio (SIR) shows a 34% reduction in the SIR. This quality improvement has not only decreased the incidence of a life-threatening complication in our oncology population, but an increase in awareness and attention to prevention of CLABSI for this unique patient population.

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ORAL ANTI-CANCER MEDICATION PROGRAM: A NURSE LED INITIATIVE

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Oral anti-cancer medications have increased in prevalence of use and oncology patients are at risk of medication errors related to dosing and adverse event management. Oncology nurses in a community practice clinic performed a six-month retrospective chart review of patients receiving capecitabine. Data revealed the care coordination process to be undefined, fragmented, and nonstandard which could result in delays in patient ability to drug access,

education, interventions for adverse side effects and abnormal lab results for patients. The purpose of this project was to create a standardized nurse led protocol process for initiation and monitoring of oral anti-cancer medications. A multidisciplinary team gathered for weekly work sessions. Current and future state process maps and a gap analysis were completed. Multi-faceted foci included: patient financial navigation for drug access, physician ordering processes, oral regimen scheduling algorithms, patient education materials, lab monitoring reminders, nursing documentation guidelines and auditing tools. The Patient and Family Advisory Council reviewed the process and education materials providing guidance and feedback on program design. Medical providers, nurses, pharmacists and support staff approved the proposal for implementation. The oral anti-cancer medication management program will be evaluated through the use of electronic health record audits performed by a clinical nurse specialist. Patients initiated on new oral anti-cancer medications from September 2018 through February 2019 are included in the program evaluation. Metrics for evaluation include time from prescription generation to patient start date, completion of chemotherapy teaching, nursing documentation that lab evaluation and that a follow up call within seven days of therapy initiation was performed. A comprehensive, standardized process for managing oral anti-cancer medications facilitates patient access to the anti-cancer agents, management of dose limiting side effects, education for administration and toxicity management. Oncology nurse practice is enhanced to the full scope of licensure and patient outcomes are improved. This program can be used as a model for other community practice oncology clinics within the current environment of rapidly proliferating oral anti-cancer agents available for oncology patients.

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THE NIGHTINGALE

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Traditional hospital systems were created to help patients and families signal their need for a nurse at the bedside, instead they frustrate patients by creating unnecessary delays in the communication process, and fail to distinguish more urgent from less urgent needs, making these systems less safe than they need to be. Pain is one of the most debilitating symptoms patients with cancer experience, so getting

the information to the nurse in a timely manner is of the utmost importance. Noise levels in and around call bells on an oncology unit can be very distressing to patient. Utilizing “the nightingale” directly reduces call bell usage, so the this lends itself to a quieter environment. The purpose of this project was to provide pts an instant communication with their caregivers, without the traditional wait times. Utilizing a new technology, “the Nightingale phone” was added to the pre-existing phone. A red button was added to the back of the back of the phone. The button was specifically designed with a speed dial button that accesses the nurse wireless Vocera (a small device the nurse wears to communicate, caregiver to caregiver). The device saves numerous steps, less time spent answering traditional over door lights, more timely response, improved pt and staff satisfaction, improved pt safety, and fewer caregiver hand-offs. This device is the first of its kind, and was innovated by a nurse who did not want to see her cancer patients suffer. This solution has gone live on the oncology unit since 2015, and has had great success. HCAP scores have increased significantly in most all domains, and the noise levels in and around room have significantly increased as well. in addition, likelihood to recommend the hospital, pain control, communication and response to concerns and complaints have also increased.

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SURVIVORSHIP CARE PLANS COMPLETION: THE ROLE OF THE CHEMOTHERAPY TEACHING VISIT VS. EMR TREATMENT INTENT

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Survivorship care plans (SCPs) are recommended for all patients treated with curative intent. Despite the increased focus on SCPs, completion rates remain low. In the private practice setting, due to less standardization, compliance has been even more challenging to achieve. In the multiple offices of this large outpatient oncology/hematology practice in New Jersey we evaluated adult patients who have completed neoadjuvant/ adjuvant chemotherapy between 2/15–4/1/18 in four

tumor types: Breast, Lung, Colon and Non-Hodgkin’s Lymphoma. Survivorship visit (SV) occurred within six weeks of chemotherapy completion. Practice transformation changes included standardization of both chemotherapy teaching visit scheduling and the electronic chemotherapy orders (intent of therapy). The following interventions were instituted: engaging the midlevels to educate patients on the rationale of the SV at the chemotherapy teach visit, and use of treatment intent by midlevels to determine eligibility for SV. Handout is given educating about the SV. 27 of 84 (32.1%) of eligible patients had a survivorship visit. Of the 27 patients, 8 (29.6%) had a chemotherapy intent in the EMR. Of the 57 patients without a survivorship visit, 20 (35%) had a chemotherapy intent in the EMR. 72 of 84 patients (85.7%) had a chemo teach. 25 of the 27 patients who had a SV had a chemo teach (92.5%). Of the 57 patients who had no SV, 42 (73%) had a chemotherapy teaching session. 2 of 12 patients (16%) with colon, lung or NHL had a survivorship visit, compared to 24 of 74 (31%) of breast cancer patients. As we continue to implement these changes it is believed that our compliance with SCPs will improve. Increased completion of SCPs requires a multipronged approach and is intricately related to practice transformation. Our pilot study suggests that electronic addition of chemotherapy intent to the patient record does not increase survivorship visits. Increased discussion of SV at the time of chemotherapy teach might increase SCP completion. SCPs are an important part of the treatment plan and we need to continue to work for better compliance.

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CODE LAVENDER: A STANDARD OPERATING PROCEDURE TO SUPPORT STAFF AFTER A PATIENT DEATH

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Smilow Cancer Hospital is a National Cancer Institute designated comprehensive cancer center. With the shift of oncology care to the ambulatory setting, there has been an increase in the acuity of patients admitted and subsequent inpatient deaths; therefore burnout and disenfranchised grief are concerns among staff members. The purpose of this project was to Create a standard operating procedure (SOP) to support staff who experience a patient death. The objective was to reduce staff perception of burnout and disenfranchised grief. Implementing a “Code Lavender” when a patient

dies serves to notify other staff members in real time of the patient death. The charge nurse (RN) notifies all staff via secure broadcast message including patient name, room number, RN and patient care associate (PCA) caring for the deceased patient. The chaplain is also contacted to report to the unit for staff support. The RN and PCA are offered a 15–30 minute break from the unit if they feel they need it and their assignments are to be split up between remaining staff members. 35 pre-implementation surveys were distributed to Inpatient Medical Oncology Unit RNs and PCAs to evaluate staff perception of burnout and disenfranchised grief and to assess the need for increased support after a patient death. Early evaluation of post-implementation surveys show an increase in staff perception of support and lower disenfranchised grief after a patient death. We plan to continue collecting post-implementation surveys through October, 2018 with a complete analysis at that time. Code Lavender was developed in recognition of insufficient staff support following a patient death. After ongoing positive feedback by staff after the initiation of this SOP, the next steps are expanding to two other inpatient Oncology Units. In-services have been held on remaining inpatient units regarding the purpose and logistics of this SOP. Pre-surveys will be distributed to staff on the two other units through October, and due to the lower volume of deaths on these units, we will delay distribution of post-surveys until December. Additionally, we are investigating the feasibility and building a proposal to incorporate the use of lavender essential oils into the SOP as a further holistic enhancement. Code Lavender has catalyzed the growth of a culture where staff feel supported after experiencing a patient death.

301 DECREASING CENTRAL-LINE-ASSOCIATED BLOODSTREAM INFECTIONS ON AN INPATIENT STEM CELL TRANSPLANT/ ONCOLOGY UNIT

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Central-line-associated blood stream infections negatively impact patient outcomes are costly. Central line dressing change, care, and maintenance was inconsistent among the vascular access team and the inpatient stem cell transplant/oncology RNs. The CLABSI rate on the stem cell transplant/oncology unit led to the development of standardized dressing changes, care, maintenance, and blood culture collection from central lines. Implanted ports were also included in the education, competency, and line round auditing. The purpose

of this project was to develop standardized central line dressing change care and maintenance and blood culture collection process to decrease CLABSIs in the stem cell transplant /oncology patient population. Interventions: Implementation July 2017. Developed a standardized process for central line dressing changes and central line care and maintenance education and competency. Educated and validated the vascular access team and the stem cell transplant/oncology unit RNs on central line dressing changes. Educated and validated the stem cell transplant/oncology unit RNs on the appropriate steps for blood culture collection. Weekly central line audits with the infection control coordinator to ensure compliance with standardized central line maintenance. Leadership (Director, Manager, Supervisor, Charge Nurse and/or Educator) twice daily central line audits. Real time interventions with the nursing staff if any auditing pieces were missed i.e.: missing caps, dressing not dated, dressing clean dry and intact., and chlorhexidine impregnated disc in place around the exit site. New Hire RNs education and validation. Evaluation/Literature Review: 1/3 of all annual patient deaths from hospital acquired infections are attributed CLABSIs. Most CLABSIs are preventable. Central line education and competencies for the staff that will be providing any line care or maintenance is best practice for the prevention of CLABSIs. Hands-on training with the RNs. The use of a disinfectant cap has shown effective in the prevention of CLABSIs in patients with central lines in some studies. Discussion/Outcomes: 50% reduction in CLABSIs in 2018 compared to 2017. Total CLABSIs in 2017 = 4. Total CLABSIs in 2018 as of October 1 = 2. Continue weekly central line audits with the IP and twice a day with leadership. Provide real time feedback. 2018 annual competencies for the stem cell transplant/oncology RN staff on Central lines and Ports. CHG bathing implemented in August 2018 for all patients with a central line or implanted port.

302 QUALITY IMPROVEMENT INITIATIVE: CREATING A STRUCTURED APPROACH FOR TREATMENT OF RESEARCH PATIENTS WITHIN A LARGE ACADEMIC CANCER CENTER

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Our treatment center lacked a structured approach for treatment of phase I research patients. As more complex phase I research studies transition to the

outpatient setting, it is challenging to coordinate their care, therefore, in April 2017 a plan was initiated. Our plan was to identify a team, improve education, team readiness and workflow, generate electronic reports. A core research team was identified. Educational needs were delineated and demonstrated need for CITI training, ACLS certification and research competency skills checklist. Monthly core research team meetings, daily huddles with infusion nurses, and bi-monthly team meetings with clinical research teams (Cancer Clinical Trials Office Staff—CCTO, infusion staff and nursing leadership), were initiated. Space was identified for treatment of Phase I study patients. An acuity tool was developed to assist in identifying intense research protocols and appropriate staffing patterns. Standard of practice (SOP) guidelines were developed to assist in appropriately assigning patients to research unit. To ensure team readiness, a worklist was developed outlining team member responsibilities prior to commencement of phase I study. Education session(s) were provided by clinical research team prior to treatment. Core research team members were assigned roles in the event of a code situation to ensure emergency preparedness. Debriefing session took place which identified what worked and what needed improvement. Transition from paper binder to online electronic educational tool made resources easily accessible. General research education sessions for all infusion staff were initiated. Electronic reports were generated which provided daily lists of research patients, investigational products administered and administering staff, as well as electronic reports documenting staff training. Team meetings identified team building strategies, ways to improve patient care, and workflow concerns. Huddles identified potential problems and encouraged questions amongst staff and research leader. Utilization of acuity tool demonstrated need for change in staffing patterns. Development of SOP empowered charge nurses to assign phase I patients to research unit. Compliance in educational training improved from 35%–92%. As the research landscape evolves, we must continually review and standardize our processes in order to provide safe, efficient care for patients by delineating team responsibilities to enhance outcomes, building electronic order sets for protocols, addressing scheduling of patients, and re-evaluating staffing patterns.

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EFFECTS OF NUTRITION AND FITNESS PROGRAM IN BREAST CANCER SURVIVORS

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Benefits of regular exercise and weight management for Breast cancer survivors are well documented. In a survey of Breast Cancer survivors at the Cancer Center, 95% reported an interest in a post treatment fitness and nutrition program. Therefore, we designed and implemented a 12 week fitness and nutrition program in collaboration with LIVESTRONG at the YMCA to assess the impact on fitness level, diet quality and body weight. Seven breast cancer survivors participated in biweekly 75 minute group fitness classes led by certified instructors using evidence-based curriculum. It included aerobic exercise, strength training, and methods to improve flexibility and balance. Participants also attended four 1-hour group nutrition education sessions led by an outpatient oncology registered dietitian. The sessions covered ACS Guidelines on Nutrition and Physical Activity for Cancer Survivors, nutrition label reading, and healthy cooking demonstrations. Fitness level was assessed at baseline and completion using 6 minute walk test, leg/chest press weight, and flexibility and balance tests. Diet quality was self-assessed at the start and end of the program as well as body weight. Walk test distance improved by 15% after 12 weeks. Leg/chest press weight increased by 33% and 42% respectively. Arm reach increased by 15% and single leg stance increased by 10% on right and 20% on left legs. For diet quality, greatest improvement was in processed meat intake with 29% reporting reduced intake at completion. Completion rate was 100% and survivors rated overall satisfaction of the program as “very satisfied.” The results demonstrate that there is interest on the part of Breast Cancer survivors to make lifestyle modifications to diet and physical activity to improve overall health. The group format combining both nutrition and fitness training serves as a model for providing this type of program in collaboration with LIVESTRONG at the YMCA based on the improvements demonstrated and positive feedback from participants.

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CALLBACKS FOR PATIENTS NEW TO CHEMOTHERAPY

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The traditional aim of post discharge calls is to identify and remedy, whenever possible, gaps in care that develop following discharge of patients with complex health care needs/conditions. The purpose of this

project was to develop a process to follow-up with patients who have undergone new chemotherapy treatment and address the following statement: Do Foley Cancer Center patients undergoing new chemotherapy treatment have questions about their care after leaving the office? During the month of December, 2017, the FCC developed a process to identify patients who would benefit from a follow-up call. Nurses in the treatment room filled out a callback worksheet for all patients undergoing new chemotherapy treatment. The completed form was given to the Research Nurse at the end of the patient's visit. The pharmacist also provided a monthly list of new chemotherapy patients. All calls were conducted within three days of service and a maximum of two attempts were made to contact the patient. Questions for the callback were scripted. In January of 2018, 53.3% of patients called were reached, which fell short of Studer's 60% benchmark. However, by August of 2018, successful contact by phone occurred with 80% of patients, thereby exceeding the benchmark by 20%. Throughout the course of the study, a total of 24 interventions were performed, which is equivalent to 40% of all patients reached. Medication interventions were most frequent and included questions about administration, indications, adjustments, refills, dispensing concerns, pain management, convenience, and cost. The process to identify the correct patient population proved challenging at times. Barriers identified included list inconsistency and worksheet errors. Alternative methods were developed to validate the correct group of patients. Calls were conducted during normal business hours. This may have contributed to patient unavailability. Expanding or offering patient callbacks during evening or weekend hours may be beneficial. Although data collection utilizing an excel spreadsheet proved feasible, transitioning to the Patient Call Manger system could facilitate real time data collection and expand options for future data analysis. Prior to 2018, patients undergoing new chemotherapy treatment did not receive callbacks. The FCC's implementation of the patient callback process has improved patient care by providing important interventions, emotional support, and a voice for patients to communicate their needs and expectations.

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CANCER SURVIVORSHIP CARE PLAN AT STEEPLECHASE CANCER CENTER— INCREASING OUR REACH

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Over the past several decades, the number of cancer survivors has increased dramatically as a result of improved early detection and effective therapies. Survivorship care plans (SCP) is a record of a patient's cancer history and recommendations for follow-up care. It contains important information about the given treatment, the need for future follow-up, surveillance, potential long-term side effects of the treatment received, and other general health guidance (e.g., bone health monitoring, diet and exercise recommendations, tobacco cessation, sexual and reproductive health). Effective 2017, the Commission on Cancer requires administration of SCPs to 50% of all eligible cancer cases. The objective of this project was to increase the distribution of SCPs at Steeplechase Cancer Center (SCC) to exceed the minimum requirement of 50%. At SCC, we implemented SCP delivery with our prominent disease site (breast). The development of our SCPs is collaboration between the Cancer Registry, the Oncology APN, and physician providers as appropriate. We use the Journey Forward disease-specific SCP template, which is approved by the CoC, the American Society of Clinical Oncology, and the Oncology Nursing Society. Starting in May 2017, the APN met with the patient in a face-to-face visit to provide the SCP to ensure that it is clearly explained and also to address any questions the patient may have. to encourage patient convenience. In June 2018, we began collaborating with Radiation Oncology to further expand patient reach by combining appointments for patient convenience. The analysis shows an upward trend in the total number of patients receiving their SCP. As a result of our collaboration with multiple stakeholders, we have seen a 50% increase in the number of patients receiving survivorship care plans. When patients complete the review of their SCP, they frequently state how thankful they are to have completed this visit/phone call and the visit is more comprehensive and helpful than they anticipated. While there are many barriers to effective implementation and dissemination of SCP, at SCC we identified strategies to improve collaboration and nearly double our reach to eligible patients. Our next steps include making the SCP visit a multidisciplinary visit including social work and nutrition. We also plan to start targeting additional tumor sites including colorectal, endocrine, and lung.

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INTERDISCIPLINARY APPROACH TO RESEARCH BIOPSY ACQUISITION IN ONCOLOGY CLINICAL TRIALS

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While imaging-guided tumor biopsies have been a mainstay for the histologic diagnosis of cancer, fresh tumor research biopsies in clinical trials is a more recent requirement. Since each sponsor has unique guidelines that can vary greatly on the acquisition and processing of these samples, the Froedtert & Medical College of Wisconsin interdisciplinary team, including: procedural radiology, Office of Clinical Research and Innovative Care Compliance (OCRICC), institutional tissue bank, and the research nurse manager/staff of the clinical trials office, found that there was no consistent communication plan, and with each biopsy that was being performed there was often last minute planning. This led to frustration among team members, the potential for error, and concern for patient safety. The purpose of this project was to develop a streamlined guidance document between multiple departments in a large academic medical center for obtaining and processing research tumor tissue samples. Since communication between departments was pivotal in developing a guidance document, the clinical trials office research nurse manager met with key members of the team to understand the needs of each department. A single communication template was created incorporating the required information for each department, starting from the actual biopsy order through the processing of the tumor sample. The naming convention of the document was identified and contact information for each department inserted. Institutional expectations for documentation of research tumor tissue chain of custody was also outlined. The template allows for the insertion of trial-specific requirements. The initial draft of the guidance document is to be created by the research nurse manager/staff and reviewed by each department during the planning phase of the trial. Once approved, the document is sent out in the final activation packet from OCRICC to all departments. With a single communication tool encompassing the needs of each department created prior to the activation of

each trial, the last minute planning of these biopsies no longer occurs. Staff feel more prepared and the risk for error has decreased. This organization also allows the research nursing staff the guidance to appropriately educate the patients on the biopsy process. A survey is being generated that will be distributed to the clinical trials office staff, radiology staff, and members of the pathology department asking for feedback to further improve the guidance document.

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INTERDISCIPLINARY COLLABORATION AND ITS IMPACT ON QUALITY

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Patients with an oncology diagnosis are at a greater risk for a fall or infection than a patient without a cancer diagnosis. Falls or Infections can complicate a patient's road to recovery and can result in death. Nurses and other healthcare providers need to utilize a team approach to develop initiatives and collaborate to help reduce these never events from happening. The goal of this project is to establish an inter-professional service line based team to continually identify, implement and review processes and develop tactics to improve patient care, including quality metrics. Accountable care teams are a hospital wide initiative to increase collaboration between interdisciplinary teams. Our solid cancer service line restructured our Accountable Care Team to meet the needs of our patients and increase engagement from all the team members. The committee includes an Oncology Hospitalist, Advanced Practice Provider, Nurse Educator, Infection Prevention, Patient Safety Specialist, Environmental Services, Medical Director, Charge RN, OT/PT, Pharmacy and Clinical Nurse Leader. This group meets monthly to discuss quality metrics and works on implementing practices to improve patient safety and outcomes. The goal of improved quality outcomes has been met with the implementation of this inter-professional team. Our service line has seen improvement in our CAUTI, CLABSI and falls. Since implementation of this team, our falls have decreased by 20%, CLABSI by 25% and CAUTI by 100%. Every patient deserves and expects to leave the hospital healthier than they entered and to have an exceptional experience while in our care. Interdisciplinary collaboration provides an opportunity for a positive impact to patient outcomes. Other organizations may wish to adopt a similar service based team to provide the best patient care to patients across the continuum.

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TAKING CHARGE TO EMPOWER NURSES: UTILIZATION OF AN EXPERT NURSE TO DECREASE MEDICAL EMERGENCIES

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In 2016, a Hematology/Oncology/Palliative Unit moved from a 27 bed unit to a 30 bed unit with almost triple area. Due to the unit layout, visibility of all colleagues has decreased. This has created a complex issue of not having all staff in one location to consult with for patient concerns or advice. Our area implemented an expert patient free charge RN on day shift to help with patient flow and bridge the knowledge gap of our staff. The purpose of this project was the implementation of an experienced oncology nurse into a patient free charge RN role to serve as a resource to staff on the unit. The goal is to detect a decline in the patient status earlier, increase the amount of rapid responses and decrease the number of medical emergencies for our patients. Utilization of an experienced oncology nurse who is able to guide and mentor staff with unfamiliar procedures and situations. By ensuring an expert oncology nurse to assess patient condition more quickly and help troubleshoot problems, this has in fact decreased the number of true medical emergencies. The charge nurse is also available to empower staff to call rapid responses when they see a decline in the patient's status rather than wait for the situation to escalate. From June 2016 to September 2018, the number of rapid responses (earlier detection of patient deterioration) increased from 88% to 97%, resulting in a 9% increase. Our number of true medical emergencies (Codes) decreased by 9%, going from 12% to 3%. Data collection is continuous and further results are pending. By utilizing a patient free charge RN our staff nurses feel more empowered and supported when calling a rapid response. This has led to earlier interventions before critical situations arise. Other institutions may consider use of an expert nurse to improve patient outcomes.

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IMPLEMENTING 1:1 REGIMEN-SPECIFIC TEACHING APPOINTMENTS AND FOLLOW-UP CALLS TO IMPROVE TREATMENT COMPREHENSION, DECREASE ANXIETY, AND INCREASE KNOWLEDGE RETENTION IN NEW INFUSION PATIENTS AND FAMILIES AT CITY OF HOPE

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Prior to the 2018 ChemoTeach Initiative (CTI), City of Hope (COH) lacked a formalized structure for chemotherapy/biotherapy patient education. As a result, many patients expressed increased anxiety and decreased ability to understand and retain treatment information. In January 2018, the CTI began holding 1:1 appointments with patients and families in a private office away from the infusion area. This provided a calming space for patients to receive detailed information about their treatment from an experienced infusion RN. This also provided adequate time for questions, emotional support, and learning reinforcement. The CTI aimed to improve patient experiences by preventing unnecessary adverse effects related to incomplete education. Desired outcomes included decreased anxiety, improved treatment comprehension, and increased understanding of COH patient resources. The CTI used infusion RNs to deliver up-to-date information about treatments. During the 1-hour session, the RN reviewed side effects, home interventions, safety, and COH patient resources. Methods included verbal explanation, demonstration, standardized resource binders, and drug-specific handouts. Patients also completed a pre-and-post teaching survey assessing anxiety level, treatment comprehension, and knowledge of COH triage services. All information was reinforced in a post-treatment follow-up call. Pre-and-post teaching patient surveys show a majority feeling less anxious after their session, with a better understanding of the treatment plan and a greater level of confidence in accessing help through the nursing triage call center. Chart data suggests that patients who received follow-up phone calls after their first treatment were less likely to contact the nursing triage call center with preventable side effects and medication clarification needs. The CTI typically serves between 3 and 7 patients per day for teaching sessions. Verbal testimonies and metric data show the initiative's positive and empowering effect on patient experiences. As the CTI continues to develop in staffing size and programming, the leadership team is working to streamline patient scheduling and will continue to refine/revise education materials as necessary. In a culture where patients and families conduct their own research and seek detailed information about medical treatment, it is crucial to demonstrate competence and intentional care in delivering patient education. When properly utilized, the ChemoTeach Initiative, and programs like it, can make an incredible difference in the trajectory of a patient's life.

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IMPROVING NUTRITIONAL ASSESSMENT AND EDUCATION TO MANAGE LOSS OF APPETITE DURING CHEMOTHERAPY/BIOOTHERAPY

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Cancer treatments including chemotherapy/biotherapy can pose a significant effect on eating particularly with loss of appetite (LOA). A team of registered dietitians (RDs), infusion nurses and providers was created to assess, intervene and evaluate stress related to eating. The purpose of the quality improvement (QI) project was to reduce stress related to eating (mean score below 5) among cancer patients receiving chemotherapy/biotherapy at ambulatory infusion care center. The Scored Patient-Generated Subjective Global Assessment (PG-SGA, 2015), a validated tool to assess patient's nutritional status, was administered at initial RD consultation on Day 1 Cycle 2 of chemotherapy/biotherapy and again at three months post-intervention. In addition, questions evaluating level of stress related to eating and Press Ganey® scores related to education for management of LOA were tracked. Verbal, visual cues and written patient materials were used to increase patient/family learning abilities to manage stress related to eating and LOA. Forty-one patients on Day 1 Cycle 2 of cancer treatment were identified from July 3, 2017 to September 12, 2017. Thirty of these patients (73%) participated and completed the three-month follow-up survey. The mean stress with eating scores were 3 (range 1–8) and 1.8 (range 1–6) on the initial and three-month follow-up surveys, respectively. Nutrition assessment and education interventions improved the overall patient satisfaction scores overtime. The post-intervention mean score for stress with eating decreased by 60% (mean score of 3 to 1.8). The Press Ganey adjusted mean score related to education on management of LOA increased from 88.6 to 90.3. Identifying patients receiving Day 1 Cycle 2 cancer treatment and completion of mailed three-month follow-up survey were identified as barriers to nutrition assessment and patient education related to stress with eating and management of LOA. During the implementation phase in October 2017, one

patient was missed causing the dip in the Press Ganey adjusted mean score. Referral to the RD workflow was created in the electronic medical record to assist nursing staff in placing the RD consult. Optimizing the nursing assessment flowsheet to include the elements of nutritional assessment and distress screening of all patients with cancer will trigger patient referral to the RD, which will then increase patients' quality of life and patient satisfaction related to education in the management of LOA.

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ADDRESSING TOBACCO CESSATION IN AN AMBULATORY CANCER CENTER

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Tobacco use is a leading cause of cancer and can lead to additional complications for cancer patients who continue to smoke during treatment. These complications include reduced treatment effectiveness, increased side effects and poor wound healing. Median survival for cancer patients who continue to smoke is over 50% shorter than patients who quit. This quality improvement project took place at two sites of an ambulatory cancer center where infusion nurses were not assessing patients for tobacco use as a part of regular practice and there was not a program in place to assist patients in quitting smoking. The purpose of this project was to improve assessment of tobacco use and promote smoking cessation by implementing an evidence-based tobacco cessation program for patients receiving cancer treatment. Program components included: engaging key stakeholders, utilizing the evidence-based five A's (Ask, Advise, Assess, Assist, Arrange) framework for assessment, integrating the assessment and education smart phrases into EPIC, staff education, and 8 week telephonic counseling sessions based on the evidence-based Courage to Quit program. Ongoing feedback and reinforcement promoted this practice change for nursing staff. Pre-program chart review identified baseline smoking rates at site one as 17% and at site two as 11%. Post-program chart review showed that smoking status was assessed 72% and 77% of the time at sites one and two respectively. At site one, 18 patients completed between 1 to 8 weeks of counseling (M=4) and 22% quit smoking. At site two, 6 patients received between 2 to 8 weeks of counseling (M=6) and 33% quit. At completion of the project, the rate of current smokers decreased to 8% and 9% at sites one and two respectively. This project demonstrates the ability to

change practice within an ambulatory cancer center by initiating assessment of tobacco use by nurses and implementing an evidence-based tobacco cessation program. While the decrease in smoking rates cannot be entirely attributed to this project, the results suggest that integrating a program within an ambulatory cancer center can be effective at helping patients quit smoking.

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CENTRAL LINE ASSOCIATED BLOOD STREAM INFECTION REDUCTION IN AN INPATIENT MEDICAL ONCOLOGY UNIT

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The mortality rate of central line (CL) associated blood stream infections is 12–25% according to the CDC. Neutropenia, a frequent occurrence in the oncology population, adds an increased risk to contracting a CL infection. Because of an increased mortality rate associated with central line associated blood stream infections (CLABSI) in the oncology population, it was imperative to reduce the number of CLABSI. Our goal for fiscal year (FY) 2018 was to decrease CLABSI events on the unit to 6 (a 50% reduction from the prior FY) with a long-term objective to eliminate all CLABSI events. Beginning in January 2017, the following interventions were implemented: (a) removal of manifolds/extension sets from IV lines, (b) RN covers/uncovers CL before/after showering, (c) Tru-D cleaning on all isolation rooms after discharge, (d) paper trays (to provide a clean surface) were utilized for all lab draw equipment, (e) RN's and Patient Care Technicians (PCT's) clean all high touch areas in patient rooms once per day, (f) weekly surveillance from epidemiology on all CL, (g) unannounced CL assessments every 3-6 month, (h) CL dressing change performed only by trained unit champion RN, (i) CLABSI fair for bedside RN's with a focus on medication administration, drawing blood from a CL, and new product use, and (j) Root cause analysis on all CLABSI's. Using these interventions, the oncology unit was able to decrease the CLABSI rate of 2.08 in FY 2017 to 0.6 in FY 2018. The unit went a total of 243 days with zero CL infections. Although we did not meet the goal of zero CLABSI events, results indicated a 50% decrease in CLABSI events and a 71% decrease in rate (number

of events divided by CL days X 1,000). While we are very proud of the significant decrease in central line infections in the oncology population, we continuously strive to achieve zero CL infections by focusing on evidence-based practice and ongoing education for the bedside nurse. Helping the bedside nurse understand the impact they have on patient care has been instrumental in improving patient safety culture. The interventions implemented can be applied to any unit seeking to reduce the number of CLABSI events. Ongoing attention to management of CL along with review of each CLABSI are key to identifying additional improvement opportunities.

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DO SITE-SCRUB® IPA DEVICES REDUCE CENTRAL LINE ASSOCIATED BLOOD STREAM INFECTION RATES?

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Site-Scrub® IPA Device is a 70% isopropyl product designed to disinfect using friction. Site-Scrub is intended for use on female luer locks and needleless connector caps. Initially Site-Scrub was introduced to Baylor Scott & White in February 2017 to disinfect catheter hubs when changing needleless connectors. In May 2018, the oncology service line conducted a three month trial implementing Site-Scrub IPA device in place of alcohol pads prior to accessing needleless connectors. The purpose of this project was to evaluate the effectiveness of the Site-Scrub IPA devices for disinfecting needleless connectors to reduce central line associated blood-stream infections (CLABSIs) in the oncology patient population. An education plan was developed to inform and educate staff regarding the three month product trial. Staff were educated via email, flyers, and staff huddles. Site-Scrub IPA Devices were intended to be used in place of alcohol pads when accessing central line catheters. Staff were instructed to scrub the needleless connector for minimum of 10 seconds for 8 repetitions using a friction scrub. In comparison, pre and post-trial data for Site-Scrub IPA Devices did not reduce overall CLABSI rates. Of the 4 units that participated in the trial, 1 unit had a decrease in CLABSI events, 1 unit was unchanged, and 2 units had an increase in CLABSI events. Post-trial data indicated a significant cost increase compared to alcohol pads. The oncology service line consists of 96 beds, two medical oncology

units, one surgical oncology unit and one bone marrow transplant (BMT) unit. Although preventable, CLABSIs remain a leading cause of deaths each year and are associated with billions of dollars in increased cost to our healthcare system. Although bedside leaders preferred using Site-Scrub IPA Devices to alcohol pads for disinfecting injection ports, product trial results did not support continued use. The product remains in use as the preferred disinfection product when changing the needleless connector on a catheter hub. Although the use of Site-Scrub IPA Devices did not show a reduction in the oncology service-line CLABSI rates our practices, processes, and products continue to be evaluated based on the evidence.

314 DEVELOPMENT OF AN ONCOLOGY REHABILITATION PROGRAM QUALITY IMPROVEMENT PROJECT

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Several prospective trials have demonstrated a breast cancer related mortality benefit when patients achieve the recommended 150 minutes per week of moderate aerobic activity; however, less than 35% of the global population is physically active at the recommended levels, and even fewer breast cancer survivors. We need a better understanding of women and exercise. Evaluating breast cancer patient barriers to reaching fitness goals can help us design programs to encourage sustained engagement in regular exercise to help improve overall health and reduce the risk of breast cancer recurrence. Furthermore, such program development is necessary to meet the NCCN Survivorship Guidelines and ASCO Healthy Lifestyle Guidelines. Qualitative interviewing was initiated to assess breast cancer patients' knowledge of the recommendation to achieve 150 intentionally active minutes per week, their current activity level, why they do or do not meet the goal and what are the barriers. All questionnaires were completed over several days at the Norris Cotton Cancer Center clinic at Dartmouth Hitchcock Medical Center. 30 breast cancer patients participated in convenience sampling qualitative interviews. 63.3% were not aware of the goal with 56.7% not meeting the goal. Those who do exercise were mostly exercisers at diagnosis and give reasons grouped into the themes of "Valuing Health in General", "Appreciate Good Physical Feelings" and positive "Mental Health Benefits".

80% of those who do not meet the goal felt they could exercise from a medical standpoint yet list the reasons for not meeting the goal primarily health related (both cancer and comorbidities), weather, cost, time, and most significantly, 35% said lack of motivation was the primary reason. We included depression in that theme. We need to educate patients about the benefits of being intentionally active and set the expectation that patients will be active as part of their treatment. We believe a recommendation for exercise alone is not sufficient to engage patients in recommended levels of exercise and we need to design programs to help motivate patients for their own health and survival benefit. We propose several future interventions including exercise education, depression screening, health coaching with goal setting, virtual support communities, physical therapy and specific physical rehabilitation programs including local fitness centers and cardiac rehabilitation sites.

315 IMPROVING PATIENT FLOW AND THROUGHPUT: IMPLEMENTING AN INFUSION FLOW CHAMPION IN THE AMBULATORY SETTING

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The outpatient infusion department at a large academic cancer center averages 50,000 visits annually and 220 patients per day. The infusion center processes patients according to appointment times, but delays are inevitable due to complexities in verifying completeness of critical safety checks prior to the patient's treatment. Facilitating a streamlined patient flow process and enhancing patient throughput is a challenge. Moreover, the 81-chair infusion center is divided into three floors based upon oncologic disease, which can result in lack of global awareness by nursing staff related to patient wait times and acuity across the three floors. The concept of an Infusion Flow Champion originated from the department's nursing workgroup meeting. The purpose of this nursing-driven process improvement project was to

evaluate the effectiveness of an Infusion Flow Champion in facilitating communication and coordination of care among patients between the three floors. The objectives for this project were to establish an equitable and global approach in expediting patients to infusion chair availability and to decrease patient wait times. In collaboration with departmental leadership, the nursing workgroup developed guidelines and qualifications for the Infusion Flow Champion and selected a core group of nurses to perform this role. All clinical nurse leaders agreed to comply with these guidelines. The Infusion Flow Champion superseded the Charge Nurse on all floors and would make the final decision in regards to infusion chair assignment, regardless of which floor the patient was scheduled. As a result, patient wait times decreased from 24 minutes to 19 minutes, while infusion volume grew 4.4% in the pre and post fiscal years. Press Ganey results demonstrated an increase from 79 to 81 for “wait time in the chemo area”, and 86.6 to 90.5 for “kept family informed as what to expect” in the 9 months pre and post intervention. Self-reported nursing surveys showed an increase in autonomy and RN to RN communication between the three floors. The Infusion Flow Champion is a departmentally designed nurse-driven solution to safely expedite and coordinate the care of patients across infusion suites in an equitable and comprehensive manner. The Infusion Flow Champion is an innovative approach that can be replicated in ambulatory oncology settings to improve patient flow and throughput, thereby enhancing the patient experience and decreasing wait times.

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PUTTING A CUFF ON INFECTION: USING PATIENT-SPECIFIC BLOOD PRESSURE CUFFS TO REDUCE INFECTION TRANSMISSION

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According to a report published by the CDC in 2009, the annual national cost for hospital-acquired infections (HAIs) ranges from \$28.4 billion to \$45 billion. HAIs increase length of stay, patient readmissions, and associated cost of care. Oncology patients who received or are receiving chemotherapy treatment are at an increased risk of contracting an infection due to immunosuppression associated with treatment and disease. The purpose of the quality improvement project is to reduce the incidence of new contact acquired HAIs on a twenty-bed inpatient hematology oncology unit at an academic medical center. Prior to project

implementation, staff obtained vital signs using reusable shared equipment. Cleaning of shared equipment was performed in between individual patient monitoring. Using a multidisciplinary approach, nursing collaborated with Infectious Disease and Infection Prevention & Control teams to identify barriers. Anecdotal evidence suggested barriers existed to cleaning shared equipment, in particular patient blood pressure cuffs. Patient specific disposable blood pressure cuffs are being implemented to reduce HAIs from possible fomite vector. 2018 unit specific infection rates, excluding droplet and airborne transmissions, serves as the baseline for pre-intervention data. New unit specific contact transmission infection incidences will serve as a measure of effectiveness using patient specific disposable blood pressure cuffs to reduce HAIs. Infection incidence rates will be measured at two-week intervals. HAIs are preventable infections. Every measure should be taken to protect patients from HAIs. Patient specific disposable blood pressure cuffs are one such intervention that has been shown to reduce infections between patients. Unit infection rates since implementation of patient specific blood pressure cuffs is still being measured and will be made available at completion of this quality improvement project. Decreased infection rates correlate with a decreased length of stay and cost of treatment. Variable equipment throughout the hospital, length of observation, and small observation group are limitations to the quality improvement project. Next steps include the continued use of patient specific disposable blood pressure cuffs and data collection. In the future, we plan to extend the availability of disposable blood pressure cuffs and other disposable patient specific devices to our oncology service line and hospital-wide.

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THE EFFECT OF CHEMOTHERAPY EDUCATION FOR NEWLY DIAGNOSED CANCER PATIENTS

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A search of the literature revealed patient education prior to starting chemotherapy decreased side effects and anxiety. Types of patient education described include videos, pre-chemotherapy education classes, checklists, 1:1 education, and medication handouts. A lack of communication of education needs of diagnosed breast cancer patients between our clinic and infusion areas was noted. The purpose was improving communication between clinic and infusion nurses

and standardizing the chemotherapy education, patients will be prepared for first day of treatment. The design used a pre- and post- chemotherapy education intervention for newly diagnosed adult, English speaking, patients who had a solid tumor and required intravenous chemotherapy. A pre-chemotherapy checklist to enhance communication between clinic and infusion nurses. Voluntary, anonymous patient questionnaires assessed educational needs and first day of chemotherapy experience. The pilot group included those patients who attended the Chemotherapy Class and the baseline group of patients received current educational practice at clinic. A questionnaire completed on their first day of chemotherapy (n=30). All questionnaires asked if education decreased anxiety, increased self-manage of side effects, and attendance to chemo class. Of these, twelve attended the Chemotherapy Class. The 60 minute Chemotherapy Class was inclusive of tour of the infusion clinic. No statistical significant differences were observed between these groups for decrease in anxiety or side effect management. Most common reason for not attending Chemotherapy Class was convenience. Those who did attend the Chemotherapy Class were very pleased with the information they received. The infusion nurses could identify the patients who had attended the class and reinforced the teaching. Many obstacles were present, including patient recruitment to attend the Chemotherapy Class. Future directions include making a video to include in the Chemotherapy Class but also to have it available to those who are unable to attend the class. Will use more quantifiable metrics to measure patient anxiety and self-care management. No plans to discontinue the Chemotherapy Class at this time.

318 PROACTIVE TOILETING: ELIMINATION OF FALLS ON A HEMATOLOGY/ONCOLOGY UNIT

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Preventing patient falls and related injuries in the healthcare setting is a Quality and Patient Safety goal for all hospitals. Falls contribute to additional treatment, injuries, and even death. Oncology patients are at greater risk for sustaining an injury from a fall due to pancytopenia related to disease and treatment. On a Hematology/Oncology adult in-patient unit, fall rates remained above the National Database of Nursing Quality Indicator (NDNQI) benchmark. In a one-year period (April 2017–April 2018), our data showed that 50% of falls occurred around toileting.

An evidence based program, Proactive Toileting (PT) was crucial to prevent falls; it was implemented when deficits were identified in staff and patients' understanding of their fall risk. The purpose of the project was to decrease falls by 10% by implementing Proactive Toileting. An analysis of fall events revealed that common themes surrounding falls were staff and patient knowledge deficits, staff relying on family to assist with toileting, patients' lack of understanding of side effects from chemotherapy, and patients refusing to call for assistance. PT was implemented in May 2018, which included a toileting schedule for high fall risk patients. Prior to the initiation of PT, patients were toileted when they called for assistance. Nurse and support staff received unit-based educational in-services during daily huddles. Nurses educated patients on medication side effects and increased risk for falls. With PT nurses and support staff toileted patients on a regular schedule. Since implementation of PT, there has been a 33%, overall fall reduction from May 2018–September 2018 compared to January 2018–May 2018. With that reduction it is projected that from May 2018–May 2019 we will have a 38% reduction in falls that will occur around toileting. Oncology nurses play a pivotal role in fall prevention. Involving the multidisciplinary team in care planning is essential to promote patient safety. Collaboration between nurses and other members of the team played a key role in identifying and reminding staff of patients that required PT. This program highlights the importance of evidence based interventions in the patients' plan of care, and has the ability to spread to both oncology and non-oncology units.

319 EARLY INTERVENTIONS TO REDUCE LYMPHEDEMA COMPLICATIONS AFTER BREAST SURGERY

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Lymphedema is a known side effect of lymph node excision and can impair a patient's quality of life. Providers are challenged to accurately detect and treat lymphedema in patients who are at risk. Advances in this area include use of devices (L-Dex), which can detect extracellular fluid early and identify the need for intervention, thus mitigating patients' risk for

severe lymphedema and associated complications. It is a painless test which provides immediate results. However, patients must be compliant with their regular follow up appointments in order for these measurements to be evaluated. If an appointment is missed, patients potentially miss being identified for early intervention. This results in delayed treatment for lymphedema. The purpose was to evaluate patient compliance rates for follow up appointments with our oncology rehabilitation team to determine potential delays in early lymphedema care. We reviewed 35 charts within the time frame of April 2016–April 2017. All charts reflected patients who had a diagnosis of breast cancer, had sentinel node or axillary node dissection, were treated by a Greenwich Hospital breast surgeon, and were all evaluated by our rehabilitation team prior to their surgery to obtain a baseline fluid measurement. Our study showed that 14 patients came only for their baseline L-Dex measurement prior to surgery. 9 patients came for their baseline and 1 follow up visit. 12 patients came for their baseline and 2 or more follow up visits. In total, 8 out of 35 patients (or 22%) were identified for being at risk for lymphedema and were offered treatment. That number would be higher if more patients came to their follow up visits to obtain L-Dex measurements. Based on our findings, the rehabilitation team implemented three interventions to increase compliance with follow up visits: 1) Patients are now given appointment cards after their first pre-operative evaluation with a date and time for their first post-operative follow up visit; 2) An appointment reminder is mailed to the patient's home prior to any follow up visit; 3) An information sheet with exercises, their L-Dex measurement, and next appointment are given to each patient during their follow up visit. With these interventions in place, we have observed improved patient compliance resulting in early identification and treatment of lymphedema.

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COACHING BREAST CANCER SURVIVORS TO EXERCISE USING AN ONLINE PORTAL

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Fatigue is a significant side effect of cancer, affecting 75–100% of cancer survivors. Exercise has been shown to reduce risk of recurrence, improves confidence, provides a starting point for a more active lifestyle, and improves fatigue, body image, sleep and depression. As a comprehensive cancer center, we serve patients from around the world. Distance and time can be barriers to exercise, so we recognized the need for home exercise coaching. By utilizing the existing electronic medical record (EMR) patient portal for home coaching, we hope to eliminate the barrier of distance, and provide easy access to patients who want to exercise but need the added reinforcement of coaching. A goal of the project is to improve multiple quantifiable factors affected by exercise in breast cancer survivors. These factors include fatigue level measured by the Brief Fatigue Inventory (BFI) and 30 second sit-to-stand test assessed by our Physical Therapy department. Another goal is to reach out and encourage ongoing exercise amongst participants. We formed a collaborative relationship between nursing and Physical Therapy. The already-existing exercise program was advertised throughout the clinics in our comprehensive breast center to providers and nursing staff to assist in identifying those patients who could benefit from this program. After an assessment and completion of a 4-week program, led by Physical Therapy, patients are informed nursing follow-up will take place at designated intervals via the EMR patient portal. With this follow-up, nursing re-evaluates current home-based exercise status and fatigue level using the BFI. Evaluation of physiologic outcomes (e.g. sit to stand test, fatigue level) and rates of adherence will be presented. At the present time, 12 patients have enrolled in this program. Preliminary analysis of this ongoing project reveals an average age of 60. All participants are white, non-Hispanic females at this time. Those survivors enrolled are on average 10 months out from completion of therapy with six patients on active treatment. Due to the volume at our center, we anticipate being able to provide analysis of at least 30 patients. This project is innovative due to the promotion of long-term adherence to exercise through follow-up via electronic portal by nursing staff. Nursing assessment and subsequent collaboration with the medical team initiates referral to the program.

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IDENTIFICATION AND MANAGEMENT OF SEPSIS IN A HEMATOLOGY/BMT INFUSION CENTER

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The Outpatient Hematology/BMT infusion center at UCSF Medical Center provides care for increasingly complex patients and administers novel therapies with high toxicities in an attempt to decrease admissions to the hospital. It is crucial for infusion center nurses to have the skills and workflows to safely manage patients in an outpatient setting. Sepsis is a common oncologic emergency that carries a very high mortality rate. After an adverse patient outcome occurred at our infusion center, a gap analysis was performed to identify areas of weakness within the identification and management of septic patients. Chart audits and a nursing survey identified clinical inconsistencies and lack of standard workflows for patients exhibiting the signs and symptoms of sepsis at our outpatient infusion center. Further analysis uncovered inconsistencies between the multidisciplinary team practice and the institutional policies and procedures. Our interventions to address these deficiencies included streamlining the blood culture process, nursing education sessions to review the pathophysiology of sepsis, and reorientation of staff to policies and procedures concerning care of febrile neutropenic patients. A sepsis screening tool was developed and incorporated into the routine workflow to assist nurses in the early identification of sepsis. The associated workflow to a positive screen now includes initiation of the sepsis bundle. Following these interventions, we found our nursing staff was better prepared to care for septic patients as evidenced by a 50 percent increase in compliance of antibiotic administration within one hour of fever or possible symptoms of sepsis. We expect this training, increased knowledge, awareness, and standardization of care to improve patient outcomes and decrease sepsis-related mortality. Our next steps as we continue to address identified gaps in practice are related to optimization of our EPIC outpatient context via development of an electronic sepsis alert screen, this

screen will be incorporated in the nursing assessment for each patient receiving treatment in the infusion center. Further, a collaborative review of an unused neutropenic fever order set will be assessed and implemented. As outpatient infusion centers begin to take on more complex hematology/BMT patients, it is crucial for nurses to have the knowledge, skills, and tools to safely and effectively care for this vulnerable patient population.

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BALANCING LIFE AND A YEAR OF CANCER TREATMENT: FAST TRACKING HERCEPTIN

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Many women who have a breast cancer diagnosis receive Herceptin therapy for a year. This therapy is usually every 21 days, creating a frequent and cumbersome visit to the chemotherapy infusion center. At our community cancer center, the average time from check-in to treatment for patients receiving Herceptin was 1 hour. Patients voiced frustration with the time it was taking from family, work, and social activities. The purpose of this project was to create a process to shorten the time to treatment for patients receiving frequent infusions of Herceptin. This project required team work with the pharmacy. Collaboration with pharmacy resulted in the creation of forms to educate the patients about the program and what participation would require. Patients called ahead with information including weight and symptoms. Nurses then communicated with pharmacy electronically to begin the medication preparation. These actions meant the Herceptin would be waiting for the patient in the medication room upon arrival. Points of agreement for the patient were: (a) I have a scale at home and will weigh myself and call Oncology Infusion RN on the day of my scheduled treatment. (b) I will call Oncology Infusion RN prior to scheduled appointment if I am feeling ill or have developed new symptoms (c) If I call the Infusion RN and arrange for my Herceptin to be prepared and if I do not arrive to the appointment within 1 hour of scheduled appointment time, I may be disqualified from the Program. (d) I understand, that if my port does not give blood return, an IV may be required to deliver my Herceptin. Patient criteria for inclusion included beginning at cycle 3, and having a port or reliable IV access. Patients were enrolled in the program and treatment time from check in to treatment was reduced to 19.7 minutes. Patients reported satisfaction with the

process and expressed appreciation of the shortened time. Patients receiving Herceptin are women balancing responsibilities of family, work, and health. This program reduced the time spent in the chemotherapy infusion center by approximately 40 minutes. Using telephone communication with the patient and electronic communication with the pharmacy decreased patient wait time significantly. Patients felt empowered and connected to the team.

323 EMBEDDING DISCHARGE PLANNING INTO THE DAILY DISCOURSE OF HEALTHCARE TEAMS

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Prolonged hospitalization not only increases costs, it also increases the risk for adverse events (AE), e.g., hospital infections. Length of stay (LOS) is one indicator that reflects the total costs of hospitalization and, in some instances, quality of care. Concerned about burgeoning health care costs, the Centers for Medicare & Medicaid Services (CMS) no longer reimburses for prolonged hospital days, readmissions within 30 days of discharge, and costs associated with avoidable AE's. Consequently, hospitals now must critically evaluate the quality of care provided as well as their discharge planning process. Considerable research has been directed at detecting health conditions and patient-specific factors that might predict a prolonged LOS. However, much less attention has been given to evaluating the efficiency of the discharge planning process. It has always been assumed that the delivery of health care by a team of qualified individuals is a "good thing". Unfortunately, this concept of teamwork has not always carried over to discharge planning. Recently, our hospital experienced a disturbing up tick in LOS not attributable to adverse events. This raised questions about the effectiveness of our discharge planning process and the overall team communication and commitment to getting patients discharged in a timely yet safe manner. The specific aims of this process improvement initiative were to: (1) increase awareness of the importance of discharge planning (2) enhance communication around discharge planning and (3) become more efficient in discharge planning. Guided by the Plan-Do-Study-Act (PDSA) framework, a new component was added to our discharge planning process. Specifically, discharge "huddle boards" were posted on

each unit. Subsequently, discharge huddles involving key team members (physicians, nurses, case managers, and social workers) were conducted twice daily with a focus on key aspects of discharge planning and readiness such as: mean length of stay (GMLOS), LACE Score, discharge date (targeted & planned), readmission history etc. Results over five months made it clear that key members of the team: (1) were unaware of the importance of discharge planning, (2) did not share a common language around the discharge process, and (3) did not have a shared level of commitment to achieving a safe and timely discharge. Cost-effective quality care will not be achieved unless discharge planning becomes a part of the healthcare team's daily discourse.

324 UTILIZATION OF THE ONCOLOGY CARE MODEL: IDENTIFY OPPORTUNITIES TO INCREASE QUALITY ACROSS CANCER SERVICE LINES

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OhioHealth Cancer Services strives to provide high quality, affordable care to our patients. In an attempt to be forward thinking, Cancer Services worked to ensure alignment with the Oncology Care Model (OCM) developed by Centers for Medicare and Medicaid Services (CMS). The CMS pilot is focusing on aligning financial incentives with care coordination and appropriate, accessible care for cancer patients receiving chemotherapy. Participants of the pilot must submit data for quality metrics, as well as provide "enhanced services" such as nurse navigation functionality, specific care plan documentation, 24/7 patient access, & utilize national clinical guidelines for their patients. Although many of the elements of "enhanced services" were known to be present in the care provided at OhioHealth, it was unknown as to whether those standards were consistently applied across all care sites within the system. OhioHealth performance on the OCM quality metrics was reviewed and evaluated for opportunities. Processes to obtain performance data were developed if not already in place. Additionally, key stakeholders were sent a survey to evaluate their perception of availability of enhanced services. A gap analysis was then performed for survey results and actual services available. Review of the findings showed that there was

opportunity with documentation of pain assessment, pain intervention and medication reconciliation. Staff were not aware of the need to document these elements in the outpatient setting and there were varying expectations for documentation at the infusion centers. It was also found that there were centers that had a knowledge deficit related to resources that are available for OhioHealth oncology patients. Based on the findings, a work team to improve performance in the identified areas was established. The team included infusion center managers, nurse educators, and a member of the OhioHealth Cancer Services quality team. The team developed education for staff on how to document the elements in a standardized way across all infusion centers and provided staff with an explanation on the importance of including in their routine assessment of patients. Results of monthly monitoring of the metrics were placed on the campus and system level dashboards and were discussed routinely. Areas that were identified as having a knowledge deficit related to available resources were provided additional education on such.

325 **IMPROVED NURSING INFUSION WORKFLOWS, INCLUDING CHAIR ASSIGNMENT GROUPING, INCREASE NURSE AND PATIENT SATISFACTION**

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Nursing assignments in outpatient chemotherapy clinics have a significant impact on both patient and nurse satisfaction. Methods of assigning nurses can affect the efficiency, safety and quality of services experienced by patients. In this clinic with 22 chairs and nine nurses per day taking assignments, previous practice involved assigning nurses to patients without regard to chair location; nursing shift start times were not well-coordinated; and nurses had no prep time at the beginning of their shifts. The purpose was to improve efficiency as well as patient and nurse satisfaction. A small test of change in July 2018 incorporated assigning each nurse to three chairs located together; creating a team of three nurses, in adjacent areas, for medication checks and break relief; staggering shifts starting at 8:00, 8:30 and 9:00; and giving each nurse 30 minutes of prep time. Each nurse was given a questionnaire both before and after the

study period. Sixteen of the 20 questions utilized a five-point Likert scale (0 to 4) to measure nurse satisfaction (“Not satisfied at all” to “Extremely satisfied”). Satisfaction surveys were offered to existing patients who received infusions during the study period. The surveys included four questions using the above Likert scale. Thirteen different nurses participated, each working at least two shifts during the study period, which lasted 15 work days (45 shifts). Nursing satisfaction with many aspects of treatment workflow dramatically increased. Improvements included: 62% unsatisfied with patient location (pre) to 85% satisfied (post); 69% unsatisfied with ability to see patients to 92% satisfied; 31% unsatisfied with handoff to colleague at end of shift to 0% unsatisfied; 15% satisfied with time between shift start and first patient to 69% satisfied. Surveys were administered to 90 patients, with 68 completing “post” surveys. Patient satisfaction improved overall. The small test of change demonstrated notable improvement from the nursing perspective. Having chair assignments grouped together, with two team members nearby, plus staggered start times and 30 minutes preparation time, made a major difference in nurses’ satisfaction. Patients’ satisfaction with their treatment experiences also improved. After the positive results, plans are to implement the new workflow to include the entire clinic and staff.

326 **IMPLEMENTING AN EVIDENCE-BASED DISCHARGE EDUCATION PROGRAM FOR BMT RECIPIENTS**

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Safely transitioning Blood and Marrow Transplant [BMT] recipients from the acute care environment to home is a complex process. Often, these patients are profoundly immunosuppressed and most are at risk for potentially serious post-transplant complications. Lifestyle changes required of these patients after discharge can be life-altering—highlighting the importance of discharge education. Several years ago, a discharge education booklet was developed by a work group within our institution. It is provided to the patient by our ambulatory transplant coordinator, and brought with during the inpatient stay to be utilized as a teaching tool. It also serves as a guide for the patient upon discharge. The booklet has been well received and contains information on signs and symptoms of infection and graft rejection, dietary modification,

medications, and lifestyle modifications. However, through patient and staff interviews, we found that the tool was not being properly utilized. We identified the need to develop a standardized, patient-centered discharge process for BMT recipients. Over the past quarter, a work group was created to address this issue. For this performance improvement project, we first conducted a review of the literature that validated the contribution of standardization of care in supporting a culture of patient safety. We also found that educational techniques including teach-back, repetition, and multimedia education were among the most effective approaches to improve knowledge retention. Next, we developed a checklist to be placed in each patient's chart for nurses to complete. Following each teaching session, the nurse utilizes this checklist to indicate whether teaching was understood or needs reinforcement using teach-back, or an alternative method. Discharge teaching progress has been added to the standard daily handover report. To evaluate the efficacy of this program, we created patient surveys to evaluate knowledge acquisition and assess readiness to transition to the ambulatory setting. HCAHPs domains for understanding of discharge information and understanding of medication will be used as outcome measurement. Unit performance will be reviewed for the next two quarters. To date, nursing staff have been educated on the project roll out, key content, and role expectations. We will present our findings and discuss future recommendations for the continuing improvement of our discharge education process.

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MAPPING THE PATIENT EXPERIENCE: A JOURNEY IN QUALITY IMPROVEMENT AND PATIENT EDUCATION

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Patient education is essential in nursing. The success of any patient's adherence to treatment is greatly impacted by the quality of education provided. Oncology nurses find themselves poised to offer patient education on a multitude of levels. Increasing complexities in oncology care rise to the surface as higher

volumes migrate to the ambulatory setting. With patient experience at the forefront; oncology infusion nurses must deliver concise, valuable patient education that enhances patient experience while meeting patient satisfaction and expectations of care. Targeted quality improvement initiatives were completed at a community hospital cancer center that exists as part of a large academic healthcare system during 2017–2018. Initiatives were aimed to improve the current state of patient education and information given about patient flow. Robust education is critical to the cancer patient experience and linked to quality health care. A major construction project was completed resulting in a remodeled/expanded Infusion Suite. The redesign necessitated thorough examination of all educational processes and written/visual learning materials. Opportunities were identified and process improvements began using Plan Do Study Act (PDSA) methodology. Multidisciplinary workgroups convened that included nurses, physicians, nurse practitioners, frontline managers, and executive leadership. This group produced a comprehensive patient packet, which patients received in advance of the first appointment for all new patients. To augment this comprehensive overview, further streamlined educational visits and accompanying resources were provided to patients during teaching sessions designed to decrease treatment related anxiety and better prepare patient/families for what to expect during visits. This process included a tour of the infusion suite and introduction to staff. Follow-up phone calls were initiated 24–72 hours after first treatment providing nurses additional opportunities to reinforce learning, intervene with symptom management, and allow for further questions. Data evaluation examined targeted Press Ganey metrics for the new patient education project. In a seven week period pre/post intervention, a 2.9-point improvement emerged in “what to expect during chemo” and a 4.6-point improvement was observed in “education materials provided.” As the challenges of oncology care leave the bedside and transition to ambulatory settings, oncology infusion nurses must offer innovative solutions to improve patient experience. This is important to the patient's overall satisfaction, and linked to improved patient safety practices, increased patient adherence to medical advice, and better clinical outcomes.

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IMPROVEMENTS IN CLINICAL TRIAL ACCRUAL: 2015 TO 2018

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Enrollment to clinical trials at Hamilton Cancer Center was impeded due to multiple factors. This led to a failure in meeting the American College of Surgeons accreditation standard for the minimum clinical trial enrollment requirement. This trend was reversed beginning last quarter of 2017. In 2018 to date, we have increased research accruals and the number of available trials. Our patients now have options to participate in national, local and regional treatment as well as registry trials. The goal was to increase enrollment to clinical trials to exceed requirements to obtain commendation by accrediting bodies such as American College of Surgeons and NAPBC. Patients will have treatment options and RWJBH Hamilton cancer center will achieve and surpass Commission on Cancer (CoC) and National Accreditation Program of Breast Centers (NAPBC) clinical trial accrual requirements. Methods: (1) Expanded the oversight of the Director of Research at RWJ Somerset to include Hamilton. (2) Hired an oncology nurse with background in clinical research. (3) Got buy-in from physicians by asking them to serve as PIs. (4) Increased accruals on registry trials and opened two nursing-led studies. Results: Twenty-one patients were placed onto clinical trials/studies in 2015, which was the highest number in recent years, but still short of the 4% requirement for Comprehensive Community Cancer Programs. Clinical trials in the subsequent years dropped further. For 2018, the numbers have dramatically shifted. By the end of second quarter, clinical trial enrollment is at 145 including the patients enrolled in the national lung cancer screening registry. Conclusion: The results displayed above and implementations of the following steps have changed the landscape of clinical trial enrollment at RWJBH Hamilton's Cancer Center by: (1) Expanding the role of the Research Director. (2) Hiring an experienced oncology nurse to be the Clinical Research Nurse for Hamilton. (3) Expanding the clinical trials portfolio to include treatment trials, registry trials, nursing trials, screening trials, and genetic studies. (4) Working closely with Rutgers CINJ as one of their affiliate institutions. (5) Working closely with physicians at the Cancer Center. (6) Our nurse-led studies also contribute to our Magnet journey. Next steps: We continue to add new trials. We evaluate our patient base to determine which trials may be helpful to our patients on a consistent basis. Implement clinical trial registration process. Streamline clinical trial revenue procurement and tracking.

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IMPROVEMENT IN TREATMENT DELAYS FOR PELVIC RADIATION PATIENTS

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Patients receiving pelvic radiation for prostate and gynecological cancers require an empty bowel and full bladder prior to receiving their treatment. This is considered best practice to reduce risk of bowel and bladder tissue damage. Radiation Oncology identified a problem with the number of delays due to patients not having appropriate bladder fill and empty bowels prior to their daily radiation treatment. The purpose of this quality improvement initiative was to better prepare patients for pelvic radiation therapy to prevent treatment delays and minimize bladder and bowel toxicity. A focus group was developed consisting of the radiation oncology manager, dosimetrist, radiation therapist and registered nurse. The goal was to provide adequate patient education to patients to better improve the patient experience and workflow efficiency. First, a process map was made to detail the current process; fishbone diagrams identified the scope of the problem. Root causes in Radiation Oncology's workflow were identified. The main gap identified was that patient education was unclear. A lack of consistency also existed with who was providing the education; the physician, nursing staff or radiation therapy staff. Next, the group revised the patient education handout provided to patients. The Radiation Oncology department determined a standard practice for the nursing staff to provide the pelvic radiation pre-treatment education. Changes were made in the department internally for easier access to water by providing a water bottle filling area. Mugs were additionally labeled with the volume so patients would have a better understanding of how much water is needed to properly fill the bladder. Data revealed a significant improvement for delay time by 20%, from 55.3 minutes to 44 minutes. Overall delays were reduced from 11.5% to 5%. Radiation treatment delays may be costly to the radiation department causing a snowball effect for delays throughout the day. This quality improvement initiative significantly improved radiation treatment delays and improved patient satisfaction with a primary focus bladder fullness. A future goal is to continue to improve delay times and increase focus on bowel regularity. A lack of literature exists on process improvement initiatives for radiation oncology efficiency. Other organizations can use this organization's example to examine current processes and make improvements in the efficiency of pelvic radiation delivery.

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TIME OUT! A UNIQUE APPROACH TO MAKING CHEMOTHERAPY ADMINISTRATION SAFER

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Increasing the safety of chemotherapy administration emerged as a top priority on one inpatient oncology unit at a large academic medical center after engaging with key stakeholders- staff nurses, unit nursing leadership, pharmacists, and physicians. The Chemotherapy Safety Committee noted more than 80 chemotherapy-related safety events between July 2017 and June 2018. (It is important to note that the institution adopts an antiquated system of paper chemotherapy orders.) The most common errors were electronic order transcription (31%), order preparation (26%) and medication administration (22%). Using this information, a multidisciplinary team was formed to decrease these errors. In collaboration with staff, the team created a 'Chemotherapy Dose Time Out'. Several strategies were employed to understand the root cause of and mitigate the incidence of chemotherapy errors. First, nurse leaders changed the process of reviewing patient safety events; these events are now reviewed monthly at the Chemotherapy Safety Committee. Order sets are modified in real time to reduce the chance of future error. Second, a detailed map was created with input from staff and quality improvement advisors to identify pain points along the chemotherapy administration process. Finally, a bedside safety check, the Chemotherapy Dose Time Out, was initiated. This step, developed by Unit Practice Council, was aimed specifically at reducing errors related to order transcription and medication administration. The Time Out creates a method for ongoing nurse accountability across a patient's admission. It was introduced via educational video coupled with point-of-care training. Chemotherapy-related patient safety events have dropped significantly as a result of the Chemotherapy Dose Time Out. In the first two months since implementation, only 9 errors have been reported; administration errors have dropped by half (11%). If this trend continues, we are on track to decrease errors by 50% this fiscal year. Using common quality improvement methodology, one inpatient oncology unit has successfully implemented several interventions to improve the safety of chemotherapy administration. The use of multimedia education led to high adoption

of Chemotherapy Dose Time Outs. Evaluation of this unique patient safety tool is both promising and ongoing. Forming a multidisciplinary team focused on elimination chemotherapy-related safety events is key to creating a highly reliable inpatient oncology unit.

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IMPROVING RN/MD RELATIONSHIPS: THE CNL'S ROLE IN CREATING A HEALTHY WORK ENVIRONMENT

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Over a decade ago, the American Association of the Critical-Care Nurses (AACN) published six essential standards of creating and sustaining healthy work environments; nursing care units that successfully implement these standards showcase improved patient care outcomes and increased staff satisfaction. One inpatient oncology unit at a rural academic medical center struggles to create true collaboration, a healthy work environment standard, among the clinical care team. This struggle is supported by internal survey data where direct care RNs report active participation in RN/MD rounds only 76% of the time. Unit-specific data collected during the National Database of Nursing Quality Indicators (NDNQI) Practice Environment Scale in Collegial Physician/Nurse Relationships are reflective of this theme; in 2015 the unit mean score was 2.91, well below the national benchmark and hospital mean for this domain. Nursing leadership chose to engage the unit's Clinical Nurse Leader (CNL) in designing processes aimed at improving bedside collaboration. Working with Cancer Institute attending and fellow physicians, the CNL developed several processes for the onboarding and continued development of resident physicians; the constant rotation of house medical staff attributed to highly variable practices and nursing dissatisfaction on the oncology unit. Monthly, the CNL orients and onboards each group of residents to the unit, emphasizing not only unit standard practices, but also the importance of creating a healthy work environment through RN/MD collaboration. While joining the medical team on daily rounds, the CNL structures conversations to focus on inclusion of the direct care nursing staff, and highlights patient-specific quality improvement initiatives. Standard practices and educational topics are shared in weekly conferences with the CNL and fellow physicians; each week the house staff has an opportunity to provide feedback to the CNL and nursing staff. Evaluation of the efforts to improve RN/MD relationships is ongoing; the unit will

complete the NDNQI Practice Environment Scale in October, 2018. Internal quality improvement data suggests that RNs sense improved clinical collaboration at the bedside. The CNL, an expert clinician with advanced skills in quality improvement, can act as a leader in the creation and sustainment of a healthy work environment. Through collaboration with physician colleagues, and advocacy for direct care nurses, both patient outcomes and nurse satisfaction can improve.

332 SETTING UP FOR SUCCESS WITH CENTRAL LINE-ASSOCIATED BLOOD STREAM INFECTIONS: MATCHING THE PRODUCTS AND PRACTICE TO EVIDENCE

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The comprehensive cancer center at our large medical center, routinely reviewed and implemented new central line products and education. However, education rarely extended outside the cancer hospital and new products were purchased at premium prices. Despite these ongoing costs and efforts, central line associated blood stream infection (CLABSI) rates continued to persist above the benchmark for the medical center. A gap analysis of 112 lines and 29 nurses confirmed issues with both products and practice throughout the hospital. Analysis determined dressing and insertion site integrity was compromised in 53% of our patients, including visible blood under 38% of the dressings. Analysis also confirmed significant variation in nursing practice around dressing change, cap change, blood draw, and medication administration/flushing. As oncology patients are cared for through-out our large tertiary medical center, efforts to improve central line products and practice needed to extend beyond inpatient oncology floors. The purpose of this quality improvement project was to reduce CLABSI rates at our medical center by implementing a multifocal strategy to improve central line products throughout the system, train nurses to adhere to central line maintenance practices and include best practices in a system policy. A team of APRNs reviewed literature for best practice and provided expertise for policy revisions; designed prototypes and preformed product comparisons;

presented evidence, recommendations, pricing and gap analysis results to senior leadership; and obtained approval for new products to improve site integrity and nursing practice. Staff education and training was provided via champion classes and mandatory central line competencies, which incorporated the four maintenance skills assessed in the gap analysis, and training on the new central line products. Eight-eight nurses from all 40 clinical areas attended champion training and 1,100 nurses (86.09%) have completed mandatory skills signoff. CLABSI rates have decreased from 7.43/month to 2/month following training. Trends post-product rollout and repeat gap analysis data will be included at time of presentation. CLABSIs are a national patient safety priority and meticulous care of central lines throughout a healthcare system are important in the effort to reduce central line infection risks. By leveraging clinical expertise and buying power for central line products, oncology APRNs can led system wide practice initiatives to identify gaps in central line practice and improve central line products for medical centers.

333 IMPLEMENTATION OF A CROSS SYSTEM STANDARD APPROACH TO 5-FLUOROURACIL HOME INFUSION

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5-Fluorouracil (5-FU) remains the standard treatment for advanced colorectal cancer. It is most commonly given over 46 hours via a home infusion pump following a bolus administration in an ambulatory infusion center. As Medicare and Medicaid guidelines for reimbursement fluctuate based on homebound status and out of pocket expenses increase, nursing and pharmacy services are limited or absent altogether. Thus the same standard of care was not being offered across the system and patient populations creating inequity and safety concerns. These issues created a potential for harm for patients as evidenced by lack of nursing services, patient education, and safe handling of chemotherapy. The aims of this project were to create equitable, safe, and timely care resulting in an improvement of overall quality across all system infusion centers. Through an Infusion Operations

Committee a plan was orchestrated to provide equity in standardizing pharmacy and nursing services. The committee selected a vendor to supply and maintain infusion pumps in addition to 24 hour nursing care by phone. Education around onsite compounding, programming and dispensing of 5-FU for pharmacy associates and education for nursing associates around connecting and disconnecting at the Infusion center were implemented. Barriers to achieving successful qualitative metrics included increased travel time for some patients, limited appointment options, and no physical presence from a home health care team. Patients received personalized education from the oncology nurse around the change and individualized plans were created to address barriers prior to implementation. In June, 2018, 69 patients converted to the new process. Considering the complexity of this change and increased workload on nurses and pharmacists the project goals were achieved successfully. Implementing change in a cross organizational method can be met with challenges such as site resources, level of clinician knowledge, overall time factors, and varied levels of engagement; however, the changes made have had great impact on the level of quality and safety our patients receive. We have been successful in maintaining high Press Ganey scores with positive feedback and engagement from associates.

334 MEETING STANDARD 3.3: A COLLABORATIVE APPROACH TO SURVIVORSHIP CARE PLAN DELIVERY

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Survivorship care plans (SCPs) have been adopted by many in an effort to transition patients into life after cancer treatment. Commission on Cancer (CoC) accredited facilities must provide SCPs to 50% of eligible patients in order to meet standard 3.3. In 2019 this benchmark moves to 75%. Tracking patients across multiple departments, creation of time consuming SCPs and ensuring their timely delivery makes this a difficult goal to achieve. Furthermore, many cancer centers are challenged with how to deliver SCPs to patients who receive curative surgery at their institution, but are not followed by the accredited cancer center. Standard 3.3 was not met by our organization in 2017. Curative surgical patients at our organization make up 40% of the inclusion criteria for SCP delivery. With their clinical knowledge and inherent care coordination ability, oncology nurses are well positioned to help collaborate efforts

of SCP delivery to meet the standard. In an effort to meet standard 3.3, a 0.3 FTE was allocated to provide dedicated time to coordinate a team effort and increase SCP completion and delivery. Delivery of SCPs at our organization has become a multifaceted approach in order to meet the standard. Utilizing a 0.3 FTE, an oncology nurse was tasked with auditing the delivery of SCPs for medical, radiation, and surgical oncology. Additionally, this nurse created and delivered SCPs for the hospital's curative surgical patients. Cancer registrars supplied patient data for auditing. Medical oncology nurses were assigned creation of SCPs for their patients and the SCP was delivered by a nurse practitioner. Radiation oncology nurses created and delivered SCPs for their patients. Utilizing this approach increased SCP delivery by 42% within the first eight months, with a total of 68% of eligible patients receiving a SCP. Focused effort on SCP delivery within surgical oncology was seen to have the greatest impact in meeting the standard. In 2019 the CoC's standard 3.3 will increase to 75% and many organizations question if they can meet this standard. Providing minimal time to collaborate a team approach proved to be an effective way to meet the standard. While there is great emphasis placed on the SCP, continued efforts will be placed on survivorship education delivered by oncology nurses throughout the treatment trajectory.

335 CARE FOR YOUR PATIENT AND YOURSELF

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Adherence to safety measures is essential for the wellbeing of healthcare professionals. When it comes to the use of devices to protect against accidental occupational exposure to hazardous drugs (HD), the literature shows a different reality. Eight million healthcare workers in the United States face potential exposure to HD. The consequences could range from a headache to cancer. The 2011 law of Washington State has a direct correlation to the sequelae of HD exposure; New Jersey passed an Act in 2018 to promote the safe handling of hazardous drugs. A nurse of an inpatient oncology unit at a Magnet® designated hospital examined employee Personal Protective Equipment (PPE) compliance. The purpose of this evidence-based quality improvement project was to assess compliance and increase utilization of self-protection controls against HD; to save healthcare workers from accidental occupational HD exposure. The PICOT question formulated was, "In

the oncology nursing population what is the best way to educate nurses about the gravity of exposure to HD when not employing PPE, compared to exposure while wearing PPE over a five year period?" After a literature review, a survey was deployed along with direct observation of PPE practices in this oncology unit. Currently, we are in the process of disseminating comprehensive education on PPE. The survey results illustrated that most of those who did not don PPE did so to imitate colleagues. None of the nurses surveyed could correctly identify all routes of accidental occupational exposure; yet, all felt their protection was adequate. Observational data collaborated with poll results in determining that the majority of those handling HD used only chemotherapy rated gloves. Education on the dangers of occupational exposure, beginning with the unit described above, then to all nurses in the five-hospital health system, is the project goal. Increased adherence with the current professional organization guidelines and the Act instituted by the Senate and General Assembly of New Jersey, for self-protection, aligns with this objective. Upon completion of the system-wide education, there will be a post-intervention assessment with observation, participant interviews, and data collection of compliance and reported adverse events, with the expectation of closing the gap between PPE guidance and use.

336 REDUCING FALLS THROUGH INCREASING PATIENT AND FAMILY COMPLIANCE WITH FALL PREVENTION STRATEGIES ON A MEDICAL ONCOLOGY UNIT

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Every year, between 700,000 and 1,000,000 people fall during their hospitalization, and 30–50% of those falls result in injury. Annually, about 11,000 inpatient falls in the U.S. are fatal. After seeing an increase in patient falls on a medical oncology unit, several quality improvement projects were initiated to help reduce falls including: modification of falls signs to alert staff to the amount of assistance needed upon room entry, "It Can Wait" campaign giving staff permission to remain with patients, purposeful rounding, and other staff focused interventions. While falls decreased marginally, patients continued to get up without requesting assistance, frequently resulting in falls. A quality improvement project aimed at increasing patient and family compliance with asking

for assistance, in conjunction with improved communication and debriefing surrounding unit falls was implemented in July of 2018 to decrease the amount of non-compliant patient falls. Two short videos were created by a staff nurse, educating patients on falls and their increased fall risk, and how they can help prevent themselves from falling. The videos are shown at admission to all patients/families. A falls "Rapid Response Process" is also initiated with each fall, designed to help support the nurse of the patient. The patient nurse completes a fall debrief form, incident report, and sends an explanatory email to staff identifying potential opportunities for improvement. With implementation of the educational videos on 7/1/18, limited but positive results have emerged, thus far. Patients and family seem to be more compliant with asking for assistance and the unit has experienced fewer falls. Staff have been appreciative of being more informed of the falls that have occurred on the unit, and feel the email from their peers helps keep falls prevention in the forefront of their awareness. Staff and patients find the videos engaging, and no resistance to their implementation was experienced. The education is consistent and succinct, insuring all patients are properly educated. At this stage, other elements of the project (falls rapid response and staff email) have required more prompting from management. Continued monitoring, training, and reinforcement is under way.

337 THE TASK SHEET TOOL TO IMPROVE COMMUNICATION

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The inpatient hematology/oncology unit observed tasks completed throughout the day were being missed or completed late due to lack of communication. Due to the large unit geographic structure, there was less face-to-face staff communication, double-documentation, and overall efficiency decreased with patient care tasks. The Task Sheet Tool (T-Sheet) was created as a means to improve staff communication regarding routine patient care. The purpose of this tool was to improve communication between RNs and nurse assistants (NAs) for vital signs, baths, linen changes and ambulation status. This tool uses mediated communication to allow for sharing of task status without being face-to-face, as well as communicate patient ambulation status, improving overall unit efficiency and safety. This tool is modeled after a simple checklist. Each patient's T-Sheet included unit standard vital

sign checks, as well as a color-coded ambulation status marker, which improves patient safety during transfers. At 0000 of each day, the laminated T-Sheets are wiped clean and dated appropriately. The NAs utilize the T-Sheets throughout the shift to check off each task, i.e. vital signs, baths, or linen changes. The unit often has patients with neutropenia and/or central lines, making daily hygiene communication imperative to decrease their risk of infection. With the use of the T-Sheet, staff knew which tasks were complete at any given time. This allowed staff to cluster care and check off the corresponding task on the T-Sheet, resulting in time saved, reduced patient disturbance, and double documentation. Following the implementation of the T-Sheet, the unit found that mediated communication between nursing and support staff resulted in improved efficiency and saved time. Vital signs were completed in a timely manner (average 15–20 minutes more on time), daily weight documentation improved from 55% completed to 84%. With T-Sheets in place, RNs and NAs are able to save time and improve communication, allowing the unit to operate more efficiently; which, ultimately provided a better patient care experience for staff, the patient and family.

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PACLITAXEL HYPERSENSITIVITY MONITORING: NURSE PRESENCE VERSUS FREQUENT VITAL SIGNS

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Paclitaxel is an anti-neoplastic agent commonly associated with hypersensitivity reactions during the first and second infusions. Symptoms indicative of a hypersensitivity reactions most often occur within the first 10 minutes of the infusion; therefore, prompt recognition of signs/symptoms is critical to provide timely supportive care. Historically, frequent vital sign monitoring is the standard of practice for monitoring for infusion reactions based on initial clinical trials. Anecdotally, nursing has experienced that the presence of the bedside nurse for the first 15 minutes is more beneficial in recognizing early signs of hypersensitivity than frequency of vital signs. Current chemotherapy orders for first dose paclitaxel require frequent vital signs every 15 minutes times 2 then every 30 minutes until the infusion is complete or when a reaction is noted. Nursing presence for the first 15 minutes is not required, but nursing practice has evolved to include this. The purpose of this

project was to determine if a clinical practice change is warranted to eliminate frequent vital signs of first dose paclitaxel and replace with nurse presence requirement for first 15 minutes of infusion. This IRB approved, quality improvement project included patients receiving first and second dose paclitaxel infusions at a satellite location of a comprehensive cancer center. The project required nurse presence for the initial 15 minutes of infusion as well as strict adherence to the frequent vital signs. Data was collected over a 5 month period using a tracking tool that consisted of vital sign monitoring, timing of RN presence in room, symptom presentation, and timing of initial symptom. Three oncologists provided input and endorsed the project. Education was provided to nurses and medical assistants. Thirty-eight first and second doses of paclitaxel were administered with 8 (21%) reactions noted. All 8 reactions occurred within the first 2 to 9 minutes of starting the infusion. The nurse present in the room identified a hypersensitivity reaction based on the patient's signs and/or symptoms prior to obtaining vital signs. Six out of 8 patients had erythema of the face as an initial symptom. Nurse presence in room provides a more prompt recognition of hypersensitivity reactions than vital signs. The findings will be disseminated to nursing leadership and the disease team physician leads with a proposal to change clinical practice.

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OPTIMIZING OUTPATIENT INFUSION CHAIR TIME

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Between September 2017 and February 2018, the unused chair time at the VCTC (Vasicek Cancer Treatment Center) accounted for approximately 350 hours per week. This was 100 hours per week higher than desired and resulted in patients not receiving their infusion treatments on time. Moving from separate areas for chemotherapy and non-chemotherapy infusions to a cohesive infusion center by eliminating designated infusion chairs and cross-training all nurse to be proficient in all infusion types will help decrease our unused chair time and increase patient's access to care. The short-term goal was to decrease unused chair time from 350 hours per week to 325 hours per week by April 5, 2018. An A3 wave project was created to achieve this goal. The current patient flow of the infusion room was analyzed and a problem-analysis was created. Three PDCA's (Plan, Do, Check, Act)

were implemented and the financial implications were identified. Finally, a sustainment and improvement plan was developed and a huddle metric was created to analyze if the goal was met and if the process needed to be reformed. As a result, all infusion nurses have obtained their chemotherapy/biotherapy certification and cross trained to become proficient in all infusions. Standardized work was implemented by creating a medication pocket guide for all infusion nurses with information outlining common medications. The process to request chair time was updated to allow physicians ease in scheduling infusion appointments for their patients. Patients can now be scheduled in any infusion chair with any treatment nurse. The financial impact of these changes was also analyzed. Between February 19, 2018 and March 30, 2018, our metric indicated the goal was met of 325 hours per week of unused chair time and 22 additional infusions above our previous average were performed. Revenue made during that time frame, minus drug and supply costs, totaled to \$69,784.19. Compared to the financial expenses from the project to certify four nurses totaled to \$1,9200.00. Challenging processes that are in place and being willing to ask “why” things are the way they are has not only unified our staff and simplified our work environment, but has also increased our facility’s revenue. The nursing profession is constantly changing which requires nurses to regularly update their workflow and advance their practices.

INDUSTRY-SUPPORTED POSTERS

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LONG-TERM SAFETY OF NIRAPARIB IN PATIENTS WITH RECURRENT OVARIAN CANCER: RESULTS FROM THE ENGOT-OV16/NOVA TRIAL

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Niraparib is a PARP inhibitor approved for maintenance treatment in the US and Europe in patients with recurrent ovarian cancer (ROC). Here, we assess

the incidence of treatment-emergent adverse events (TEAEs) in patients receiving niraparib for up to 3.5 yrs in the ENGOT-OV16/NOVA trial. Eligible patients were randomized 2:1 to niraparib (300 mg qd) or placebo in independent gBRCAmut or non-gBRCAmut cohorts. TEAE incidence was assessed by interval: 0–3 months (when most dose reductions to 200 or 100 mg occurred), 3 months–1 yr, 1–2 yrs, and 2–4 yrs. As of the data cutoff (September 2017), mean and median duration of exposure (DOE) was 15.6 and 13 months, respectively, (range 0–41 months) in the gBRCAmut cohort (n=136). In the non-gBRCAmut cohort (n=231), mean and median DOE was 11 and 7 months, respectively, (range 0–41 months). Three patients received niraparib for ≥3 yrs, and no patients received placebo for ≥3 yrs. Hematologic TEAEs occurred more frequently early, and most TEAEs (any grade and grade ≥3 gastrointestinal, fatigue, and insomnia) resolved with dose adjustment within the first 3 months of treatment. Incidence of grade ≥3 anemia dropped below 1% after the first year. TEAE incidence was similar in the 2 cohorts after the initial dose adjustment period. Incidence of liver transaminase elevations >3 x upper level of normal were reported in 3 patients (2%) and 2 patients (3%) in the niraparib and placebo arms, respectively, and no patient receiving niraparib had concurrent transaminase and bilirubin elevations. Renal abnormalities were also rare (≤5%). The incidence of myelodysplastic syndrome was 6 (1.55% per patient-year) in the niraparib arm, and 1 (0.85% per patient-year) in the placebo arm, in all cases following discontinuation of treatment (niraparib, range <1 week to 5 months; placebo, 8 months after discontinuation). The incidence of acute myeloid leukemia was 2 (0.52% per patient-year) in the niraparib arm and 1 (0.85% per patient-year) in the placebo arm. Niraparib maintenance showed good long-term tolerability regardless of BRCA status. Hematologic and gastrointestinal TEAEs, fatigue, and insomnia were rare after the first 3 months. These data support dose adjustment and the safe long-term use of niraparib for maintenance in ROC. Funding: TESARO Inc., Waltham, MA.

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NURSING RESOURCES FOR DELIVERING QUALITY CARE: AMERICAN SOCIETY OF CLINICAL ONCOLOGY CLINICAL CONSULTING SERVICES

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There is a need for resources to promote specialized knowledge in quality, expertise in providing

quality care, and advocacy for access to quality care. Oncology nurses can provide and assure delivery of high-quality care that results in an improved patient experience and outcomes. The American Society of Clinical Oncology (ASCO) Clinical Consulting Services has oncology nurse resources with specialized knowledge in quality. The oncology nurse resources aim to promote nursing knowledge and practice expertise in the delivery of quality care through a comprehensive clinical care delivery assessment and findings for learning needs. A comprehensive clinical care delivery assessment is performed that identifies strengths, risks, and opportunities for improvement in patient care. The assessment tool focuses on access to care, clinical expertise, quality and safety, team-based care, and patient-centered care. The ASCO/ONS Chemotherapy Administration Safety Standards are utilized for evaluation of oncology nurse care in chemotherapy administration. The comprehensive review delivers a needs assessment regarding oncology nurse education and competency, advanced practice provider program implementation and optimization, readiness for quality recognition, and a roadmap to the transition to value-based care. Nursing-sensitive patient outcomes interventions include evaluation of initial training, orientation, and competency assessments to ensure high quality, safe care. The assessment tool is based on Oncology Nursing Society and ASCO guidelines and standards. The Clinical Consulting Services are continually evaluating best oncology nursing practices to share and support to practice implementation. Case studies will be shared on the outcomes of applying this oncology nurse resource. Healthcare is transitioning from fee-for-services to payment for quality care. The Centers for Medicare and Medicaid Services (CMS) seeks to reduce the overall cost of care, improve the patient experience, and improve overall population health. CMS has emphasized the need for better, coordinated care for people with cancer. Nursing plays a critical role in performing quality and safe care while actively improving systems and care delivery, all resulting in improved patient experiences and outcomes. An innovative approach to performing a comprehensive clinical care delivery assessment identifying learning needs supports nursing in this role.

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A COMMUNICATION TOOL TO ASSIST WITH COORDINATION AND IMPLEMENTATION OF CANCER CARE FOR ADULTS WITH

DEVELOPMENTAL DISABILITIES IN LARGE URBAN MEDICAL CANCER CENTERS

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Coordination and implementation of optimal cancer care for adults with developmental disabilities is challenging; especially so in large urban medical cancer centers. While myriad services are available at such centers, barriers to care may be significant impacting optimal cancer care. Patient specific obstacles include limitations of comprehension, communication, behavior, mobility, access to care, home supports, or transportation. Health care provider obstacles include lack of training, discriminatory social attitudes, and time constraints. Infrastructure of the cancer center including busy and noisy waiting rooms, laboratories and treatment areas may be challenging. Cancer center health care providers must be prepared to effectively communicate and coordinate care among the health care team, caregivers and patient's home staff to meet the specific needs of this population. To accomplish this, we propose use of a communication tool created as a coordinated multidisciplinary effort amongst the health care team, home based services, and local, and state governmental support resources. Key information about cognition, functional status, communication ability, decision making capacity, elements of support system and advance directives are key. This written, shared document (IOSP-Individualized Oncology Service Plan) will address the medical, ontological, social, emotional, and physical needs of the patient. While serving as a blueprint for care, the IOSP should be manageable and malleable enough to meet changing needs during cancer care. Multidisciplinary team members, the patient and caregivers need contribute to the IOSP creation, implementation and maintenance. Through effective, pro-active and on-going communication, adults with developmental disabilities and cancer may receive effective and outstanding cancer care

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NURSING BEST PRACTICES FOR MOXETUMOMAB PASUDOTOX-TDFK, A NEW TREATMENT FOR HAIRY CELL LEUKEMIA

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Hairy cell leukemia (HCL) is a rare B-cell malignancy, diagnosed in ~1000 new patients/year in the

US. Purine nucleoside analogs (PNAs) are the recommended first-line treatment; however, 30–40% of patients relapse within 5–10 years of treatment, when PNAs become less effective and are associated with cumulative toxicity. Moxetumomab pasudotox-tdfk is a CD22-directed cytotoxin that was FDA-approved in 2018 for adults with relapsed/refractory HCL who received ≥ 2 prior systemic therapies, including a PNA. The purpose of this project was to educate oncology nurses about the mechanism of action, clinical profile and best practices for proactive management and monitoring of patients receiving moxetumomab pasudotox-tdfk. Approval of moxetumomab pasudotox-tdfk was based on a multicenter, single-arm, open-label phase 3 trial (NCT01829711) in 80 patients with relapsed/refractory HCL. The objective response rate was 75%, with 41% of patients achieving a complete response (CR) and 30% achieving a durable CR. The most common non-laboratory-based adverse reactions ($\geq 20\%$) were infusion-related reactions, edema, nausea, fatigue, headache, pyrexia, constipation, anemia and diarrhea. Laboratory abnormalities were also observed. The most common grade 3/4 adverse reactions ($\geq 5\%$) were hypertension, febrile neutropenia and hemolytic uremic syndrome (HUS), with HUS the most frequent reaction leading to discontinuation (5%). It is recommended that moxetumomab pasudotox-tdfk be administered at 0.04 mg/kg/dose as a 30-minute intravenous infusion on days 1, 3 and 5 of each 28-day cycle, for a maximum of 6 cycles, until disease progression or unacceptable toxicity. To maintain adequate hydration, patients should receive isotonic fluids (up to 1L) intravenously before and after each infusion. Patients are advised to hydrate during days 1–8 of each cycle (up to 3L fluids/day). Recommended premedications are histamine receptor antagonists, antihistamines and acetaminophen. To reduce thrombosis risk, low-dose aspirin should be considered on days 1–8. During the 24 hours post-infusion, antihistamines and acetaminophen should be considered, as well as oral corticosteroids to decrease nausea and vomiting. A proactive approach should be taken to monitor for and manage adverse events, including capillary leak syndrome, HUS, renal toxicity, infusion-related reactions and laboratory abnormalities. Oncology nurses may have limited knowledge of moxetumomab pasudotox-tdfk because it is a first-in-class molecule, which was recently approved for relapsed/refractory HCL. Strategies for nurses to support high-quality care will be emphasized.

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EFFICACY AND SAFETY OF RIBOCICLIB COMBINED WITH AN ENDOCRINE PARTNER IN A DIVERSE POPULATION WITH ADVANCED BREAST CANCER

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Ribociclib is an orally bioavailable, selective inhibitor of cyclin-dependent kinases 4 and 6 that is approved for treatment in postmenopausal women with hormone receptor-positive (HR+), human epidermal growth factor receptor 2-negative (HER2-) advanced breast cancer (ABC). Treatment with ribociclib plus letrozole is being investigated among a broad population in the ongoing CompLEEment-1 trial. The effects of combining ribociclib with endocrine therapy are also being studied in premenopausal women in the MONALEESA-7 study (NCT02278120). Here, we highlight data on use of ribociclib as a combination partner in diverse populations. In MONALEESA-2 (NCT01958021; N=668), postmenopausal patients with HR+, HER2- ABC received ribociclib or placebo in combination with letrozole. CompLEEment-1 (NCT02941926; N=3000) is a single-arm study of men and pre-, peri-, and postmenopausal women that also includes patients with central nervous system metastases, Eastern Cooperative Oncology Group performance status of 2, and prior chemotherapy for advanced disease. In MONALEESA-7 (N=672), pre/perimenopausal women aged 18–59 years with HR+, HER2- ABC received ribociclib plus goserelin with tamoxifen or a nonsteroidal aromatase inhibitor. In MONALEESA-2, median PFS in the ribociclib group versus that in the placebo group was 25.3 months versus 16 months (hazard ratio [HR], 0.568 [95% confidence interval (CI), 0.457–0.704]; $P=9.63 \times 10^{-8}$). In a subgroup analysis in patients aged ≥ 65 years, after a median follow-up of 15.3 months, the median PFS in the placebo group (18.4 months; n=145) was longer than that in patients aged < 65 years (13.0 months; n=189). However, older patients exhibited a 39% risk reduction of progression with ribociclib (median PFS, not reached [NR]) versus placebo (median PFS, 18.4 months), consistent with findings in the overall population. Median PFS in MONALEESA-7 was 23.8 months (95% CI, 19.2 months–NR) in the ribociclib group and 13.0 months (95% CI, 11.0–16.4 months) in the placebo group (HR, 0.55 [95% CI, 0.44–0.69]; $P<0.001$). Preliminary results from the initial 1008 patients in CompLEEment-1 enrolled with 56 days of follow-up demonstrated a safety profile consistent

with that in MONALEESA-2. Safety results were consistent across all trials. Available data from these studies show that ribociclib plus endocrine therapy is effective and well tolerated in diverse populations.

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QUALITY OF LIFE IN CUTANEOUS T-CELL LYMPHOMA SUBJECTS TREATED WITH ANTI-CCR4 MONOCLONAL ANTIBODY MOGAMULIZUMAB VS VORINOSTAT: RESULTS FROM THE PHASE 3 MAVORIC TRIAL

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Cutaneous T-cell lymphomas (CTCL) are rare non-Hodgkin's lymphomas that cause significant morbidity and adversely affect patient quality-of-life (QoL) parameters, often managed by their nurse practitioners. A multicenter Phase 3 trial compared mogamulizumab (MOGA) vs vorinostat (VOR) in patients with stage IB-IV CTCL who had failed ≥ 1 systemic therapy. Validated QoL measurements, administered by the clinical trial nurse, included the Skindex-29, Functional Assessment of Cancer Therapy-General (FACT-G), and EuroQol-5D. Skindex-29 and FACT-G are reported here. Longitudinal mixed models on prespecified covariates were evaluated. Meaningful change threshold (MCT) was evaluated and categorical change analyzed by group over time. Time to clinically meaningful worsening was defined using distribution-based minimally important difference thresholds. 372 patients were randomized (186 in each arm). Compliance with completion of PRO measures was $>90\%$ for all instruments across the MAVORIC trial and in both arms. MOGA resulted in symptomatic and functional improvement with differences in Skindex-29 symptoms (cycle 3 [C3], C5, and C7; $P < 0.05$) and functional (C3 and 5; $P < 0.05$) scales. The proportion of patients who improved by at least the MCT from baseline was significantly greater for MOGA vs VOR on Skindex-29 symptoms at C3 (61.1% vs 45.3%), C5 (64.5% vs 42.4%), C7 (67.1% vs 47.5%), and C11 (84.1% vs 50.0%) and Skindex-29 functioning domain at C5 (54.3% vs 28.8%). Significant difference in the FACT-G physical well-being scale (C1, C3, and C5; $P < 0.05$) was observed in favor of MOGA and a greater proportion of patients declined by at least

the MCT in favor of MOGA vs VOR at C1 (19.3% vs 34.7%), C3 (17.4% vs 42.9%), C5 (13.1% vs 43.3%), and C7 (15.9% vs 37.5%). The median time to worsening of symptoms on Skindex-29 was 27.4 months for MOGA vs 6.6 months for VOR. In Sezary syndrome patients, the median time to worsening varied in favor of MOGA ($P < 0.02$) on all Skindex-29 domains. In mycosis fungoides patients, time to worsening did not vary between arms. CTCL patients often experience severe pruritus and other symptoms that greatly affect their QoL and emotional well-being. Symptoms, function, and overall QoL of CTCL patients improved with MOGA over VOR across MAVORIC time points. Patients with highest symptom burden and functional impairment derived the most QoL benefit from MOGA.

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CLINICAL DEVELOPMENT OF GLASDEGIB, A HEDGEHOG PATHWAY INHIBITOR, BEING INVESTIGATED FOR THE TREATMENT OF ACUTE MYELOID LEUKEMIA (AML)

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Nurses, nurse practitioners, and nurse navigators play critical roles in the treatment and care of patients with acute myeloid leukemia (AML), both in the intensive and non-intensive therapy settings. AML is a rapidly progressing and deadly disease with high unmet need, in which only $\sim 25\%$ of patients are alive at 5 years after diagnosis. Thus, new therapeutic options are needed to address the challenge that exists in treating this disease. Recently, several innovative targeted treatments have been approved in the United States for the treatment of AML, either alone or in combination with conventional chemotherapy. A few of these targeted agents are administered orally, unlike conventional chemotherapy regimens used to treat AML. Glasdegib, an oral, investigational hedgehog pathway inhibitor is currently being evaluated in combination with conventional chemotherapy in phase 3 randomized clinical trials for previously untreated AML. This poster will highlight the results of early clinical studies that reflect the efficacy and safety of glasdegib combined with conventional chemotherapy in adults with AML. Pooled safety analysis data and therapy management interventions for the on-target effects of glasdegib will also be presented. Additionally, details of glasdegib's ongoing clinical studies in AML will be reviewed. Through their exposure to clinical trial data, nurses, nurse practitioners and nurse navigators are made aware of the clinical evidence behind the investigational agents

being studied in the treatment of AML. These results can then further serve as an educational foundation for the management of patients receiving these therapies once they become commercially available.

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GUIDANCE ON MONITORING AND MANAGEMENT OF ADVERSE EVENTS AND DOSE MODIFICATIONS WITH RIBOCICLIB TREATMENT BASED ON RESULTS FROM THE MONALEESA PROGRAM

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Ribociclib is indicated for the treatment of hormone receptor-positive (HR+), human epidermal growth factor receptor 2-negative (HER2-) advanced breast cancer (ABC) and is being further investigated across a broad patient population in the MONALEESA program, which includes three Phase 3 trials. Ribociclib plus a nonsteroidal aromatase inhibitor (NSAI) or fulvestrant significantly prolongs progression-free survival, with a manageable adverse event (AE) profile. Here, we discuss recommendations for monitoring and managing AEs in patients treated with ribociclib. In MONALEESA-2 (NCT01958021), postmenopausal women with HR+, HER2- ABC received ribociclib or placebo with letrozole. In MONALEESA-3 (NCT02422615), postmenopausal women and men with HR+, HER2- ABC, who were treatment naive or had received ≤ 1 line of prior endocrine therapy in the advanced setting, received ribociclib or placebo with fulvestrant. In MONALEESA-7 (NCT02278120), premenopausal women with HR+, HER2- ABC received ribociclib plus goserelin with either tamoxifen or an NSAI. AEs of any grade in $\geq 25\%$ of patients taking ribociclib were neutropenia ($\leq 2\%$ febrile neutropenia), leukopenia, and nausea. Monitoring recommendations for neutropenia include complete blood counts during the first 6 cycles, then as clinically indicated. For Grade 3/4 neutropenia, dose interruption is recommended until recovery to Grade ≤ 2 . Nausea, fatigue, vomiting, and diarrhea rates were higher in postmenopausal women than premenopausal women. Management recommendations for Grade 3 AEs include dose interruption with appropriate pharmaceutical management until recovery to Grade ≤ 1 and treatment discontinuation for Grade 4 AEs. Incidence of Grade 1/2 hot flashes were similar between ribociclib and placebo treatment groups and more frequent in premenopausal women than postmenopausal women. Corrected QT interval (Fridericia's formula; QTcF) > 500 ms was reported in 14 of 1054

patients (1%), and a > 60 -ms increase from baseline in QTcF interval was reported in 59 of 1054 patients (6%) treated with ribociclib; 3 biweekly electrocardiograms are recommended through the beginning of the second month of treatment. If QTcF is > 480 ms, interrupt treatment and resume at the next lower dose level after resolution to < 481 ms. Treatment discontinuations due to AEs were reported in 7% and 2% (MONALEESA-2), 3% and 2% (MONALEESA-7), and 9% and 4% (MONALEESA-3) of patients in ribociclib and placebo arms, respectively. Oncology nurses play an important role in identifying and managing AEs within the well-characterized ribociclib safety profile.

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TREATMENT ADHERENCE AND PROACTIVE ADVERSE EVENT MANAGEMENT FOR ADJUVANT TARGETED THERAPY IN PATIENTS WITH RESECTED STAGE III MELANOMA

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Twelve months of adjuvant oral dabrafenib + trametinib therapy significantly prolonged relapse-free survival vs placebo in patients with resected BRAF V600E/K-mutant stage III melanoma. Adverse events (AEs) led to treatment discontinuation in 26% of patients; pyrexia was most common (9%). Because of the substantial benefit with adjuvant dabrafenib + trametinib, it is important to optimize AE management and adherence to treatment. We present a case to highlight recommendations for pyrexia management. We report the case of a patient treated at an academic center and recommendations for pyrexia management with an algorithm based on clinical experience and literature evaluation. A 60-year-old man presented with resected BRAF V600K-mutant stage IIIC (AJCC 8th edition) melanoma. He was treated with adjuvant dabrafenib 150 mg twice daily plus trametinib 2 mg once daily. At week 6 of treatment, the patient reported grade 1 acneiform rash, grade 1 myalgias, and grade 2 chills and fever (maximum temperature, 103.4°F); dabrafenib and trametinib were held and he was instructed to start ibuprofen 400 mg 3 times/day as needed. Despite ibuprofen, the fever persisted, and prednisone 10 mg/day was added. In addition, the patient was instructed to withhold both

dabrafenib and trametinib until he was asymptomatic for 2 days and then to resume full-dose dabrafenib and trametinib while continuing prednisone 10 mg/day. At week 10, the patient reported that pyrexia episodes had resolved. He was instructed to continue full-dose dabrafenib + trametinib but to decrease prednisone to 5 mg/day. At week 14, prednisone was further reduced to 2.5 mg/day. He has remained without pyrexia through week 20. This case illustrates the clinical learnings from pyrexia management in patients treated with dabrafenib + trametinib. Although the prescribing information recommends interrupting dabrafenib (and not trametinib) for uncomplicated fever of $\leq 104^{\circ}\text{F}$, clinical experience indicates that both dabrafenib and trametinib should be interrupted at the first sign of pyrexia or its prodrome. Dose interruption and the use of corticosteroids are the most effective means of preventing recurrent episodes; dose reductions are less effective. Patient education and communication are cornerstones to proactive AE management. Proactive management of pyrexia through dose interruption of dabrafenib and trametinib at the first sign of pyrexia or its prodrome can help effectively manage pyrexia episodes.

349 NERATINIB IN PATIENTS WITH HER2-MUTANT CANCERS: FINDINGS FROM THE SUMMIT TRIAL

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Somatic mutations in HER2 are found in a wide range of cancers. There is an unmet medical need for effective treatment for patients with these rare mutations. SUMMIT is an ongoing, multicenter, multi-histology phase II, precision medicine 'basket' trial that is investigating the efficacy and safety of neratinib, an irreversible pan-HER tyrosine kinase inhibitor, in HER2-mutant cancers. We present the findings from the HER2-mutant cohort treated with single-agent neratinib. Patients with advanced solid tumors with documented HER2 mutations received oral neratinib 240 mg once daily plus mandatory loperamide prophylaxis during cycle 1. The primary study endpoint is objective response rate at 8 weeks (ORR8). Secondary

endpoints include clinical benefit rate, progression-free survival (PFS), and safety. Clinicaltrials.gov identifier: NCT01953926. In total, 125 patients with HER2-mutant tumors received neratinib. Patients were diagnosed with 1 of 21 unique cancer types, the most common being lung (18%), breast (18%), and bladder (13%) cancers. Neratinib exhibited promising efficacy in patients with HER2-mutant breast cancer (n=25; ORR8 32%, median PFS 3.5 months). Intermediate response rates were also observed in patients with HER2-mutant cervical (n=5; ORR8 20%, median PFS 20.1 months) and biliary tract (n=9; ORR8 22%, median PFS 2.8 months) cancers. The most common all-grade adverse events were diarrhea (74%), nausea (43%) and vomiting (41%). The rate of grade 3 diarrhea was 22%, with a median time to onset of 10 days and a median duration of 2 days per episode. Patients were typically managed with dose interruptions and reductions, with only 2.8% discontinuing therapy permanently because of diarrhea. Neratinib shows promising anti-tumor efficacy in patients with HER2-mutant breast, cervical and biliary cancers. Diarrhea, the most common adverse event, is manageable with patient education, careful follow-up, and dose modifications. The study is open and enrollment is continuing to better define the activity of neratinib, and to test combination regimens in some cohorts. Given the low occurrence of HER2 mutations, a dedicated screening study (HER-Seq) has been initiated to identify metastatic breast cancer or metastatic cervical cancer patients with HER2 mutations for enrollment into neratinib treatment protocols such as SUMMIT.

350 GENOMIC TESTING IN THE EMERGING ERA OF PRECISION MEDICINE: LESSONS LEARNED FROM STUDIES IN LAROTRECTINIB

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Genomic testing is becoming an important part of the multidisciplinary approach to cancer care. Interpreting the results of next generation sequencing (NGS) is an important aspect of oncology nursing care as the number, availability and efficacy of tumor agnostic

therapies continues to grow. Currently available NGS panels tests for hundreds of genomic alterations, including fusions, insertions, deletions, and point mutations. Nurses caring for oncology patients are routinely confronted by questions regarding the results of these tests. In order to identify appropriate patients, practitioners must have a thorough understanding of genomic testing platforms, their strengths and weaknesses. Tropomyosin Receptor Kinases (TRKs) are encoded from neurotrophic tyrosine receptor kinase (*NTRK*) genes. Fusions involving the kinase regions of an *NTRK* gene with an unrelated gene are highly oncogenic resulting in the expression of TRK fusion proteins. TRK fusion events have been identified across a multitude of tumor types including lung, colon, thyroid, primary central nervous system, kidney and soft tissue sarcoma, in both adult and pediatric patients. Larotrectinib is a potent and highly selective oral TRK inhibitor with a centrally confirmed response rate of 75% in patients who are relapsed/refractory or who would otherwise undergo disfiguring surgeries. Appropriate genomic testing is vital to identifying patients with TRK fusion cancer who may benefit from therapy with larotrectinib. In the larotrectinib experience, approximately 91% of patients with an *NTRK* gene fusion were identified using NGS methodologies (inclusive of *NTRK* gene fusion testing). Without this testing, these patients would not have received the benefit of targeted TRK inhibition with an agent such as larotrectinib. Therefore, it is imperative for today's oncology nurse to fully understand NGS testing to ensure that correct testing is being performed and to maximize patient benefit and treatment outcomes.

351 MANAGING ADVERSE EVENTS IN PATIENTS WITH RELAPSED/REFRACTORY MANTLE CELL LYMPHOMA TREATED WITH ACALABRUTINIB: CLINICAL EXPERIENCE FROM THE MD ANDERSON CENTER

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Acalabrutinib is a selective Bruton tyrosine kinase inhibitor, approved for use in patients with relapsed or refractory mantle cell lymphoma (R/R MCL), an

aggressive B-cell malignancy. Treatment-related adverse events (AEs) can affect patient adherence to treatment regimens. We reviewed safety data from the ACE-LY-004 clinical trial and report strategies implemented at MD Anderson to manage AEs in patients treated with acalabrutinib. In the open-label, single-arm, phase 2 study, patients with R/R MCL received oral acalabrutinib (100 mg BID). All 124 patients enrolled on the ACE-LY-004 trial that received at least one dose of acalabrutinib were included in the efficacy and safety analysis. Our review focussed on AEs that led to dose reduction or treatment discontinuation. Overall, the median duration of treatment was 16.6 months with 73.4% of patients treated for ≥ 6 months and 59.7% treated for ≥ 1 year. Dose reductions or discontinuation due to an AE was reported for 1.6% and 6.5% patients, respectively. The most common AEs of any grade were headache (39%) and diarrhea (31%) but no patients discontinued treatment because of them. A total of $n = 28$ (23%) patients were enrolled at MD Anderson. Through completion of a Pill Diary we show that patients proved adherent to the twice-daily dosing with acalabrutinib. Where doses were missed or modified, patients were re-educated about the importance of adherence and how to manage AEs. Grade 1–2 AEs did not require dose reduction or treatment interruption, instead these were managed with over-the-counter medication, if needed. Treatment of patients with R/R MCL with acalabrutinib has demonstrated a good safety profile; the most common treatment-related AE being Grade 1–2 headaches and diarrhea. Strategies implemented at MD Anderson allow us to track occurrences of non-adherence and provide the opportunity to advise and educate patients and to manage AEs more effectively.

352 EFFECTIVE MANAGEMENT AND PREVENTION OF DIARRHEA ASSOCIATED WITH THE TYROSINE KINASE INHIBITOR NERATINIB: FINDINGS FROM THE CONTROL STUDY AND INDIVIDUAL PATIENT CASES

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Diarrhea is a common adverse event associated with tyrosine kinase inhibitors (TKIs) and, if not managed

properly, can lead to severe dehydration, dose reductions, and treatment interruptions/discontinuations. Most cases of uncomplicated diarrhea can be managed effectively with self-administered anti-diarrheal agents such as loperamide. Neratinib (Puma Biotechnology Inc) is an irreversible pan-HER TKI used for extended adjuvant treatment of early-stage HER2-positive breast cancer after trastuzumab-based adjuvant therapy. Neratinib-associated diarrhea is acute (generally occurring during the first cycle of treatment), manageable and self-limiting. However, initial trials with neratinib, including the phase 3 ExteNET trial, were performed without anti-diarrheal prophylaxis. An international, open-label, sequential-cohort, phase 2 study (CONTROL) in HER2+ breast cancer patients receiving extended adjuvant neratinib is investigating the effects of several prophylactic strategies in reducing neratinib-associated diarrhea. Study cohorts: mandatory loperamide prophylaxis (n=137); loperamide + budesonide (n=64); loperamide + the bile acid sequestrant colestipol (n=136); colestipol + prn loperamide (n=104), or a dose-escalation strategy (target n=64, currently enrolling). Data from CONTROL indicate that loperamide reduces the incidence of grade ≥ 3 neratinib-associated diarrhea compared with that seen in ExteNET without anti-diarrheal prophylaxis (30.7% compared with 39.9%). Adding budesonide or colestipol further reduces the incidence of grade ≥ 3 diarrhea (from 26.6% to 10.8%, respectively), suggesting that the etiology of neratinib-associated diarrhea may involve inflammation and/or bile acid malabsorption. Prophylaxis with loperamide alone also reduces the median cumulative duration of diarrhea grade ≥ 2 (from 10 to 4 days) and grade ≥ 3 (from 5 to 3 days) and reduces the median number of diarrhea episodes (any grade) per patient (from 8 to 2 episodes) in ExteNET vs CONTROL. Of note, no grade 4 diarrhea has occurred in CONTROL. Diarrhea is an expected early side effect of therapy with TKIs. Therefore, patient education about the side effects of cancer treatments and close monitoring are critical for managing diarrhea. Data from CONTROL indicate that proactive anti-diarrhea prophylaxis improves tolerability, providing an effective means of reducing the incidence, severity and duration of neratinib-associated diarrhea. Benefits of effective prophylaxis are now being seen in patients receiving neratinib in daily practice. Oncology nurses and oncologists are likely to play a key role in patient education and management of diarrhea in cancer patients receiving neratinib and other TKIs.

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MANAGEMENT OF TREATMENT-RELATED ADVERSE EVENTS IN PATIENTS TREATED WITH MOGAMULIZUMAB: A SINGLE-CENTER EXPERIENCE

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Cutaneous T-cell lymphomas (CTCL) include a rare subgroup of extranodal T-cell lymphomas with a frequently poor prognosis. Currently, few treatment options exist for these lymphomas, resulting in treatment resistance and rapid disease progression in patients with advanced stages of the disease. Mogamulizumab is a recently FDA-approved anti-CC chemokine receptor 4 (CCR4) antibody that has shown superior progression-free survival in patients with relapsed or refractory CTCL. As the highest enrolling US institution in the pivotal, phase 3 MAVORIC (Mogamulizumab anti-CCR4 Antibody Versus ComparatOR In CTCL) trial, we report our experience with and clinical management of mogamulizumab treatment-related adverse events (AEs). Eighteen patients with relapsed or refractory CTCL received mogamulizumab as a part of the phase 3 MAVORIC clinical trial at our institution. Data were reviewed retrospectively and included treatment-related AEs and subsequent clinical management of these events to guide future providers in making treatment decisions. AEs that were possibly, probably, or definitely attributed to the study drug were considered in the analysis. The most common treatment-related AEs experienced at our institution included infection (38.9%, n=7), infusion reaction (33.3%, n=6), and rash (16.7%, n=3). Patients who experienced infection while enrolled in the study were most commonly given antibiotic therapy and allowed to proceed. Five patients (27.8%) were required to skip a dose of the drug due to infection, although no participants were required to withdraw from the study for this reason. Five patients who experienced infusion reactions during the first treatment were allowed to proceed on the trial with a slowed infusion rate of 2 hours, and no subsequent infusion reactions were noted. Only one patient was required to discontinue the trial due to a severe infusion reaction. Finally, one patient experienced a biopsy-proven drug-related rash and required a course of oral steroids. Mild rashes considered to be drug-related were treated with topical steroids in two patients (11%). Overall, treatment-related AEs

in patients receiving mogamulizumab were mild and easily mitigated with symptomatic treatment and adjustments in infusion rates. Through education and early recognition, nursing personnel were trained to recognize and quickly intervene in the setting of treatment-related AEs. Only one patient required discontinuation of treatment due to a severe infusion reaction.

LEADERSHIP/MANAGEMENT/EDUCATION POSTERS

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PATIENTS TAKING CHARGE! EMPOWERING SELF-MANAGEMENT THROUGH FORMAL INDIVIDUALIZED PRE-CHEMOTHERAPY EDUCATION SESSIONS

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A diagnosis of cancer can be associated with significant amount of stress and anxiety which can negatively impact a patient's ability to retain and recall vital information regarding the diagnosis, goal of therapy, treatment plan, supportive care medications, potential side effects, provider contact information, and treatment schedule. The purpose of this project was to provide nurse led individualized patient education sessions to patients newly diagnosed with lymphoma that express a need for additional personalized education and are willing to participate in the teaching session prior to the initiation of chemotherapy. Patients that express willingness to voluntarily participate in a nurse led teaching session will attend one 60-minute educational session with an oncology nurse who will ensure the patient will receive individualized content regarding the diagnosis, goal of therapy, treatment plan, supportive care medications, potential side effects, provider contact information, and treatment schedule. This session will occur prior to the initiation of cycle 1 of chemotherapy. Patients that express willingness to voluntarily participate in a nurse led teaching session will be given a pre-session survey to evaluate perception of their educational needs. A follow-up survey will be administered prior to cycle 2 of chemotherapy. The 2016 American Society of Clinical Oncology/Oncology Nursing Society Chemotherapy Administration Safety Standards addresses patient education recommendations prior to the initiation of chemotherapy. Included in these

recommendations are an understanding of diagnoses, goals of therapy, planned duration of treatment, drug names, supportive medications, side effects, and provider contact information. Patients are provided with verbal and written information during an office visit with their provider prior to their first chemotherapy appointment. Patients usually remember less than half of the information provided to them by their provider. The goal of this QI initiative is to foster patient understanding of the educational information regarding their cancer care by providing an environment that allows for patients to actively participate in learning. Successful implementation of this project will provide a roadmap for pre-chemotherapy teaching sessions for patients diagnosed with other hematologic malignancies.

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SAFER STAFFING BASED ON ACUITY

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There is sufficient evidence to indicate that optimal nurse staffing must include the following factors: patient acuity, number of patients and skill mix. There are existing formulas for staffing based on patient volume; however, there is no standard acuity formula used in ambulatory oncology infusion centers. This is a retrospective study which will examine the benefit of incorporating a standard acuity formula to staffing assignments. The purpose of this research is to determine if utilizing a standard acuity formula in staff assignments will improve patient safety. Comparison of staffing methods from two of our ambulatory infusion centers was used in this analysis. Center A uses a standard acuity formula to determine patient assignments. Although the charge nurse considers the volume of patients assigned to each nurse, assignments are based on equal acuity levels which are derived from a standard formula. The nurse coordinator ensures each nurse has equal acuity levels, although the number of patients may vary. Infusion center B does not use a standard acuity formula; rather patients are assigned by distributing an equal number of patients between nurses. Acuity is considered when preparing assignments, but a standard formula is not used. Patient census and safety

data was gathered from each infusion center over the past twelve months. Center A saw 40% more patients than Center B. Values were adjusted for volume differences. Adverse events, which were classified as “could not have been prevented”, were higher in Center A by 3.5%. However, all other categories of safety events were higher in Center B, which does not use a standard acuity formula. These events were classified mostly as “likely could have been prevented” and are as follows: Medication errors 20% higher; complications of care 12% higher and Falls 50% higher in Center B compared to Center A. Based on this data, staffing based on a standardized acuity formula appears to improve patient safety. Although other factors may contribute to the differences, it is significant that preventable events are all higher in the center that does not use a standard acuity formula. Utilizing a standard acuity formula for staffing an ambulatory oncology infusion center will improve patient safety.

356 **INTERDISCIPLINARY IMPLEMENTATION MODEL FOR CAR-T CELL THERAPY**

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CAR-T cell therapy is a new treatment available for hematologic diseases including Lymphoma and Leukemia which was unavailable for the intermountain west patients without significant travel. CAR-T therapy consists of the patient’s own cells being genetically modified to attack the patient’s cancer cells. This is an alternative to transplant where patients often have lifelong rejection issues due to receiving someone else’s cells. CAR-T therapy provides a possible cure for those patients who have exhausted multiple lines of therapy with no remission. Offering this treatment at Huntsman Cancer Institute, supports a patient population that would not otherwise have access to this life saving treatment. The purpose was to create a model for implementation of CAR-T therapy at Huntsman Cancer Institute. The goal was to create a new service delivering this ground breaking therapy to patients as seamlessly and successfully as possible. When CAR-T Therapy was proposed, initial buy-in from hospital leadership was obtained and processes within finance, contracting and billing were determined prior to developing a clinical plan. An interdisciplinary committee was created comprised

of nursing, pharmacy, transplant coordination, stem cell therapy, providers, quality, nursing informatics, education and leadership to implement this treatment. Order sets, treatment plans, evaluation forms and monitoring tools were built into the medical record. This implementation model led to three successful vendor audits. Hospital specific education was created and rolled out in addition to vendor required REM’s training to all providers, nurses and medical support staff. This implementation model was delivered to multidisciplinary levels including inpatient, outpatient and emergency services. The committee initially met every two weeks to monitor implementation and make changes in process as needed. The team continues to meet to monitor, review data and evaluate outcomes. Working as an interdisciplinary team across inpatient and outpatient departments this complex new therapy was successfully implemented and a successful model was established for starting new programs. The benefit to the organization, front line staff, and patients is demonstrated in the positive outcome data for this program.

357 **AN ONCOLOGY SKILLS DEVELOPMENT COURSE FOR NURSING AND MEDICAL ASSISTANTS**

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At a 100-bed oncology hospital, Certified Nursing Assistants (CNA’s) and Medical Assistants (MA’s) receive orientation to the floor and required skills training annually but do not routinely receive additional ongoing education. A significant practice drift was identified between CNA/MAs in their specific areas and throughout the hospital. An exhaustive literature review was conducted and found that there is not an established best practice for routine CNA/MA training in a hospital or ambulatory setting. We sought the collaboration of managers, preceptors, and educators to identify gaps in practice in order to create a supplemental program of specialty clinical instruction. They were; 1) Employee orientation is limited to 2–3 weeks, with each employee working with multiple preceptors. 2) Novice learners do not always feel free to question their preceptors. 3) This group of employees is multigenerational, with many different learning styles. 4) Oncology is a specialized patient population with unique needs and concerns. Educators from inpatient and ambulatory settings

created the skills development course. The result was a collaborative didactic experience with a focus on oncology. Each instructor was sensitive to generational learning styles, and utilized activities that would create an engaged learner experience. Teaching methods included frequent mobilization, low-fidelity simulation, and technology enhanced learning techniques to promote engagement and connectivity. Throughout the program, experiential learning was used to create an environment where discussed concepts are applied to the unique oncology patient population. As topics were discussed, learners were asked to consider real-life and past experiences and apply their new knowledge to make decisions in the oncology patient care setting. Outcome evaluations after 7 classes indicated a positive response from participants. The course created a “safe place to ask questions”, and was even lauded as the “most useful class ever attended”. Implementation of this course has created an organizational standard of excellence as we continue future course development.

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LEADING CHANGE IN A VOLATILE ENVIRONMENT

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Incivility, bullying, and workplace violence are important points of discussion in an increasingly volatile health care environment. Serious workplace violence (requiring days off work) is four times more common in health care than in private industry. An ANA (2014) survey of 3,765 registered nurses and nursing students showed that 21 percent of registered nurses and nursing students reported being physically assaulted—and over 50 percent verbally abused—in a 12-month period. This is unacceptable and the ANA asserts, “the nursing profession will no longer tolerate violence of any kind from any source”. Moreover, the ANA has charged the entire nursing profession to “drive a cultural change to end incivility, bullying, and violence in the workplace.” Through dialogue at shared governance meetings, nurses and nurse leaders came to the realization that there was a pressing need to help nurses and nursing assistants develop the skills needed to recognize and address diverse situations of incivility, bullying, and workplace violence. The purpose of this incremental mandatory staff development program is to prepare nurses and

nursing assistants to respond effectively to diverse situations of incivility, bullying, and workplace violence. Incremental, CE approved, multi-course staff development program is being developed to strengthen nursing staff capabilities for managing diverse situations. Year one of the program includes courses related to: (1) rude patient/refusal of care, (2) working with difficult/challenging families, (3) the violent patient. Year two will address (1) incivility, (2) bullying and mobbing, and (3) lateral violence. To date, the rude patient/refusal of care course has been developed, pilot tested and completed. The course provided didactic information (power point lecture) which was reinforced through simulation with guided audience participation. Guidelines for documentation of incidents were provided and reviewed at the time of presentation. Participants in the program found the information and content useful. In particular, being able to actively participate in the critique of simulated situations reinforced learning through active engagement. Changing the culture of care to end incivility, bullying, and violence will require active participation in educational programs that will help nursing staff recognize and respond effectively to diverse situations.

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EXPANDING THE INPATIENT ONCOLOGY FOOTPRINT

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Our large academic hospital, with 2 dedicated inpatient oncology units, has experienced 30% growth over the past few years. In 2016, an idea was presented by oncology nursing to senior clinical leadership to transform one of the medicine units (10 Center) into a third oncology unit to better serve the needs of our diverse patient populations. This project was initiated, but never seen through to its entirety due to the lack of staffing resources and the data to support the need for a third unit. With recent growth, there was an immediate need to expand the inpatient oncology footprint with the increasing number of stem cell transplants, CART cell therapies, and numerous patients requiring inpatient stays for treatment, as well as symptom management. Transforming 10 Center into an oncology unit unifies oncology resources and optimizes the care provided to patients. In July 2018, key stakeholders for this project were identified. With the support from senior clinical leadership, patient throughput, and oncology leadership, a strategic plan was put

into place to transform 10 Center into an oncology unit. Daily reports and initiatives were put in place to identify oncology patients within the hospital and in the emergency room to be admitted to an oncology unit or transferred from a non-oncology unit. Oncology leadership's involvement in this transition was critical to bringing all of the disciplines together and to provide the ongoing support and knowledge the nurses need during this transformation. The consistent daily oncology census on 10 Center has been tracked and shared with key stakeholders since July 2018, with the average exceeding 94%. As of October 2018, we are proud to announce that we have successfully transitioned the medicine metrics into oncology metrics with a comprehensive plan for continuing oncology education and a robust orientation program for new nurses. Multidisciplinary support is crucial for this transformation to be maintained. There is an ongoing commitment from oncology leadership to the development of 10 Center's oncology clinical knowledge and competence. To support clinical knowledge, innovative "Oncology Pearls" have been sent out weekly via email that provide information on numerous oncology topics that have been identified as knowledge gaps among the nurses.

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ADDRESSING STAFFING DILEMMAS IN AMBULATORY CANCER PRACTICES BY CREATING CLINIC-BASED FLOAT POOLS

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While staffing models are established for inpatient and infusion units, other outpatient cancer settings face unique staffing dilemmas to ensure optimal patient care as well as nursing job satisfaction. Patients at the University of California San Francisco (UCSF) Cancer Center receive care from physicians in 21 site-specific clinics, each with nurses, nurse navigators, and administrative staff. Within clinics, permanent nurses support multiple providers, and are responsible for handling telephone and email encounters, symptom management, education, and care coordination. A Cancer Center float pool is utilized to cover nurses for vacations, leaves, and sick-calls. Nursing management tries to meet time-off requests, yet nurses are often unable to have their hours covered completely and consistently. Furthermore, float nurses may be assigned to clinics having had insufficient orientation,

which can be dissatisfying and stressful, not only to the nurses, but to providers and patients also. In 2017, a committee made up of permanent and float nurses was established to address dissatisfaction related to staffing dilemmas. The goal was to work with nurse managers to propose staffing solutions thereby improving workplace satisfaction and promoting safe patient care. Through correspondence with nurses in similar centers, a literature review, and discussions with nurses and managers, the committee is overseeing reorganization of the float pool. Rather than orienting to all practices, floats will be allocated to specific "pods." Pods will be made up of multiple practices, based on clinical overlap, nurse preferences, and location of the clinics. Whether there is a change in job satisfaction and greater consistency for providers and patients will be evaluated by surveys of the nursing staff, retention of clinically excellent oncology nurses, and feedback from nurses, providers, and patients. Creating clinic-based float pools provides prospects for nurses to develop clinical competence and ensures more consistency in patient care. On days with no additional staffing needs, floats will provide extra help, thus freeing up permanent nurses for projects or professional development. Additional benefits of improved staffing strategies include reducing time spent on scheduling and permanent nurses having to do less orientation for float staff. While changing the culture of ambulatory oncology care delivery is challenging, greater job satisfaction for nurses through improved staffing strategies may result in optimum patient care.

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A MENTORSHIP PROGRAM: FILLING THE GAP BETWEEN POST ORIENTATION AND BECOMING AN EXPERT NURSE IN AN ONCOLOGY MEDICAL INTENSIVE CARE UNIT

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It was identified in the James Medical Intensive Care Unit (JM ICU) that once a new staff member completes OSUCCC - James Cancer Hospital and unit-based orientation that there were no structured guidelines for their career progression. A gap was identified between post orientation and becoming an expert Critical Care Oncology ICU RN in the JM ICU and we needed to design a program that would close this gap. Mentorship Progression Guidelines include a mentor that

will guide new staff in: Types of patient assignments, Classes and educational opportunities, New Skills and Competencies, Emotional Intelligence and Professional Development opportunities. The goal of the JM ICU Mentorship program is to allow staff members to choose a mentor to help guide them through the following 12-24 months post orientation to become a compassionate and successful Critical Care Oncology ICU RN in the JM ICU. We are currently in the process of designing an evidenced based survey including topics such as burnout and moral distress to evaluate the outcomes of the JM ICU Mentorship Program. For this program, a mentee is defined as ALL employees new to the James, new graduates, and internal transfers with less than two years of nursing experience. The mentee will attend appointments with mentor/management staff and honor professional commitments to the JM ICU Mentorship Program. The mentee will be self-aware of personal and professional development by identifying individualized specific learning needs. The mentee will collaborate with the mentor to identify competencies, strengths, and weaknesses to better format a plan for professional development. Mentors will, and will help mentees, strive to be world-class leaders in oncology & critical care nursing through excellence in patient care, education, evidence-based practice & nursing research. Mentors will serve as world-class, empowering, compassionate, accountable, respectful and expert nurses for the mentee for at least a one-year period. We recognized that a mentorship program was desperately needed given the highly acute and specialized environment that exists in an Oncology Medical Intensive Care Unit. We are one of very few Oncology ICU's in the country and there was a great need for not only career guidance but for those individuals hired onto the unit to know that they had many individuals to turn to if needed, including their mentor.

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OPTIMIZING THE PRIOR AUTHORIZATION PROCESS IN OUTPATIENT ONCOLOGY CLINICS

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As noted in the 2018 American Society of Clinical Oncology Practice Census Survey, prior authorizations are a primary stressor in the planning and delivery of cutting edge, evidence-based care. Within this organization, the Pharmacy obtains prior authorization for only 40% of the patients served due to historical division of labor. Outpatient oncology RNs are responsible for obtaining prior authorization for the remaining

60% of cancer-related therapies and durable medical equipment (DME). Data collection showed the prior authorization process taking up to 40% of RN non-clinic time, impacting care coordination, anticipation and responsiveness to patient symptoms and issues, as well as increasing stress and decreasing work satisfaction. The purpose of this project was to identify and implement optimized processes for prior authorization of all cancer-related therapies, including pharmaceuticals and equipment. The Prior Authorization Task Force, composed of nursing leadership, staff RN expert, Pharmacy, Authorization team and Patient Assistance Services conducted assessment and developed plans for implementation. Interventions include: (a) Development and implementation of standardized pathways for prior authorization of FDA-approved and Off-Label Medications for staff education, (b) review of electronic medical record (EMR) functionality for prior authorization tools, (c) revision of DME order process, and (d) staff education on prior authorization tools and resources through NCCN and Patient Assistance Services. Initial interventions had limited success, as evidenced by nurse report and small increase in patient satisfaction scores (timeliness of nurse return call). Next steps – optimize role and value of oncology clinic RN by identifying alternate pathways for prior authorization. The task force identified next steps as creation of Prior Authorization team, composed of LVNs, to serve disease teams, enabling outpatient oncology RNs to focus on care coordination and improvement of symptom prevention and management, preventing ED and hospital admissions. Positions are currently posted with anticipated launch in December 2018. Outcome measures of success being tracked include: nurse satisfaction, patient satisfaction, prior authorization timelines (date of order to authorization received). The development of the Prior Authorization team and pathways represents a major shift in the role and importance of the oncology RN as advocates in providing exemplary, evidence-based care. Improvement of the prior authorization process through a dedicated team will also decrease intervals between placement of order and start of treatment.

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PERCEPTION IS THE REALITY: IMPROVING THE PATIENT EXPERIENCE USING A SERVICE RECOVERY MODEL IN AN AMBULATORY SETTING

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Patient experience and satisfaction are the No. 1 priority for nurse leaders, above clinical quality, cost reduction, and many other burning issues. Patient experience is all that is perceived, understood and remembered. Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) patient satisfaction metrics is used as a surrogate in measuring the patient experience. The purpose was to create a culture of empowerment beginning at the point of care that carries throughout our Ambulatory Cancer Centers, and involves all members of the team. Our goal was to empower employees to recover our patients' confidence when an unexpected event occurs that is within the employee's ability to change, correct or improve. The intervention intended to empower employees to recover our patients' confidence when an unexpected event occurs that is within the employee's ability to change, correct or improve, making the experience a positive one for the patient/family. Staff identified an issue that required service recovery, apologized for issue at hand, provided a small gift such as a coffee mug or an umbrella as a way to complete service recovery. Staff addressed concern simultaneously. Escalated to management when necessary. Management also provided follow up. Follow up done by Nurse Manager who reached out to patients and asks a series of questions to ensure that service recovery was achieved. Employees need to recognize when a bad service experience is happening and do something immediately. Many times the solution is: Service Recovery. Management follows up with the patient and staff accordingly to ensure that the issue was resolved and that further follow up is not indicated.

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A CLINICAL GUIDE AND SCHEDULING TOOL FOR CHEMOTHERAPY SUITES

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Chemotherapy scheduling is complicated and can be cumbersome for non-clinical staff to understand. Scheduling errors lead to delay, patient dissatisfaction and poor utilization of chair time. With the use of a clinical guide incorporated into a scheduling tool, chemotherapy appointments will be scheduled with ease. The purposes of this project were to (a)

introduce a simple scheduling tool that assists staff in scheduling chemotherapy appropriately and (b) increase chair utilization by scheduling appropriately and to avoid scheduling errors. A list was created with chemotherapy regimens which include the length of treatment and the latest appointment time that could be offered to a patient. A color coded medication list is used to help schedulers know when long or short infusions should be scheduled based on a matching color coded template. The scheduling tool also takes into consideration staffing and scheduled lunch times to ensure patients will not be waiting when they arrive for treatment. Evaluation: Increased chair utilization and assisted in avoiding "overbooking" multiple patients at a time. Discussion: Scheduling is the key to success in a chemotherapy suite. Scheduling tools need to be utilized to increase chair utilization, maximize capacity and maintain patient safety.

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LESSONS LEARNED FROM A NC STATE ADVOCACY DAY

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Oncology nurses are natural advocates. The Oncology Nursing Society (ONS) provides abundant resources for advocacy training via two webinars, weekly updates through e-mails, and on-the-ground training through ONS Annual Capitol Hill Days. Today, it is crucial for nurses to have the education, training, and access to influence policy at all levels. Educating nurses at the state level on how to use their voice is a natural evolution. The purpose of the NC State Advocacy Day was to begin building a grassroots advocacy movement through educating and empowering NC Oncology Nursing Society members to engage with NC legislators on health policy. The NC Advocacy Day began as an idea that crystalized into reality over a six-month period with an active organization timeline extending approximately three months. Planning a state level advocacy day required considering a multitude of factors for advertising, scheduling, funding, and creating a meaningful experience. Our speakers included national ONS leadership, NC legislatures, and oncology nursing advocacy leaders. Thoughtful feedback and program evaluation provided us with a list of lessons for future statewide events. The NC Advocacy Day participants provided positive feedback on their experiences and the speakers provided relatable stories because of their local relationship. This type of event can build bridges of communication,

vital for nurses' voices to be heard. An unexpected outcome was that one NC House representative who was unable to attend the event was able to speak at a local chapter meeting later. The NC Advocacy Day was the first state-wide health policy event organized for ONS chapters. Based on the feedback and success of the meeting, a future event will be scheduled in another NC metropolitan area. The goal is to establish an annual health policy event to educate the NC ONS nurses. As we all seek to engage in advocacy at the state level, this model will undergo continued development. This model can serve as a framework for other states to initiate their own grassroots advocacy days.

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OPTIMIZING LEUKEMIA PATIENT EDUCATION THROUGH USE OF A TIME LINE PATHWAY

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When is the best time to provide all of the education a newly diagnosed leukemia patient should have prior to their first hospital discharge? Literature mentions the importance of providing patients and caregivers with sufficient, understandable education about their cancer diagnosis, treatment options and disease trajectory, yet there is little information that provides direction for a structured format. Healthcare providers are tasked with providing a myriad of education topics throughout a patient's lengthy hospital stay. Current practices range from providing binders to the patient that they review when able, the nurse may sit with patients and caregivers at various times during the hospital stay, or overwhelming chunks are reviewed right before discharge. While these practices provide the information, there is often a lack of understanding by the patient which may lead to confusion about their treatment plan and side effect management. The purpose of this pilot project was to implement a process that would improve the quality of education provided to the newly diagnosed leukemia patient. The goal was to eliminate missed topics, provide information in small amounts with measured teach-back to assess for understanding, and improve continuity of care between the inpatient setting and the outpatient clinic. Various disciplines were provided with a time line showing set topics designated

to their role which alleviated the "who teaches what" question (attached file). Conversations about nurse-sensitive patient outcome interventions, such as fall precautions and infection prevention strategies are clearly defined within the organized time line. Data from the pilot conducted on the Acute Leukemia Unit are being collated for final analysis. Certain topics were identified as being commonly misunderstood by patients and opportunities for improvement have become apparent. Nurses have appreciated the benefit of having a list of topics that needed to be reviewed with the patient at specific time points. Newly diagnosed acute leukemia patients are often hospitalized for 30–50 days, yet they are often discharged without a clear understanding of many education topics. With a time line approach, specific topics were discussed at pre-identified time points. This innovative approach provides direction and a clear time line for educating the patient during their hospital stay.

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INTEGRATING ONCOLOGY NURSE NAVIGATOR CORE COMPETENCIES AND CARE MODEL FOR A NAVIGATOR ORIENTATION PROGRAM

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The oncology nurse navigator (ONN) role is embodied by addressing needs of patients through the diagnosis, treatment, survivorship, and end-of-life phases of the Oncology Nurse Navigation Care Model. Within these phases, the model depicts how an ONN can minimize barriers and improve patient outcomes based on Oncology Nursing Society (ONS) core competencies of coordination, communication, education, and collaboration. These competencies, in conjunction with the Care Model, can provide the background for ONN orientation which requires the contextual integration of competencies within the Care Model, independent of setting and relative to needs of patients in each phase. The purpose of this project is to develop and evaluate an ONN Patient-Centric Orientation (PCO) that integrates core competencies with the diagnosis, treatment, survivorship and end-of life phases represented in Care Model to provide a structured and comprehensive orientation. The process of developing a PCO is underway at a community-based cancer center. A survey to assess how ONNs implement core competencies in each phase of the Care Model is being administered to the ONN team. Based upon

those findings, a PCO will be developed that will describe behaviors and tasks related within each patient phase. A variety of learning opportunities will be included: 1:1 discussions, shadowing with experienced ONNs, meetings with various staff resources, observations of provider-patient interactions, as well as self-study assignments and classes. Orientation activities will be customized based on the experience and educational needs of the ONN. Program outcomes such as ONN confidence and preparedness will be evaluated pre and post-orientation using Likert-scale and open-ended questions. Responses will be compared between ONNs who completed the previous orientation model and those who complete PCO between October 2018 and April 2019. The previous orientation focused on shadowing experiences, communication with healthcare providers, and care coordination but was devoid of any link to the Care Model. It is hoped that the incorporation of the Care Model with ONS core competencies through each patient phase will provide navigators with additional skills and confidence as they care for their patients and families during active treatment and beyond.

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INTERNSHIP PROGRAM: ONCOLOGY OUTPATIENT INFUSION NURSE

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To deliver complex high quality oncology nursing care, it is essential that experienced nurses new to this specialty attain expertise beyond what is acquired in a basic nursing program. It is essential that experienced nurses new to an oncology outpatient infusion therapy attain skill expertise with the following: (a) skill attainment in complex technological environment, (b) care and maintenance all types venous access devices, (c) delivery of hazardous and complex treatment regimens, (d) comprehensive symptom management intervention strategies, and (e) disease trajectory interventions and interpersonal strategy for age specific population including Geriatric and Adolescent and Young Adult (AYA) and culture specific populations. In order for these experienced nurses to develop safe and highly effective oncology nursing care, a four month Oncology Infusion Nurse Internship was developed. Criteria for acceptance to program included: (a) RN with BSN, (b) current BLS & ACLS provider cards, (c) minimum one year clinical experience in one of preferred following areas: inpatient oncology unit, Emergency Room, or ICU/

telemetry/ Step down, (d) would consider outpatient oncology infusion setting, private physician oncology practice, community acute care infusion center, or non oncology infusion suites (both private physician and acute care infusion center), (e) demonstrates effective communication and interpersonal skills, (f) entry essay reflecting care of oncology patient, (g) signed commitment for three years (after two years may apply for higher learning education), and (h) obtain OCN during third year after completion internship program. Internship program is a blended clinical setting with designated preceptor and classroom didactic. Classroom content is based on ONS PEP, NCCN and ASCO clinical practice guidelines and topics developed and presented by ARNP, educators and current infusion staff nurses. In addition, they will participate in simulation of clinical care situations and maintain personnel weekly journal. By month four they will develop and present to staff a topic and format of either case study, simulation, quality improvement, and/or interdepartmental intervention. The clinical competency and measurement or method based adapted from ONS Generalist Core Competencies. Program to be launched in near future. Outcomes to be measured: Retention, Increase number oncology certificated nurses, expanded knowledge and competency of infusion oncology nurse.

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USING GAMIFICATION CONCEPTS TO ENHANCE CLINICAL ONCOLOGY ORIENTATION

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Orientation is an important aspect of the new nursing staff onboarding process. Nurses new to an organization are tasked with learning and retaining large amounts of information in a short period of time while balancing competing priorities and caring for multiple patients. Tailoring clinical orientation to specific populations and unit culture is necessary for achieving optimal outcomes. Gamification can be a cost-effective way to enhance the orientation process through increasing engagement. It offers an enjoyable educational experience, provides orientees incentives for learning, and offers preceptor coaching cues that guide discussion. This quality improvement projects

purpose was to use aspects of gamification to enhance clinical orientation for new nursing staff on an adult solid tumor oncology unit. The project was developed to supplement experiences and knowledge gained during didactic coursework and orientation practices while increasing knowledge of the unit, department, and organization. The conceptual foundation for the game was derived from a common children's game. By providing direction through game concepts, preceptors are guided to review necessary topics prior to orientation completion. An innovative game board and directions were created and posted in the staff break room. 200 playing cards were developed from a card template and on three different color card stock corresponding to the approximate time necessary to complete the card (5 minutes, 10 minutes, 20 minutes). Varying color borders on the cards were used to represent 7 different categories (Medications, Equipment, Personnel, Quality and Safety, Clinical, Policy, and Quiz) that staff identified as important to comprehend prior to completion of orientation. To further elicit staff participation, a personalized "Picture Card" was specifically developed for current staff members. Six new nursing orientees have participated in the orientation game. All unit staff have been actively engaged in answering and assisting the orientees and preceptors progress through the game. The game has fostered a sense of comradery on the unit, being both beneficial to the learning of new staff and review of material for more experienced staff. Future directions for gamification include further development of the question cards and moving towards an electronic application to promote simultaneous participation between department and organization orientees. A mobile application that is accessible to everyone is being considered.

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TEACHING FOR THE DARK SIDE

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The pharmaceutical industry is often perceived as the "dark side" of healthcare. The representatives are viewed as gift-givers, bribers, and a nuisance; however, many pharmaceutical representatives are healthcare professionals, such as doctors, pharmacists, and nurses. Healthcare professionals are being hired by pharmaceutical companies to ensure that their representatives are fully knowledgeable of the medical field and have the ability and expertise to talk and relate to the healthcare professionals they are encountering. The pharmaceutical companies are also hiring healthcare professionals to be their educators, to provide

additional knowledge resources for their prospective clients. The purpose of this project was to conduct a systematic review of articles to highlight the importance of having a healthcare professional be employed by a pharmaceutical company to educate other healthcare professionals about various medications and their benefits towards positive patient outcomes. This was a systematic review of various articles using the key words; Pharmaceutical, Nursing, Education, and Industry. The common goal between the industry and providers is to provide better outcomes for patients. Healthcare providers expressed that information provided by the pharmaceutical company would have greater value if the sales representative was a healthcare professional. Collaboration between the pharmaceutical companies and the healthcare professionals benefit both the patients and healthcare professionals by providing the knowledge and resources to advance patient care. Healthcare professionals working for the pharmaceutical companies provide education to ensure the medications/products are being used efficiently and cost-effectively and they provide funding for research/clinical trials for the development of future live saving medications. Due to clinical experience and medical background, nurses can provide insight on patient experience. Nurses working for the pharmaceutical industry understand the everyday concerns of healthcare professionals and their desires to provide quality care, and the nurses can relay that information to the sales representatives to help the representatives relate to their customers. The information from the pharmaceutical company improved the practice of the nurses due to its educational value of nurses teaching nurses. Employment by a pharmaceutical company should not be viewed as working for the "dark side" but rather as an opportunity for the healthcare professional to educate and relate to other healthcare professionals to ultimately enhance the quality of patient care.

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NURSING IMPLICATIONS FOR MULTIPLE MYELOMA PATIENTS UNDERGOING CHIMERIC ANTIGEN RECEPTOR (CAR) T-CELL THERAPY

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CAR T-cell therapy in Multiple Myeloma (MM) is an immunotherapy treatment that targets B-cell maturation antigen (BCMA) and is currently under

investigation for MM. The purpose is to discuss considerations for CAR T therapy, including multidisciplinary measures, prophylactic therapy, CAR-T administration, toxicity management, and patient education. Interventions: (a) Prior to initiation: Screening procedures may require several days and includes informed consent, specific labs, scan/echocardiogram, and bone marrow biopsy. Social work assessment is imperative to assist with logistics necessary for frequent visits and to identify a reliable caregiver. (b) Leukopheresis: Nurse coordinator assists with apheresis assessment, including possible central line placement and infectious disease screening. Leukopheresis is an outpatient procedure lasting up to 6 hours. (c) Bridging chemotherapy: Patients may require treatment to control the disease while awaiting CAR-T therapy between leukopheresis and lymphodepletion. (d) Lymphodepletion: T-cell lymphodepleting chemotherapy (fludarabine and cyclophosphamide) is given 3 days prior to CAR-T. Pneumocystis pneumonia prophylaxis and intravenous immunoglobulin should be considered for patients with low CD4 counts. (e) Administration: CAR-T therapy is a single IV infusion that requires 2-week hospitalization with intensive monitoring and supportive care. (f) Monitoring: Close monitoring is required for cytokine release syndrome (CRS) and neurological toxicities, especially in the first 15 days. CRS is interleukin-6 driven and can be treated with tocilizumab or corticosteroids in severe cases. Rapid recognition of CRS symptoms is critical to ensure best outcomes. It is recommended to have established hospital protocols for CRS management and other complications. Patients who develop signs of CRS post discharge will require re-admission via emergency room for management. Prolonged pancytopenia requiring growth factors or transfusions post CAR-T therapy is common. (g) Supportive care: Interventions to manage side effects will be needed throughout the course of treatment (nausea, diarrhea, fatigue and cytopenias). Neutropenic precautions should be implemented as needed. Patients are admitted to a medical oncology unit, but may require transfer to intensive care unit for severe CRS. (h) Education: Patient education must include a caregiver and a multidisciplinary approach. Logistics and coordination of care before, during, and after require cohesiveness among departments. Nurses must instruct patients to report any fevers, nausea/vomiting, tachycardia, headache, or confusion that occur within 30 days of infusion. Discussion: Nurses are involved in administration, assessment, management

and patient education; it is essential that oncology nurses are knowledgeable of new MM therapies.

372 INPATIENT/OUTPATIENT COLLABORATION TO INCREASE CHEMOTHERAPY COMPETENCY

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A community hospital with inpatient and outpatient oncology joined with a Comprehensive Cancer Center in 2012; historically the community hospital had minimal inpatient chemotherapy administration with most being done outpatient; since the merger, both in and outpatient have grown exponentially. In five years, the outpatient center has grown from 7 to 37 chairs, 3 to 15 nurses, and 3 to 14 oncologists. All nursing staff are required to be chemotherapy certified and competent to administer, which consists of taking the ONS chemotherapy/biotherapy online course and to be observed administering four IV infusions and three IV pushes. The inpatient unit has been on a slower growth timeline for chemotherapy admissions, so the chance to be signed off administering is not as readily available as it is outpatient. All outpatient nurses are OCN certified and have experience administering chemotherapy; over the last year, an average of 50 treatment patients are seen daily. The purpose of this collaborative project was to utilize outpatient chemotherapy administration expertise to mentor inpatient oncology nurses in order to deem them as competent. As each inpatient nurse completed the online course, they were scheduled observation in the clinic. An outpatient nurse mentor utilized a detailed sign off sheet to keep track of how many and what type of administration observations took place; once requirements were met, the inpatient nurse would be considered competent. Before the project, it was difficult to sign inpatient nurses off for competency with swiftness and ease. Currently on the inpatient unit there are only two nurses not signed off for chemotherapy administration, which is a vast improvement from 2012, when a majority of the inpatient nurses were not chemotherapy competent. The inpatient nurses have all indicated that their observation and sign off experience has been beneficial in seeing more administration and increased their comfort level with safe chemotherapy administration. The project has

also fostered relationship building, enhanced communication and oncology nurse comradery between both units. Many cancer centers are growing, and with the increase of outpatient chemotherapy regimens, it is beneficial to utilize outpatient nursing expertise and observation of administration of antineoplastics to mentor and prepare inpatient nurses for competent chemotherapy administration.

373 EDUCATING ONCOLOGY NURSES ON THE BENEFITS OF PATIENT EXERCISE

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Patient-centered exercise programs for oncology patients are helpful in managing their fatigue and improving their quality of life during and after cancer treatment. A comprehensive cancer center lacked a patient-centered exercise program and the nurses were in need of an educational program regarding the benefits of exercise for oncology patients. The purpose of this project was to develop and evaluate an educational program for nurses at a radiation oncology outpatient center on the benefits of exercise for patients during and after cancer treatment. A pretest-posttest design was conducted with a non-randomized sample of 14 registered nurses (age in years $M=36.7$, $SD=12.0$) routinely employed in an outpatient oncology department. Data were collected using a demographic questionnaire and an authored-developed Activity and Education Assessment Tool of 10 multiple-choice items. The theory used to guide this project was the Attention, Relevance, Confidence, and Satisfaction (ARCS) model of motivational design theories. Data analysis using the paired sample t test showed a significant improvement in the nurses' post-education knowledge on the 10-point post-education assessment ($M=8.36$, $SD=1.447$; $t(13)=4.0070$, $p=.001$) compared to pre-education ($M=6.86$, $SD=1.027$). The findings suggest the education intervention was effective in improving the nurses' knowledge regarding the benefits of exercise in patients undergoing cancer treatment. Research provides strong evidence that physical activity promotes well-being and improved QOL in patients with cancer who are undergoing radiation therapy. Patients need education on the specifics of physical activity and nurses are in an ideal position to provide this important education. The results of this project suggest the educational approach used was successful

in imparting knowledge to nurses which can be passed on to patients. Ultimately, it is the hope that patients will use that knowledge to increase their physical activity and promote their own well-being. The literature is clear that physical activity in patients, with or without cancer, is beneficial in improving overall health and wellness and can prevent or delay chronic disease. Evidence also suggests physical activity can prevent disease, including cancer recurrence. This project work is unique because it focuses on educating nurses, an area to be sorely lacking.

374 MAKING EDUCATION PERSONAL THROUGH PATIENT NOTEBOOKS

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Nurses play a critical role in the education of patients. As written materials are an effective method for providing education, our academic medical center has used disease-specific notebooks for many years. However, many patients often report feeling overwhelmed by the volume of information. Therefore, we sought to provide meaningful materials to meet our patients' needs within our community healthcare setting. The purpose of this project was to streamline patient education for oncology patients, making it more personal, less overwhelming and better recalled while providing consistency of information. A multidisciplinary group facilitated by our Clinical Nurse Specialist and a graduate student was formed to redesign the patient notebooks. First, we reduced the amount of content provided initially, then we added content to personalize the materials based on patient needs. The revised materials were presented for comments and feedback to our Oncology Patient Advisory Council. They provided us with several recommendations, and we incorporated many of the relevant changes they suggested. Patient surveys were collected over a three-week timeframe after implementation within clinics to obtain feedback. The patient survey informed the multidisciplinary workgroup of what materials patients liked, found useful or helpful, and what they didn't like or found difficult to understand. Preliminary data suggests that patients appreciate the convenience and organization of the notebooks, as well as the ability to incorporate new information as needed. It also suggests that the initial content provided is not too overwhelming, and eases anxiety associated with a new cancer diagnosis. Tailored patient education disease-specific notebooks facilitate

dissemination of information in an organized and convenient format. As a result of the notebooks, consistency of education is provided across our cancer clinics. Providing education in small amounts and at different stages is more manageable for the patient and family; nurses have also reported ease of teaching and consistency of information received by patients.

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READY, SET, GO . . . HOW USING INTERACTIVE COMPUTER TECHNOLOGY IMPROVED NURSES' CONFIDENCE AND COMPETENCE WITH CODE BLUE DOCUMENTATION ON TWO ONCOLOGY UNITS

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Documentation in the Electronic Health Record (EHR) during a code blue has its challenges; however, it can be more accurate than paper documentation. The electronic documentation has required fields that can improve documentation completeness and efficiency. Seventy-nine nurses from two inpatient oncology units participated in an EHR code narrator documentation competency. They completed a survey on their experience, confidence and competence levels before and after the competency. The purpose was to gain confidence and competence in documenting in the EHR during a code blue. The intervention consisted of a pre- and post-survey, an hour education and practice session followed by mock code documentation competency six weeks later. The survey focused on nurses' experiences with code documentation using the EHR and self-assessment of the nurses' confidence and competence levels. After completion of the pre-survey, an education session documenting in the EHR while listening to a mock code blue video was held in a computer lab. The education session included staff setting up their code narrators for easier documentation, reviewing all of the documentation activities available in the code narrator, and reviewing all required code documentation elements. Staff then practiced what was just taught by documenting in the EHR playground while listening to a mock code blue video. Six weeks after the education, staff completed the code competency and checklist and completed the post-survey. They documented in the EHR playground on the same mock code blue video and then completed self-assessments of the video data points that are required for documentation during a code In the pre-survey, 9% of

nurses had experience documenting a code blue using the EHR. This percentage increased to 17% in the post-survey. The post-survey also revealed that 77% of the nurses increased their perceived confidence score by 1 or more points and 79% had an increase in competence score by 1 or more points in documenting a code directly into the code narrator. Future steps include having continuous education focusing on core measures at department IMC (Intermediate Care) classes to achieve optimal code blue competency and audits of code blue documentation.

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THE ROLE OF THE CLINICAL RESOURCE NURSE IN THE OUTPATIENT ONCOLOGY INFUSION SETTING

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Education for nurses in any specialty is often in high demand. The role of the clinical resource nurse (CRN) is constantly evolving and varies by institution. Although there is a Clinical Nurse Specialist (CNS) covering all seven ambulatory sites associated with the institution, a need for onsite clinical teaching was identified by nursing staff and nursing leadership. The goal is to have an expert at the bedside providing the same education to the entire staff to ensure consistency in care. The purpose of this project was to create a clinical resource nurse role to enhance the knowledge of the nurses at the bedside. Nursing leadership identified knowledge gaps among the staff and developed a list of skills/responsibilities required in a Clinical Resource Nurse. A job description was then created and the position was posted. Currently, there is one CRN who splits her time between two ambulatory oncology infusion sites. The CRN ensures all nurses have their initial and annual competencies completed, assists with the implementation of new policy and skills, and provides support to the preceptor orienting a new nurse on the unit. The CRN has been instrumental in the following initiatives:

central venous access device competencies, annual chemotherapy competencies, blood administration competencies, glucometer, and urine pregnancy. Having a CRN on the unit provides additional on-site support for any clinical questions and emergent situations. The CRN role improves consistency in clinical practice by teaching and monitoring evidence-based nursing practice with the bedside nurses. This role continues to evolve, and the staff feedback has been overall positive. The CRN is dedicated and focused on the education and competencies of our oncology infusion nurses, serving as a bridge between the leadership team and the clinical team. The continual interactions between the CRN and the bedside nurses helps to identify the learning needs among the nurses resulting in a successful teaching plan.

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ADVANCE REVIEW OF INFUSION ORDERS; HOW CAN IT HELP?

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Multiple factors can contribute to delays of Chemotherapy including missing or unsigned orders. This can lead to increased wait time for patients, increased stress of nursing and pharmacy staff and patient dissatisfaction leading to the potential cancellation of treatments. The purpose of this project was to introduce a best practice of reviewing all chemotherapy orders utilized at three ambulatory Infusion Suites within a Health System utilizing an electronic medical records system. Discuss the impact this practice had at one particular site that experienced delays due to a malfunction in their Biohazard hood leading to the need to compound medications offsite. Designation of one Chemotherapy nurse assigned to review orders a week in advance to assure orders were entered for the correct date and signed by the provider. Daily communication to providers and pharmacy leadership ensured all information was accurate and up to date. Additionally another nurse would review orders the day before to check for changes and or missing orders and signatures. Providers and pharmacy were emailed with this information and a follow up phone call to the provider would be done by the charge nurse as needed. In the case of the site where the Biohazard hood malfunctioned providers were notified a week in advance via email by the Nurse Manager of all orders requiring attention. A list of three days in advance of

patients scheduled for treatment was distributed to the onsite pharmacy in order for them to know which medication needed to be sent to the offsite location. This nursing led performance improvement project of reviewing orders in advance and notifying providers about missing or unsigned orders has improved production time, wait time for treatments, increased patient satisfaction and decrease stress of nursing and pharmacy. In the specific case discussed, prior to initiating this change in practice, patient wait time for arrival of drugs was an average of two to three hours causing increase of stress and overtime for both the nursing and pharmacy staff, increased patient complaints and a dramatic decrease in patient satisfaction scores. Once this best practice was initiated, wait times at this location decreased to an average of 50% or less depending, patient complaints decreased and patient satisfaction scores improved for the most recent months.

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REDESIGNING RN RESIDENCY: CREATING RESILIENCE IN THE NEW ONCOLOGY NURSE

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44% of oncology nurses experience burnout and compassion fatigue sometime in their career. Nurse Residency Programs (NRP) present an opportunity to introduce and develop resiliency skills in new oncology nurses. NRPs bridge the gap between theoretical knowledge developed in school, and the practical application of nursing practice. A common concern among new nurses is their ability to provide safe patient care and meet the performance expectation of their employer. Repeated exposure to workplace stress combined with tending to the physical and emotional needs of oncology patients, requires new oncology nurses to develop effective coping and self-care skills to be successful. Through the application of evidenced-based practice, this project aimed to decrease New Graduate RN turnover by 10% in one year and increase the proportion of new nurses reporting a “highest degree of satisfaction” to the statement “Intent to remain at [study facility]” by 25%. Thirty-seven articles reviewed. Baseline surveys distributed in September 2017. A redesigned one-year Nurse Residency Program was implemented in January 2018. Same surveys distributed in June 2018 to evaluate program effectiveness. Turnover was evaluated in September 2017 and September 2018. Implementation strategies included: (a) increased meeting

frequency from every-other-month to monthly, (b) two skills lab and simulation-based experiences per year, (c) integration of resilience and self-care content, (d) emphasis on interprofessional communication, with physician participation, and (e) increased opportunity for peer-to-peer discussion. Six months post implementation, the proportion of new grads stating they were “Highly Satisfied” and intended to remain at the study facility increased from 48% to 60%. Oncology nurse turnover decreased from 28% in September 2017, to 6% in September 2018. NRPs must evolve to meet the needs of the next generation of millennial nurses who place greater importance on collaboration, networking, and independence than their predecessors. Finding a balance between soft skills, such as communication skills, and technical skills were key to the success of this program. Tailoring NRPs to the unique culture and environment of the facility may contribute to decreased turnover rate. Integrating evidenced-based strategies, such as resilience training and peer-to-peer discussion, resulted in improved turnover rate and intent to stay at the study facility.

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ONCOLOGY NURSE PROFESSIONAL QUALITY OF LIFE AND FATIGUE ASSOCIATED WITH HOSPITAL UNIT WORKFLOW REDESIGN

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Hospital shift-work fatigue is a Joint Commission sentinel alert. Hospital oncology nurses are at risk for professional burnout and shift-work fatigue and sleepiness. Burnout and fatigue negatively affect patient safety practices and nurse wellness. A shared responsibility of hospital administration and professional nurses to manage occupational fatigue prompted the design and implementation of a hospital unit workflow redesign and the investigation of professional quality of life and changes in occupational fatigue. The purpose of the quality improvement study was to improve fatigue risk management for hospital oncology nurses and to answer two research questions. Is a hospital oncology unit workflow redesign associated with changes in nurse fatigue? Are changes in nurse fatigue associated with professional quality of life? The hospital-initiated oncology unit workflow redesign included the addition of a unit coordinator position, built-in break nurse coverage and a focus to monitor and ensure adequate resources at the bedside by increasing registered nurse and patient care

tech staffing. The study design was a prospective quasi-experimental investigation. Nurse participants completed an online survey at baseline, three-months and six-months to report occupational fatigue and baseline descriptive information including professional quality of life. Fatigue instruments included the Occupational Fatigue Exhaustion and Recovery Scale, Need for Recovery Scale and the Chalder Fatigue Scale. The Professional Quality of Life instrument measured compassion satisfaction, burnout and secondary traumatic stress. Fifty-one nurses completed the study. Implementation of the workflow redesign was associated with increased acute fatigue scores and decreased physical, mental, chronic, and need for recovery scores. Higher compassion satisfaction, lower burnout and lower secondary traumatic stress scores were significantly associated with lower physical fatigue, lower mental fatigue and lower need for recovery scores. Nurse fatigue risk management is a recommended practice by the 2014 American Nurses Association to encourage individual professional and employer efforts to monitor and reduce nurse fatigue. The oncology nurse team conducted an effective process improvement strategy to implement a workflow redesign, evaluate professional quality of life and occupational fatigue and demonstrated the impact of the strategy. Implementation of a six-month unit workflow redesign was associated with decreased occupational fatigue among hospital oncology nurses. Professional quality of life scores were sensitive indicators of the need for fatigue risk management.

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FROM POST SURGERY THROUGH SURVIVORSHIP: SELF-MANAGEMENT SUPPORT OF COLORECTAL PATIENTS WITH OSTOMIES

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The current trend in health care has resulted in shorter hospital stays. As a result, fewer opportunities for trained ostomy nurses are available to support patients with new ostomies. Therefore oncology nurses in the outpatient setting need to play a role in assisting stoma patients in self-management. The early promotion of stoma self-management skills and how they can substantially enhance the psychological adjustment of the stoma patient post-surgically should be emphasized to nurses. Encouraging stoma self-care is the most important factor in encouraging positive psychological adjustment to an ostomy. The clinical need for ostomies for colorectal cancer

patients is significant, but the changes in a patient's individual quality of life are extensive. The surgical placement of an ostomy results in the loss of an important body function. It can also result in long-term physical consequences such as peristomal skin damage and sleep disturbance. People with ostomies also face psychological and social consequences that can be complex and persistent. Studies have shown what people with ostomies face throughout their lives. These effects include physical, psychological, social and spiritual issues. The purpose of this report is to improve nursing staffs' awareness of both the immediate post surgical physical needs and the persistent quality of life concerns for colorectal cancer patients with ostomies.

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DEVELOPING A STAFFING MATRIX FOR AMBULATORY ONCOLOGY INFUSION BASED ON UNITS OF SERVICE

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Balancing staffing and patient needs is a continued challenge in the ambulatory infusion setting. The traditional hours per patient day that can be applied in the inpatient setting, is difficult to translate into an ambulatory based service. At our community cancer center, we were budgeted using a units of service model. Nursing leaders struggled to staff appropriately to meet budget as the typical matrix used in an inpatient setting did not exist. Nurses were often guessing about staffing numbers to meet the demand. This resulted in decreased staff satisfaction and productivity overages. The purpose of this project was to translate units of service based budgeting into a staffing matrix to meet requirements for an ambulatory infusion center. Clinical leadership in the chemotherapy infusion center collaborated with a nursing business partner. Base-line staffing and roles were defined. Typical average daily census and nurses needed for the number of encounters scheduled for the day were reviewed. In addition, the shift was based on 9 hours, the typical scheduled day. The final product gave the nurses a budgeted amount of nurses per shift for a specific number of patients. For example: for a schedule of 40 encounters, staffing requires 7 RN's and 1 PCT. Constants were built into the matrix for a scheduler, associate nurse manager, and part of the manager's time. Units of service were based on 2.65. Nurses implemented and trialed the matrix for several weeks. They report that the staffing

numbers were appropriate to the work load. Prior to implementing the matrix, charge nurses were often guessing on when to send nurses home or when to increase staffing to meet patient needs. This system prescribes the nursing numbers to meet budget and allows for safe and effective patient care. One stressor that has been eliminated is the need to send nurses home early, if staffing is based on the units of service scheduled for the day, we are within budget. Partnering with a business specialist to help translate budgets into nurses on the floor has resulted in meeting budget and increasing nurse satisfaction.

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TESTING A PATIENT EDUCATIONAL INTERVENTION TO ENHANCE HEALTH LITERACY AND SELF-CONFIDENCE ABOUT ENGAGING IN HEALTH DECISIONS TO IMPROVE OUTCOMES

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Cancer treatment in the outpatient oncology setting is complex and requires a patient to navigate an unfamiliar course across therapy, creating unique needs for health literacy support. In the US, 88% of adults have health literacy limitations. Decreased proficiency in health literacy has been correlated with non-adherence, medication errors and poor disease management. With lower health literacy, patients may not understand the disease process, or may lack medication management skills and confidence to communicate their needs. Health literate nurses are key stakeholders to bridge the gap in the delivery of education, subsequently decreasing the health literacy burden on patients and the healthcare system. This study will test an educational intervention for patients with cancer that is designed to enhance health literacy and self-confidence to engage in health decisions and improve outcomes. The intervention aims to improve communication between cancer patients and their health care team, primarily nurses. Following assessment of health literacy, research questions will focus on evaluating how self-confidence about engaging in health decisions and patient self-management vary by health literacy levels. Further, if a

structured educational plan is constructed and implemented based upon health literacy assessment, we expect to see improvement in self-confidence about engaging in health decisions and fewer unplanned visits to the clinic or the hospital. Patients will be enrolled in the study using a wait-list control design to evaluate impact of a structured educational intervention on patient self-confidence about engaging in health decisions and patient outcomes. The educational intervention, based upon assessments, will include individualized care plans and creation of measurable goals based on self-care management. Periodic follow-up will verify retention of information and re-education will occur as necessary. During the six-month study, health literacy will be assessed at study enrollment and throughout the study using the 30-item Cancer Health Literacy Test (CHLT-30). The Mini Mental State Examination (MMSE), a valid and reliable tool, will be used to assess cognition, attention, response latency, ability to answer questions and provide relevant information. Clinic nurses identified a gap in practice related to health literacy assessment and have planned the new educational processes and content for the patients. Implementation of findings from this research project may increase self-confidence about engaging in health decisions and better outcomes for patients.

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CROSSING THE DISTANCE: CREATING A STRONG FOUNDATION FOR AMBULATORY ONCOLOGY NURSING PRACTICE

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In 2010, the University of Rochester's (URMC) Wilmot Cancer Institute (WCI) began affiliating with community oncology practices. There are now twelve locations spanning seven counties across Western New York and the Southern Tier with distances among locations of over 120 miles. The affiliation with community oncology practices brings cancer care to patients that is consistent and closer to their home. A critical component to achieve high quality care is standardized nursing orientation with an oncology focus. The purpose of this project was to develop a standardized oncology nursing orientation process to set expectations and ensure all WCI nurses provide the same high quality care regardless of location.

URMC Nursing Practice Orientation provides core nursing orientation for all services. While certain orientation tools are already in place, lack of consistency in all aspects of ambulatory oncology nursing orientation was noted. The WCI Ambulatory Nursing Leadership team and the Clinical Nurse Specialist met once in person and follow up was by video conference using Zoom to design an orientation plan that built on core orientation, met clinical workflow needs of each oncology practice, and provided the framework for consistent oncology knowledge and practice base. The ONS Chemotherapy and Biotherapy Guidelines and Recommendations for Practice (2014) were used as a guide. Evaluation is on-going. Since implementation in November 2017, seventeen nurses have completed the oncology orientation across eight sites. Feedback from preceptors and orientees has been positive, and identified a few ideas for improvement that included meeting with the Nurse Manager to review expectations of orientation, the orientation tool, and adding case studies. Suggestions for improvement were reviewed by WCI Ambulatory Nursing Leadership and incorporated into the orientation. Recognizing the lack of consistency in practice across offices, Nursing Leadership from WCI's multiple cancer centers throughout the region came together to collaborate and streamline expectations into one orientation plan. WCI's regional offices have many miles among them and few are attached to hospitals. The nurses require strong oncology knowledge and practice base to provide consistent high quality patient centered cancer care. A standardized oncology nursing orientation provides a strong foundation to strengthen competency and develop staff as they integrate into the complex world of ambulatory oncology. Standardized training also provides the opportunity for nurses to cross-cover other Wilmot oncology ambulatory practices.

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THE DEVELOPMENT OF A MULTI-STEP TEACHING MODEL FOR IMPROVED GYNECOLOGY ONCOLOGY PATIENT EDUCATION

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One of the most important roles of an oncology nurse is presenting educational materials in a method that is easily understood, retained, and executed with minimal complications and effective outcomes.

The challenge with the gynecology oncology population is not just their health literacy, but the fact that they are overwhelmed with anxiety, pain, and fear of the future. Patients are strained by the quantity of information provided. Thus, unable to retain the necessary information to decrease toxicities and barriers to completing the plan of care. Our goal as chemotherapy coordinators is to improve nursing education techniques for effective, streamlined oncology patient education. The flaw of our current educational process is the amount of information provided in one sitting. Patients and their families are physically and emotionally overwhelmed with a new cancer diagnosis that only adds to the barrier of their understanding. The oncology nursing role of education begins at the very first encounter. Confirming that the patient has a complete understanding of their diagnosis and plan of care must be accomplished first in order to proceed with additional information, tools, and resources. Our poster presentation will provide an improved multi-step method including additional teaching opportunities throughout the patient's journey. Our patients have rigorous chemotherapy regimens and long courses of treatment. Straight forward communication helps narrow down the information presented to the patient. Our goal is to provide precise information at each encounter, re-iterating previous information while also presenting new material. Discussing the treatment plan along with potential adverse events of both the primary and supportive medications, and how to manage them, are crucial to the patient completing treatment with minimum complications or delays. The importance of the patient knowing when and where to call regarding medication questions and symptom management will help to minimize delayed treatment and unnecessary hospitalizations. Presenting refined teaching materials specific to the patient and their level of literacy is crucial to the most successful patient outcome. Our presentation will have recommendations for value-added teaching methods while utilizing the evidence based teach-back method. Our poster will demonstrate an educational process with a goal of improved health literacy.

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STANDARDIZING ONCOLOGY GN ORIENTATION

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Being a graduate nurse (GN) working on any unit is stressful. Hematology-oncology is a specialized area

of nursing requiring an understanding of the nuances of cancer care. Nursing schools focus on neutropenic precautions without emphasizing other aspects of clinical care. When a GN onboards to a hematology-oncology unit and is surrounded with vocabulary such as “nadir”, “7+3” and “bone marrow transplant”, the GN can become overwhelmed and dissatisfied in his/her job setting. Baseline data obtained prior to project implementation included 11 basic oncology questions. New GNs, were only able to answer 3 basic medical-surgical questions correctly with little self-confidence. The purpose of this project is to provide GNs with general oncology information prior to working on the floor/unit with the goal of improving job satisfaction. For Baylor Scott and White Dallas, the hospital orientation/medicine internship is approximately 6–8 weeks long which is then followed by an oncology internship. GNs are working on the oncology unit for almost two months before attending oncology orientation. Interventions include review of common terminology and definitions. Additionally, discussion of hematology protocols routinely administered to our specific patient population will be discussed. Sample patient scenarios will allow the GN to critically think through clinical issues that can occur in the hematology population. Turnover rate will be evaluated at 6, 9 and 12 months. Since implementation, there has been 0 turnover of GNs. A knowledge questionnaire will be distributed during the evaluation periods to confirm oncology knowledge gained and retained. Results will be shared within the Cancer Hospital. The goal is to standardize onboarding of GNs within our 96-bed facility. The content will also assist Clinical Coaches (preceptors) in the orientation of GNs to the specialty of oncology. Currently, the oncology internship begins after the GN has completed hospital orientation. The revised process would provide structured information to GNs at an earlier time improving acclimation into the specialty of oncology nursing.

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FROM SURGICAL TO MEDICAL ONCOLOGY: AN EVIDENCE BASED GUIDE FOR STANDARDIZING THE ONCOLOGY NURSE ORIENTATION AND PRECEPTING EXPERIENCE

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A surgical oncology unit caring for thoracic and progressive care patients, a unit was challenged to expand and accommodate critically ill medical oncology patients. Increased acuity budgeted for 13 incremental nursing positions. The new positions and turnover led to the hire of 23 registered nurses in 2017. This created a learning need for current employees most of whom were novice preceptors and the newly hired nurses. The hospital's clinical ladder has four practice levels: Clinical Nurse (CN) I-IV. The unit has 29 CNI nurses, 22.5 CNII nurses, 6.5 CNIII nurses, and 4.5 CNIV nurses. Collectively, 82.4% of the registered nurses were considered entry level or competent and 17.6% are proficient or expert nurses. This program, developed by the expert nurses, guides new preceptors and ensures all orientees receive the same educational experience. A week by week guide keeps orientees and preceptors on track and focused. Pre and post-orientation surveys completed by orientees captures their confidence and ability in four categories: communication, clinical skills, support, and time management. Weekly template emails are sent to both the orientee and preceptor. These emails have medical-surgical oncology and end of life evidenced based articles included. The articles correlate with the types of patients the nurse would see during that timeframe allowing the learner to read about surgeries and procedures prior to caring for patients. A weekly guide of how many and what types of patients was created allowing for weekly orientee milestones to be tracked. A charge nurse checklist guides the nursing assignment board. Since implementation, 22 nurses have been integrated. One nurse resigned to pursue other opportunities. A qualitative survey was administered to each orientee. The pre and post surveys were analyzed. In the post surveys, there showed improvement in all four categories: clinical skills, communication, and support. The program has been successful keeping orientation consistent. Limitations identified include: lack of preceptor feedback, survey language, and the need for adaptation for extended orientation. Two nurses had their orientations extended past the four-month timeframe. Clinical skills overall improved. Pre-orientation 77% of orientees reported 'Uncertain', 'Disagree' or 'Strongly Disagree' and post-orientation, 100% reported 'Agree' or 'Strongly

Agree.' Communication overall improved. Pre-orientation 43.1% of orientees reported 'Uncertain', 'Disagree' or 'Strongly Disagree' and post-orientation, 97.7% reported 'Agree' or 'Strongly Agree.'

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TIPS FOR TEACHING ONCOLOGY IN AN ACCELERATED UNDERGRADUATE NURSING PROGRAM: AN ONCOLOGY TEAM CLASSROOM EXPERIENCE

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Teaching oncology and coordination of care in an accelerated nursing program is challenging because of the high volume, high speed, and high intensity of the program. The program's ultimate goal is to produce competent nurses in a short time. The challenge of teaching oncology to 150 and more students in a large lecture hall without lecturing but rather stimulating their critical thinking and problem-solving skills becomes a creative task for the oncology faculty. The purpose of this project was to compare two-classroom teaching strategies designed to improve students' motivation and understanding about the relevance of care of coordination in oncology. The faculty applied two distinct teaching strategies to two different groups of undergraduate nursing students. Both strategies included a panel consisting of an oncology team from a local cancer center. Teaching Strategy 1 combined three elements: the faculty presented a case, the class discussed the case, and a panel demonstrated an authentic care coordination meeting. Teaching Strategy 2 included two elements: a panel presented the case study followed by a question and answer period with the students. The faculty sought to determine the learning impact at the end of each session by asking the students to evaluate the session and express what they learned. Both groups did well on their exams, but assessing the comparative value of the teaching strategies is subjective; on course evaluations, students preferred Teaching Strategy 1. Oncology nursing faculty are aware of the effect of excellent nursing education on patient outcomes and patient mortality. They are also aware that not all the undergraduate nursing students have the opportunity to experience an oncology clinical rotation; therefore,

capturing the pedagogical moment of teaching oncology in the classroom becomes paramount. Given the complexity of cancer care, new competencies in critical thinking, decision-making, and team leadership are part of every nurse's professional formation. Using a combination of case-based learning, active learning (discussion), and demonstration of a care coordination meeting by an actual oncology team improved the likelihood of nursing students learning about the subject. Teaching strategies such as case-based and demonstration have shown to increase the accelerated-program students' ability to learn.

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THE REIMAGINING OF AN ONCOLOGY NURSE FELLOWSHIP PROGRAM TO ENHANCE THE KNOWLEDGE AND PRACTICE OF THE NEXT GENERATION OF ONCOLOGY NURSES

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In June of 2017, Nebraska Medicine, a 600-bed academic medical center, expanded its oncology services from a 24-bed inpatient oncology unit to three 36-bed inpatient oncology floors in the Fred and Pamela Buffett Cancer Center (FPBCC): acute care, specialty care, progressive care, intensive care, and a 24-hour treatment/infusion center. To facilitate a smooth transition to a larger number of beds, a reimagining of the established Oncology Nurse Fellowship (ONF) program was necessary to enhance the knowledge and practice of the next generation of oncology nurses. Using the *Manual of Clinical Oncology* and *Cancer Basics* as guides, ONF moved from a hematologic focused curriculum to a more diverse oncology curriculum. This curriculum includes cancer basics, hematologic cancers, end of life care, an emphasis on solid organ cancers, and recent advances in oncology care. Subject matter experts such as course coordinators, case managers, advanced practice providers and physicians delivered the presentations through case studies, videos, and discussions. To measure if learning was effective through the changes of the ONF series, pre- and post-tests were administered to attendees at every class. Preliminary data shows an increase in knowledge as evidenced by post-test scores. The average pre-test scores from the first four classes were 45.84% and the average post-test scores were 74.12%. Other unexpected results have also come from the reimagining of the program including

opening of two-way communication between nurses and physicians, and the development of clinical pathways for surgical patients. Through innovation and collaboration, it is possible to enhance the knowledge and practice of the next generation of oncology nurses by creating an ONF program. The reimagining of the ONF program has allowed the newly opened FPBCC to grow together and is transforming the nursing care of the oncology patient.

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BLUEPRINT FOR TRANSFORMATION OF A TRANSPLANT PROGRAM

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The everchanging landscape of today's health care market is marked with organizations coming together to provide services to a larger share of the market. Existing patient services must be assessed and incorporated into new clinical practice sites. In our comprehensive cancer center (CCC) we are actively designing the future state for a specific population of bone marrow transplant (BMT) patient services and will be reallocating services from our main outpatient campus to our alliance partner. The purpose of this project was to create a transparent and efficient model of transformation to guide the changes for our two organizations. Multidisciplinary teams have been assembled from both alliance partner organizations to assess current state, engage stakeholders, and design the ideal processes to optimize the safe transition of BMT patient care. This effort has been underway for several years and will culminate with the transfer of pediatric patient care services in early 2022. The amount of change for our people and processes is both our greatest challenge and the most important opportunity to leverage for culture alignment. This is an ongoing process of plan-do-study-adjust so evaluation is a constant component. Importantly, the patient and caregiver remain the true north of the project with direct patient and family feedback regarding space and clinical experience. In BMT patient care, the complexity of maintaining the highest standards means that the essential elements of the planning process must be well considered and all encompassing. Some essential considerations for implications on care include: harmonization of care policies, space planning, model of care delivery, transfer of knowledge and skills, collaboration of research science, clinical operations alignment, cross-organizational leadership cohesion, and most importantly

patient and family consultation. Science and Innovations in BMT care delivery can no longer be singular, by one institution. Cross partner collaboration must be shared across all clinical aspects and informed by multidisciplinary staff as well as BMT patient family insights.

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IMPROVING THE QUALITY OF LIFE IN MEN WITH PROSTATE CANCER RECEIVING HORMONE THERAPY THROUGH THE PROSTATE CANCER EDUCATION GROUP AT ROSWELL PARK

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The clinical nursing staff in the Genitourinary (GU) Clinic of a NCI-designated Comprehensive Cancer Center realized there was an unmet need in regard to educational topics and supplemental information relevant to men undergoing Androgen Deprivation Therapy (ADT). Due to time constraints at clinic appointments, the idea of developing a Prostate Cancer Education Group (PCEG) was discussed to address these needs. Nurses have expressed concern for their patients that they were not able to formally address all their questions and concerns relevant to their disease process. Developing an Educational Cancer Group outside of the clinic setting for ADT patients and their caregivers began to materialize. A ten question survey was given to 150 ADT patients over a six week period. 131 patients responded. The patient survey consisted of the most commonly asked questions and topics presented in the clinic setting. The top areas of interest included clinical trials, exercise, nutrition, and symptom management. Using a Likert scale with the addition for patients to write in topics of concern enabled the nurses to develop educational programs to meet the need for this population. Over a ten month period, the nursing staff arranged monthly meetings to over 130 patients and caregivers to discuss each relevant topic. On occasion, an expert speaker was invited or a formal program presentation was given on designated subjects as class enrolment expanded. Monthly meetings gave the oncology nurses a chance to spend more time with the patients

meeting their needs in regard to disease treatment, symptom management and any unforeseen issues that occurred. While this initially meant to serve as an educational group, bonds developed among attendees as they discussed similar issues impacting their quality of life. Future goals include 1. Website development: including previous presentations, reference materials, community resources, and peer reviewed publications. 2. Webinar presentations for patients who cannot attend meetings in person. 3. Evaluating the impact of the group by assessing symptom control, patient understanding of disease treatment, and patient outcomes. This education group may be used as a model for other cancer centers as oncology nurses look to provide a higher level of patient education by focusing on the specific needs of their patient population.

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DATA-DRIVEN CANCER LAB AND INFUSION CENTER SCHEDULING PROCESS IMPROVEMENT

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The process of matching demand to capacity/resource availability in any healthcare setting is complex with multiple variables and requires interdepartmental collaboration and coordination to be successful. Mismatched demand to clinic resources causes bottlenecks, delays, and unbalanced workload. This is a significant source of frustration and negatively impacts staff morale and the level of job stress experienced by nurses. A recent staff engagement survey indicated > 50% of infusion center nurses responded unfavorably to the survey items "The amount of job stress I feel is reasonable." Prolonged wait time is dissatisfier for patients, providers, and staff and negatively impact overall patient satisfaction, confidence in the care of providers and perception of quality of care. While patient satisfaction surveys provide measurable trends in department performance around wait times, moving patients through their visit, and keeping patients informed about delays, these are lagging indicators and do not allow for real time

workflow/process improvement. Leadership at a comprehensive cancer clinic identified below leading indicators to improve the lab and infusion scheduling process and match demand to resource availability: (a) % of 10-min lab appointments exceeding number of lab chairs and (b) % of infusion appointment sessions exceeding number of available treatment nurses. The goal is to decrease wait time by aligning demand (# number of patients) with the resources (lab chairs, treatment nurses, etc.). Leaders collaborated with data analytics team creating a dashboard to allow visualization of scheduled appointments. Dashboard is monitored by clinical and operations leaders on a daily basis. Lab and infusion schedules are leveled accordingly. Since the dashboard implementation for visual management of appointments scheduled, the % of lab appointment sessions exceeding the # of available lab chairs decreased from an average of 4.5% to 0.9% (maximum down from 11.8% to 5.8%). The % of infusion appointment sessions exceeding the number of available treating nurses decreased from an average of 7.5% to 3.5% (maximum down from 18.8% down to 11.1%). It is critically important for nursing and operations leaders to analyze data, identify leading indicators, and monitor data to drive sustained improvement. Aligning demand to capacity and resource availability will result to a more predictable patient flow, manageable staff workload, reduced wait times, and improved patient satisfaction.

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PROCESS OF CREATING A NURSING PHILOSOPHY AND PRACTICE MODEL

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Oncology nurses at large ambulatory NCI designated cancer center identified a lack of a formal nursing philosophy and practice model in the practice setting. The site had three partner organizations in an alliance and there was not an articulation of a nursing practice model that united and drove excellence in care delivery. Recognizing how a model informs clinical advancements and inspires continuous practice improvements, a specific task force was formed in accordance with the vision of ONS: “to advance excellence in oncology

nursing and quality cancer care . . . and excellence in the . . . care of patients.” The purpose of this project was to create a nursing model of care representative of the specific institutional history, the present state and the future of oncology patient centered care. A team of seven nurses of diverse ages, specialties and tenures met to develop a practice model. Initial work included a literature review, analysis of historical versions of partners’ nursing philosophy, and reviewing practice models from other institutions. Identification of the institutional core values and unique characteristics of the oncology nurses were discerned with dialogue. Ideas were reworked and refined until four key concepts emerged. The visual presentation of the model was also refined and evolved into a format that complemented the content. All clinical nursing staff and leadership were presented the model and invited to give feedback. Feedback was incorporated, and revisions made accordingly. The team’s vision was to create a model that defines and inspires our unique oncology nursing practice, drives care, honors collaboration and inspires inquiry, explicated with simplicity and clarity. Swanson’s Caring Theory, chosen as a framework was modified to reflect practice in this ambulatory oncology setting. Challenges were finding consensus for phrases which clearly conveyed the desired content and represented the broad areas of practice and the spectrum of new and senior nurses’ experiences. A tendency to design the visual model prior to content determination had to be contained. A model that resonated with nursing staff and embodied the values of the institution emerged and formal implementation of the model is ongoing.

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SICKLE CELL DISEASE OUTREACH PROGRAM: A MODEL FOR IMPROVING SHARED DECISION-MAKING

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Sickle cell disease (SCD), an inherited hemoglobin disorder, affects approximately 100,000 individuals in the U.S. It leads to progressive organ damage, episodes of severe pain, and a shorter life expectancy. SCD is an emerging indication for hematopoietic

cell transplantation (HCT). Survival outcomes for children exceed 90% with a matched sibling donor, yet HCT remains significantly underutilized. Shared decision-making (SDM) is a process which aims to enhance communication and decision-making between patients, families and the healthcare team. Nurses play an integral role in the facilitation of SDM, which ultimately improves access to HCT for patients with SCD. The purpose of this project was to develop a comprehensive outreach program that fosters SDM related to SCD treatment. A needs assessment, including literature review, analysis of HCT utilization data, and focus groups with patients with SCD, was conducted to understand HCT clinical trial participation barriers. Findings suggested insufficient awareness of HCT and lack of SDM with the healthcare team. Thus, an outreach program was developed, which included: 1) SCD “booth-in-a-box” to increase HCT awareness at community events; 2) Tailored HCT educational resources; 3) Health professional education on SCD and strategies to promote SDM and 4) Jason Carter Clinical Trials Program (JCCTP) to help patients easily find and join clinical trials. Each outreach activity is evaluated independently and overall impact is assessed through annual data on HCT for SCD. Demand for the SCD “booth-in-a-box” has increased each year, with 110 ordered in 2018 to date. Three tailored educational resources were created, with an average print distribution of 320 per month. Health professional education, including SCD podcast, e-newsletter articles, clinical decision guide, and continued education webinars, has reached thousands of health professionals. Through the JCCTP, 46 SCD clinical trials are made easily accessible. Preliminary data shows a 15% increase in the number of HCT donor searches for patients with SCD through the national registry. As an emerging indication for HCT, it's essential for nurses to understand strategies to overcome SDM barriers that patients with SCD and their families face. Through patient education, advocacy, clarifying values, facilitating communication, and fostering trust, nurses can support SDM pre-HCT. This will empower patients to make informed treatment decisions and actively participate in the HCT decision-making process.

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THE TRIFECTA OF CAR-T CELL THERAPY COLLECTION: HOW DOES A THERAPEUTIC APHERESIS NURSE DISTINGUISH AMONGST THE THREE COLLECTION PROCESSES?

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Distinguishing between three different collection protocols (Kite, Juno, and Novartis) of CAR-T Cell therapies is a very unique process. Each protocol requires individualized guidelines from the beginning of the collection to the end when the product is ready to be handed off to a cellular processing laboratory. Failure to adhere to each manufactures' protocol could lead to disqualification or rejection of the collected product. The significance of this quality improvement project is to identify the requirements of each collection and develop a tool to assist the Therapeutic Apheresis (TA) nurse to readily implement each type of CAR-T Cell collection based on the manufactures' protocol. The purpose of this quality improvement project is to develop an easy to use template for each CAR-T Cell therapy. This will provide the TA nurse a quick reference for each collection process based on the manufactures' protocol. The development of the template promotes safe practices and improves overall accuracy during the collection process and transfer to a cellular processing laboratory. Ten TA nurses at a Comprehensive Cancer Center were surveyed to determine their learning needs for the CAR-T Cell collection process. The results of the survey determined that there was a need to have a concise format to follow for each type of collection protocol requirement. This led to the development of a separate template for each of the three CAR-T Cell collections based on their individual protocols for the following laboratories: Kite—Yescarta®, Novartis—Kymriah®, and Juno (The CAR-T Cell therapies that Juno is investigating is not approved by the FDA). TA nurses will be presented with step by step guidelines for use to ensure proper collection procedures thus enhancing their confidence in the collection process. Nurses will be resurveyed to evaluate the usefulness of these guidelines. Car T-Cell therapy collection has become a rapidly growing industry and as such, TA nurses need to take the initiative and responsibility to develop a reference guide for each new therapy. Following a specific template for each cellular therapy increases the TA nurse's proficiency and accuracy in delivering a quality product. Car T-Cell therapy is a new innovative treatment option and nurses need to stay educated and proficient in this expanding field.

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STAGGERING STAFF START TIMES TO IMPROVE THE PATIENT EXPERIENCE

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Staff prompt responsiveness to patient-initiated call lights is a critical component of the patient experience during a hospital stay. To monitor the patient experience, patients are given a standardized survey tool called the Hospital Consumer Assessment of Healthcare Providers and Systems, or HCAHPS. Patients indicate on the survey if staff was never, sometimes, usually, or always responsive to their request for help via their call light. The Special Care Unit, a 36 bed Bone Marrow Transplant unit, had tried various interventions to improve responsiveness scores including implementing the 5 Foot Rule, Control Your Day, staggered lead RN start times and pulling call light response data. The purpose was to improve the SCU's low responsiveness scores and to increase the overall patient experience, unit leadership implemented staggering start times between nurses and patient care technicians. Interventions: (a) Conducted survey with staff on a unit who had successfully implemented staggered start times. Survey results revealed a high likelihood to recommend and minimal barriers. (b) Held staff meetings to present patient responsiveness scores, survey data and to introduce the staggered start time expectations. Discussed pros and cons related to the change. (c) Staff were given a three-month notice of when the change would take place. (d) Thirty minute staggered start times began January of 2018. Evaluation: SCU HCAHPS top box responsiveness score in September 2017 was 41.9. The top-box is the most positive response to HCAHPS survey item, meaning patients responded "always". Efforts towards implementation began at this time. The staggered start times were implemented in January of 2018. HCAHPS patient responsiveness scores improved from 45.8 in January to 53.4 six months later. Staff expressed increased satisfaction related to uninterrupted report times and ability to leave on time. Patients report increased continuity of care at shift change. Discussion/Innovation: Staggering patient care technician and nurse start times has shown in increase in responsiveness scores on The SCU. Due to increased patient responsiveness and patient and staff satisfaction, all other units within the Fred and

Pamela Buffett Cancer Center have implemented the staggered start times. Monitoring will continue to ensure sustained results.

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PROTECTING THE PATIENT CARE TECHNICIANS FROM HAZARDOUS DRUG EXPOSURE

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According to the United States Pharmacopeial Convention (USP), "More than 8 million healthcare workers are exposed to hazardous drugs every year." Onboarding for oncology nursing is structured around safe handling of hazardous drugs and chemotherapy, but there is a lack of education and training for patient care technicians (PCTs) when caring for patients who are receiving chemotherapy or hazardous drugs. Chemotherapy and hazardous drugs are found in patient excreta (urine, feces, sweat, emesis, and blood) for up to 48 hours after the last administration. PCTs routinely handle patient's bodily fluids, resulting in possible secondary exposure to hazardous drugs. The purpose of this project was to determine the following: In patient care technicians on an oncology unit, does safe handling education and training, compared to no significant training and education, reduce the risk of exposure to chemotherapy and hazardous drugs? Implementation: Implemented a training program for PCTs on proper donning and doffing of PPE when handling the wastes and linens of patients receiving hazardous drugs. Implemented hazardous drug communication plans between the nurses and the PCTs including signage for the outside of the patient room with the timeframes for precautions. Educated and validated PCTs on roles and responsibilities with hazardous drug spills. Evaluation: No studies specifically address the exposure of hazardous drugs of the PCT providing direct care of a patient receiving, or who has received, chemotherapy or other hazardous drug. However, in knowing the general duties of the PCT, we can deduce that there must be some risk of secondary exposure to the hazardous drug. The reviewed studies do demonstrate that there is some risk of secondary exposure and also that educating the person at risk, may help prevent any secondary exposure, and/or possible side effects. A higher level of knowledge and training of patient care technicians is needed to prevent unintentional

exposure to hazardous drugs. With increased education and training, the expected outcome would be that the PCTs would have decreased accidental exposure to HDs and thus prevent possible long-term side effects. Discussion/Outcomes: 100% of our PCT staff on the oncology unit with validated competence of how to handle patients receiving HDs. We recognize a further need for specific laboratory sampling would prove if the PCTs did not have HD exposure from mishandling or improper PPE usage.

397 **ANTICIPATING THE FUTURE OF ONCOLOGY NURSE STAFFING**

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The anticipated nurse shortage will profoundly affect highly specialized clinical practice such as oncology care. Engaging students and graduate nurses in oncology practice offers an opportunity to establish a source of potential candidates for employment. An NCCN organization implemented a 5-year pilot of a Dedicated Educational Unit (DEU) BSN students and created a residency program accompanied the DEU. Year three the residency program expanded to accept new graduate nurses from other academic institution who did not participate in a DEU program. The purpose of this project is to demonstrate the success of a DEU and transition to practice residency program in an ambulatory oncology treating an annual patient population of over 8,000. Commitment to the future success of oncology nurse practice extends beyond the focus of educating the new nurse. It includes organizational investment in the preceptor program, staff mentoring, appropriate clinical education and training for the student, resident and staff. Additionally, continual process improvement with innovative ideas incorporated from multi-disciplinary collaboration for ongoing program development. Twenty-four students completed the DEU senior practicum program of which 22 applied and were accepted into the residency program. All residents who completed the program were hired. Retention rate of DEU students who completed the residency program is currently 100%. For Non-DEU residents, retention rate is 97%. The return on investment (ROI) of a DEU and a new graduate residency program, development and the infrastructure required to sustain the program has been positively realized. Various data analysis and reports have been published that nurses in the first year of employment leave practice at a high rate. We have seen a retention rate of 97% of newly licensed

nurses who completed the residency program. Engagement of students and new graduate nurses with strong interest in oncology in a highly complex ambulatory setting is innovative. DEU and non-DEU to residency program have been equally successful in transitioning nurses to practice in our ambulatory oncology clinic. The organization's investment in the program has had positive outcomes with recruitment and retention and best patient outcomes as well.

398 **CANCER DIAGNOSIS, STEROID USE AND INCIDENCE OF HYPERGLYCEMIA: ANALYSIS OF THE SELECTION OF INSULIN SENSITIVITY SCALES**

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Glycemic control is a delicate balance for patients diagnosed with Diabetes Mellitus (DM). Oncology patients are impacted by Diabetes and hospitalization, co-morbidities and treatment modalities effecting blood sugar. Hyperglycemia affects immune function, impairs vasodilation, changes expression of cytokines and chemokines; depresses neutrophil chemotaxis, phagocytosis, and release of reactive oxygen species. Similarities with acute-hyperglycemia and cancer treatment exist. Steroids are commonly part of a cancer regimen. At Sutter Roseville Medical Center (SRMC), the in-patient oncology unit was identified as having the highest incidence of hyperglycemia events. Q1, 2018 registered 800+ hyperglycemic events in 204 individual patients. Evidence Based Guidelines (EBG) recommend utilizing resistance scale insulin dosing in the management of this patient population. Oncology nurses play a critical role in managing hyperglycemic episodes. The analysis was designed to determine if a cancer diagnosis and steroid induced hyperglycemia during active treatment are managed optimally with the correct insulin sensitivity protocol. Because steroid therapy is integral to many cancer treatment regimens, it is important that hyperglycemia is correctly managed to prevent the need to modify therapy regimens. In Q1 2018, 100% of all hyperglycemic episodes (800 episodes in 204 patients) were analyzed for the following data elements: diagnosis of cancer, diagnosis of DM, presence of Steroid therapy, Blood Sugar level target of 140–180mg/dL, number of hyperglycemic episodes, and type of Insulin Sensitivity Scale ordered. Preliminary analysis of the initial 10% of 204 patients with a hyperglycemic episode demonstrates 25% of patients had an oncology diagnosis. Of the 25%

(5) patients with cancer, 80% (4/5) had a co-morbidity of DM. Of the 5 patients with cancer, 80% (4/5) were on steroids and of the 4 patients that were on steroids, 50% (2/4) were on resistance insulin scale. The EBG for hyperglycemia management in the cancer patient with DM and concurrent steroid therapy is to utilize the Resistance Insulin Scale. Comprehensive analysis of the complete data base is pending. Cancer patients with DM and steroid therapy require monitoring of blood glucose levels and correction with the appropriate insulin scale. Oncology nursing practice is integral to successfully managing hyperglycemia with cancer patients. This analysis will provide an understanding of challenges in the management of hyperglycemia in cancer patients and nursing opportunities to improve stable blood glucose in this population.

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THE ETHICS OF MEDICAL CANNABIS AND YOUR PATIENTS

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Medical cannabis is legal in thirty-one states plus the District of Columbia with an additional sixteen states authorizing an ingredient of the plant called CBD. It is estimated that more than two million Americans legally use cannabis for medical purposes yet there is no standardized educational program for nurses who serve these patients. College and vocational schools still offer no classes to educate nurses who meet these patients. In short, nurses lack the education necessary to apply cannabis to real life conditions and care for their patients. The National Council of State Boards of Nursing's (NCSBN) announcement in the July 2018 Journal of Nursing Regulation states that nurses and nursing students must be provided with the essential working knowledge of (1) current state of legalization of medical and recreational cannabis use, (2) general knowledge of the principles of an MMP, (3) a general understanding of the endocannabinoid system, cannabinoid receptors, cannabinoids, and the interactions between them, (4) cannabis pharmacology, (5) safety considerations for the patient use of cannabis, and (6) ethical considerations for the patients use of cannabis. This presentation will delve into the ethical considerations regarding a patient's treatment with cannabis which include, but are not limited to: (1) clinical indications, such as diagnosis, history, goals for use of medical marijuana, probability of success, other options for care, (2) patient's personal preferences based on information of benefits and risks, (3) attention to decision making by the patient's proxy,

parent, or guardian, if the patient is incapacitated in decision making or is a minor, (4) quality of life based on the patient's subjective viewpoint, and (5) situational context, such as family and other important relationships, economic factors, access to care, and potential harm to others. A live twitter feed and electronic live response tool will be utilized during the presentation to evaluate learning and promote active participation. It is the goal of this speaker that nurses will take the knowledge they gain from this presentation and apply it to their own practice. Every patient deserves a nurse and those patients who choose cannabis are no different.

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CLINICAL TRIAGE NURSING MODEL: MEETING THE NEW DEMANDS OF ONCOLOGY NURSING

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Staffing issues are typically the highest rated dissatisfier amongst nursing surveys and such was the case within our clinics. Our nurse staffing model utilized infusion nurses to triage phone calls between patients. Divided responsibilities were nonexistent; all nurses were responsible for completing all tasks. The staffing model assigned patients based on an acuity schedule concentrating on the complexity of a regimen averaging 4 to 5 patients a day. Assessment of workflow in the clinics quickly identified some clear opportunities for improvement: (1) All nurse work was not taken into consideration. (2) Patients were not receiving timely return calls. (3) Nurses were overwhelmed. (4) Nurses were not available for ancillary staff. (5) Some essential work was not being completed. The clinical nurse work of the very acute patient population we service was never quantified in any way. Our system was limited in technology. However, some homegrown systems for tracking the additional clinical triage work were now complete. We hoped that in using these new tools that were available; we could start building a new staffing model that took all our identified opportunities into account. We began with a site that committed to a 90-day trial period. We assigned two nurses to complete "clinical" work

for a group of 6 physicians and assigned the 4 nurses to remain in the treatment room. Launch meetings were conducted at site where a role-revision document was reviewed with the team. Data was collected from new systems, press ganey scores, nursing satisfaction surveys, and multiple staff meetings. A 45-day nurse survey revealed mixed opinion and concerning feedback from nursing. We worked closely with physicians, nurses, and practitioners to continue refining work duties. A 6-month review revealed a more promising outcome; PG scores were trending upward, nurses were satisfied, oral chemotherapy was being monitored and patient satisfaction had improved. The site has continued to refine job duties and processes in helping to develop our new nursing model. We continue roll out to additional sites, refine, and standardize the clinical triage roll. Creating a cost-effective staffing model for nursing that also prioritizes patient and nurse satisfaction can be most difficult. However, as fast as our treatment modalities are changing, we will need to adjust our practices to keep providing excellent patient care.

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CREATING A HEALTHY NURSING PRACTICE ENVIRONMENT FOR OUR ONCOLOGY NURSES: A CALL TO ACTION

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Every oncology nurse from novice to expert prefers to practice in a healthy practice environment (HPE). We can thank Marlene Kramer and Claudia Schmalenberg for devoting their lifelong practice and passion to describing a healthy nursing practice environment and why it is important not only for nursing satisfaction, and nursing retention, but patient satisfaction as well. A healthy practice environment for the oncology nurse can provide a safe haven for the nurse and the patient. Oncology settings have reported higher amounts of psychological morbidity for nurses and physicians than other practice settings. Higher levels of emotional exhaustion brought on by long periods of high stress levels, depersonalization resulting in a lack of empathy, and higher feelings of failure and professional dissatisfaction have all been cited as occurring more frequently in the oncology setting. In a study Barnard, Street, & Love, (2006) discovered that most support for oncology nurses came from their peers, followed by their supervisors, and lastly from their oncology environment. Characteristics of a healthy practice environment include: skilled

communication; true collaboration; effective decision making; meaningful recognition; authentic and supportive nurse leadership; support for education; autonomous nursing practice; perceived adequacy of staffing; practicing with clinically competent colleagues; and lastly a culture where concern for the patient is paramount. ONS cannot create a healthy practice environment for their members but ONS does promote and embrace the common characteristics already identified such as true collaboration and support for education. Providing research dollars to study the relationships between the oncology environment and the level of stress and burnout among oncology nurses is another way to promote a HPE. Research grants looking at measurement tools that identify unique and defining characteristics of oncology nurses and how those characteristics affect their practice environments are an innovative way to support the oncology practice environment.

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A BETTER WAY TO LEARN: IN SITU SIMULATION FOR HYPERSENSITIVITY REACTIONS

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Without early identification and intervention hypersensitivity reactions can result in negative patient outcomes. Chemotherapy-induced hypersensitivity reactions are anticipated during the administration of some cancer therapies. Oncology nurses must identify hypersensitivity reactions and implement protocols. At Huntsman Cancer Institute Bone Marrow Transplant (BMT) Infusion Room, the nurses stated a low-level of confidence in their abilities to follow protocols outlined by the facility and intervene appropriately. Simulation enhanced learning leads to better information retention than standard education in high acuity situations. A high-fidelity simulation was created by the BMT infusion nurse educator, which focused on the clinical guidelines related to hypersensitivity reactions. Elements of this simulation included: Participation by HCI BMT infusion room charge nurses. This simulation took place in the infusion room. The participants were pre-briefed and asked to suspend disbelief, and the simulation was scripted to encourage the learners to act normally.

An outside nurse practitioner was recruited as the patient actor. She was pre-briefed to promote realism and validity during the simulation. The Simulation Center at the University of Utah provided patient moulage: IV, thigh IM injection pad, and a vitals monitor programed with changing vitals throughout the simulation. HCI Pharmacy supplied a hypersensitivity box with relevant contents. All supplies were placed in locations where nurses would expect to find them. The manager provided the space, and offered support through scheduling and funding staff attendance. Immediately after the simulation the nurses were debriefed on what they did well and what they needed to improve on. Lastly we summarized what had been learned and how practice might change. Through this simulation, we identified additional components needed to improve nursing response times. We also identified learning gaps related to medication administration. Lastly, we reinforced the need for strong teamwork in critical situations. This simulation will be run 3 times a year with new HCI infusion room nurses during their orientation. Future simulations will include a repeat of the exercise after debriefing to reinforce learning, and a formal evaluation. By improving the retention of learning through simulation we achieve better patient outcomes, higher quality teamwork, and decreased response times.

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A RECIPE FOR NURSE ENGAGEMENT

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Nursing engagement is a significant predictor of quality healthcare outcomes and nursing retention. A Manager and CNS leadership dyad endeavored to increase nurse engagement through promotion of shared governance. Based on the tenants of the social cognitive theory, to increased shared governance leaders aimed to promote (1) a positive professional culture (2) increase direct care nurses' self-efficacy (i.e. confidence in ability to perform and perception of incentive) for shared decision making and leading professional development and quality improvement initiatives. Servant leadership was the primary leadership style utilized. Nurse leaders performed a needs assessment and analyzed options to strengthen culture and promote self-efficacy. Seven interventions were used to promote change (1) Implementation of a "Safety Star" recognition program for reporting "good catches" and other activities promoting a culture

of safety (2) Promotion of team building through engaging in community service and fundraising (3) Development of process for shared decision making and tailoring educational opportunities to staff interest (4) Development of a structured preceptor and mentor program with extended support for preceptors and new hires (5) Creation of a staff-led in-service series (6) Structure for providing mentorship for staff in process improvement project implementation (7) Active promotion of the clinical ladder program through 1:1 leadership coaching and support. The percentage of direct care RNs staff in a formal preceptor role increased from 13% to 31%. The preceptor role was expanded to provide mentorship post orientation. Staff-led in-services increased from zero to an average of 2/month. Quality improvement projects led by direct care staff rose from zero to 12 with 15/29 staff members acting as a project lead or co-lead in the last year. Clinical ladder submissions increased by 560%. Overall engagement score per third party staff satisfaction surveys moved to Tier 1 and reflect improvement in indicators of Fundamentals of Quality Nursing Care as well as high performance in areas of Safety Climate, Growth Opportunities, Improvement Readiness, Decision Making, Advancement, and Local Leadership. Nurse leaders can have a positive influence on nurse engagement by focusing on factors that promoting professional nursing culture and self-efficacy for components of shared governance. Servant leadership style can be effective for this approach.

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HEY, HEY, HO, HO—CERTIFICATION IS THE WAY TO GO! MOTIVATING STAFF TO BECOME CERTIFIED. A PINNING CEREMONY FOR ONCOLOGY CERTIFIED NURSES

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Oncology certified nurses are recognized by the Oncology Nursing Certification Corporation (ONCC) for their specialty knowledge in oncology nursing. In 2016 30% of our eligible nurses were oncology certified. We identified a need at our NCI designated institute to increase the number of certified nurses. By increasing the number of oncology certified nurses,

we understood that we would advance the standard of oncology nursing practice thereby improving the quality of care and meeting the complexity of our oncology patient needs. Beck et al (2016) described nursing certification as ensuring that an individual nurse has the knowledge and qualifications essential to practice in a specific functional or clinical area of nursing. Oncology nursing certification exemplifies quality outcomes. The purpose of this project was to increase the number of oncology certified nurses and create a culture that promotes professional development by means of certification. Our goal was to have at least 50% of our oncology nurses certified. We utilized the pinning ceremony to thank our oncology certified nurses for their commitment to oncology nursing practice. Special guests were patients that these nurses cared for who came prepared with speeches and “pinned” the nurses and added significance and meaning to the event. We created a community like approach to increasing the number of our oncology certified nurses through peer-to-peer mentoring, a study-buddy partnership and a celebratory event was planned for all of our oncology certified nurses. We connected an oncology certified nurse with a nurse eligible for certification for a peer-to-peer mentoring approach. Study-buddies were also partnered to provide support, encouragement and another layer of guidance through the certification process. Pins were purchased from ONS and awarded to the nurses by oncology patients that they had cared for in their clinical area of practice. This event was hosted by nursing leadership to award nurses for being certified. We have doubled the number of our eligible nurses are now certified in Oncology. The number of certified nurses increased from 30% in 2016 to 60% in 2018. This program was successful in recognizing our oncology certified nurses and encouraging those who are not certified to become certified. Our pinning ceremony held during Oncology Nurses Month is now an annual event. This innovative program was highlighted in our healthcare system newsletter and blog.

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TECHNOLOGY BOOM: ELECTRONIC TABLETS IN THE HANDS OF ONCOLOGY PATIENTS

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Traditionally we know patients have very different learning needs. This may be related to age, disease process, and educational background, as well as multiple other factors. In today's world, almost every part of our lives revolves around computers and technology. Many areas of Healthcare have also adapted the use of technology. In our 306 bed Comprehensive Cancer Hospital, the use of electronic tablets has been effective with patient information and education. This includes first time medication dosing, description of procedures, side effects, rationales, along with risks and benefits. Upon admission to each acute care unit, each patient is offered a tablet to keep in their room. If the patient agrees, the tablet is provisioned to them for their entire hospital stay. The tablet has different icons which the patient may use to order meals, view laboratory results, access the internet, along with viewing patient education materials. After education and training in many of the in-patient areas, we have seen an increase with provisioning and activation of the tablets. Tablet usage is tracked weekly and the division leaders receive a report for each unit that uses the tablets. With this information, unit leadership is able to look at the data to ensure all eligible patients are being offered tablets. Electronic tablets may be used for multiple purposes including healthcare related and personal needs. One of the challenges with the tablet is finding the right time to provision the tablet. Although it is offered upon arrival to the units, this may not be the appropriate time for all patients (e.g. fresh post-surgical). Another challenge has been proper education of the tablet with the patient. Depending on the age and background of the patient for example, it may take longer for the staff to educate on the proper use of the tablet. Technology has “boomed” over the last 15 years. The use of electronic tablets for patient information and education has been shown to be very effective. Evidence-based literature shows that patients of all ages, cultures, and backgrounds have the ability to use electronic technology. Meeting the learning needs of patients will help them be more involved in their hospital plan of care which will in turn produce optimal outcomes.

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A MULTIFACETED APPROACH TO NURTURING THE GROWTH OF EVIDENCE BASED PRACTICE

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Evidence based practice (EBP) is an expectation of professional nursing practice. Nurses are expected to incorporate EBP into their daily practice to provide patients with the most up to date, high quality, cost effective care, to achieve optimal health care outcomes. A survey of nurses at the Karmanos Cancer Institute identified barriers to EBP including: (1) misperceptions about EBP (2) lack of basic and advanced EBP knowledge and skill. Consequently nurses rely on colleagues for information rather than documented authoritative sources. In order for EBP to flourish, a change in the practice culture and nurses' attitudes about and capabilities for EBP are imperative. Continual professional development programs are needed to: (1) create and sustain a spirit of inquiry (2) ensure that nurses have needed foundational skills for EBP, such as accessing research and best practice information, and (3) strengthen nurses' capabilities as consumers of research. The threefold purpose of this multifaceted professional development program was to: (1) promote a culture of EBP, (2) overcome barriers to accessing evidence for practice, and (3) strengthen nurses' capabilities related to reading, understanding and evaluating research reports. A multifaceted professional development program was implemented to strengthen EBP facilitators, overcome barriers to EBP and expand nurses' knowledge of EBP. Unit level seminars promoted EBP culture; algorithms posted on nursing units helped nurses overcome EBP barriers. Educational programs encompassing 4 of Bloom's 6 taxonomies of learning facilitated (1) understanding and valuing EBP, (2) applying EBP skills (3) understanding, analyzing and evaluating evidence for practice. Increased understanding and valuing of EBP was demonstrated through positive feedback from staff about "EBP Spirit of Inquiry" seminars. Each month 7%-10% of all nursing staff successfully completed article retrieval and review activities. Increased capabilities for understanding, analyzing and evaluating evidence for practice has been demonstrated by nurses successfully completing (posttest scores > pretest scores) a 7 hour course related to reading, understanding and evaluating research reports. While EBP is an expectation for practice, capabilities for EBP cannot be presumed. In order for EBP to flourish, continual attention must be given to growing the EBP culture and strengthening nurses' EBP capabilities. Multifaceted theory-driven professional development programs can help nurture the expansion of EBP in practice settings.

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OPTIMIZING NURSE-TO-SUPERVISOR COMMUNICATION TO PROMOTE PATIENT SAFETY

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Nursing supervisors are a critical component of the hospital leadership team. Recent research suggests that nursing supervisors "oversee and do everything needed to keep the hospital running with responsibilities for staffing, and patient flow, crisis management and managerial support for the staff." Nursing supervisors at our Comprehensive Cancer Center strive to enact all four of the role components identified by Weaver. However, nursing supervisors expressed frustration about not being notified in a timely manner when staff was confronted with a crisis situation. As a result, optimal patient care and outcomes were being compromised. The reasons for this communication breakdown were unclear. The purpose of this process improvement initiative was to promote patient safety by improving staff-to-supervisor crisis communication. A pre-test posttest design was used to evaluate nurse-to-supervisor communication around a number of crisis situations. Six clinical scenarios were administered to staff nurses in acute and critical care areas. The scenarios portrayed recently identified "crisis" situations (e.g. missing equipment, an uncommonly ordered route of a medication, a significant change in a patient's medical condition, notification of critical labs, hostile visitor, and a patient leaving against medical advice). The staff was asked to document their follow up actions. After completing the baseline survey, a variety of interventions were implemented such as standardizing interview questions for the supervisor to garner pertinent clinical information from the staff. A review of the nursing supervisor role and responsibilities was provided to current staff and added to the nursing orientation curriculum. The supervisors' years of experience and clinical expertise were also highlighted. Lastly, the nursing communication policy was reviewed and evaluated for change. The survey was then reissued. In the pretest survey (n = 71 responses), nurse-to-supervisor communication was noted only 57% of the time. Post intervention results indicated that nurse-to-supervisor communication occurred 71% of the time; a 14% improvement from the baseline survey. Patient safety is a central concern of nursing. Nurses can help promote patient

safety be diligently recognizing and communicating their concerns and needs to nursing leadership; especially during crisis situations. Findings from this process improvement initiative suggests that deliberate targeted interventions can help improve nurse-to-supervisor communication. Because process improvement is an iterative process, periodic assessment is recommended.

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RAISING THE BAR: TRANSFORMING THE ONCOLOGY PATIENT EXPERIENCE THROUGH A MULTITUDE OF NURSING LED QUALITY IMPROVEMENT PROJECTS IN AN AMBULATORY INFUSION SETTING

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Oncology nursing is currently experiencing a challenging paradox as care increases in complexity and volume while continuing to migrate to the historically lower acuity ambulatory setting. As a result, infusion centers nationally are faced with opportunities surrounding patient throughput and streamlined care. Infusion professionals stand uniquely positioned to contribute solutions to these challenges via quality improvement initiatives designed to improve processes that enhance the patient experience. From 2016–2018, quality improvement initiatives were completed at a large academic cancer center with infusion suites across two campuses, aimed to improve the patient experience, patient flow, and patient education. Oncology patients face tremendous uncertainty and a positive patient perceived experience is critical to the success of any cancer program. Major construction projects were completed resulting in remodeled and expanded infusion suites at both locations. Infusion nurses played a critical role in the redesign of both suites. Several rapid cycle process improvements occurred to improve the patient experience using Plan Do Study Act (PDSA) methodology. A Scheduling Improvement Project aimed to decrease inefficiencies and errors in the scheduling process while level loading the infusion schedule to decrease bottlenecks in patient flow. Establishing educational materials accompanied by dedicated teaching visits

for first time infusion patients helped to prepare patients for treatment while decreasing treatment related anxiety. Follow-up phone calls were initiated 24–48 hours after the first treatment to enhance the patient experience, enhance symptom management, and improve continuity of care. The overall body of quality improvement at both infusion suites was evaluated via a comparison of Press Ganey patient satisfaction metrics from 2017 to 2018. Improvements in Press Ganey scores in 39/40 questions of the survey were observed for one campus and 40/40 questions for the other campus. The most substantial improvement noted was “wait time in chemo area” as the score for each location increased by nine points. Oncology nurses looking to replicate similar success can lead nurse driven quality projects to improve the patient experience. Interprofessional collaboration, patient/family engagement, and quality improvement training for nurses and leaders were critical components to success. As the migration of cancer care to the ambulatory setting continues to present challenges, there will be increased opportunity for nurses willing to implement innovative solutions to complex components of care to improve the patient experience.

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EMPOWERING NOVICE ONCOLOGY NURSES TO BECOME COMFORTABLE UTILIZING COMMUNICATION SKILLS

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All members of the oncology team should have conversations that elicit the patient’s values and goals. Strong communication skills have emerged as a central theme for improving care. Although nursing is the most trusted profession and nurses are well positioned to hold these conversations, many novice oncology nurses have not received adequate communication skills training. To implement and evaluate the COMFORT™ curriculum and provide novice oncology nurses communication skills to empower them to engage in goals of care conversations (GOC). Seventy-two novice oncology nurses were invited to attend a one hour training session utilizing three of the COMFORT curriculum modules. The content of the three modules support the nurses’ role in GOC

conversations and are designed for the beginner nurse. A pre/post survey design was used. Measures of the participants' knowledge, attitude, perceived norms, personal agency, and intent concerning engagement in GOC discussions were completed prior to the program, immediately after, and at two weeks post. The analysis consisted of paired t-tests and descriptive statistics. The feasibility of implementing and participants' level of satisfaction were also evaluated. Thirty-one novice oncology nurses participated. Satisfaction with the program was high. There was improvement in aggregate mean scores for knowledge in Communication content, as well as the perceived norm and personal agency constructs, and these changes were statistically significant. Individual change scores improved for over half of the participants in all four constructs. Time constraints ranked as highest perceived barrier to engaging in GOC. Facilitators for implementation include: support from nursing leadership, sessions held on units, access to curriculum, and brevity of learning modules. Providing novice oncology nurses communication skills education as they transition from student to professional nurse role is essential to quality care for patients with serious illness since there remains a gap in undergraduate nursing curriculum in this content area. The COMFORT curriculum allows for flexibility of evidenced based communication content that can easily be incorporated into educational sessions. Although modules are brief, alternate modes of delivery should be considered, such as train-the-trainer or blended learning offerings. The curriculum is beneficial for the instructor as it provides flexibility as to how and when it can be offered, is appropriate for all levels of nursing, and utilizes minimal resources to implement.

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TAKING CARE OF THE TEAM: HIGH TOUCH AND HIGH TECH

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In 2017 the infusion center at an NCI designated cancer center suffered from an increase in patient volume, decrease in patient and staff satisfaction, disempowered RN and LIPs and an increase in nursing turnover. Cancer center leadership identified the need for quick action to address these significant issues. This abstract will identify the strategies utilized to improve the environment for patients and staff. Led by the infusion center manager and using

a shared governance model staff members identified "pain points" as well as opportunities to optimize space, facilitate practicing to top of license as well as workflow enhancements. Staff readily identified patient scheduling as a significant issue as well as a desire for greater leadership presence throughout operating hours. Thoughtful rounding on staff and patients was initiated. The role of the charge nurse was enhanced and formalized as well as the introduction of the triage nurse role to facilitate through put and patient experience. Technology was introduced to level load patient schedules. The role of assistant nurse manager was piloted. The infusion center has seen a 14% increase in patient volume in 2018 over the same time period of 2017. During this time patient wait times have decreased from up to 180 minutes to on average of 16 minutes with patient satisfaction increasing from the 13th percentile to the 45th percentile. Turnover has decreased 37% with a 47% increase in participation in employee engagement and an increase in staff engagement. Overtime has decreased 29%, allowing staff, LIPs and patients to maintain planned infusion operating hours. The integration of technology along with time tested principles of leadership create powerful synergy. The harnessing of this cooperation led to significant improvements in patient and staff experience.

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DEVELOPING PATIENT EDUCATION IN THE GASTROINTESTINAL ROBOTIC-ASSISTED SURGICAL ONCOLOGY PATIENT

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The use of robotic surgery in the surgical oncology has increased over the last decade. Robotic surgery has shown no increase in postoperative complications or intraoperative blood loss. Data has demonstrated decreased hospital cost, length of stay, improved patient outcomes, and patient satisfaction. These patients must be involved in their plan of care and educated appropriately on expectations before and after their surgery. A review of our institution's patient education resources revealed that there was very little patient education in perioperative care for gastrointestinal patients undergoing robotic surgery and no education related to robotics in the oncology patient.

This is challenging for nursing staff to consistently educate and care for these patients and their families. This population requires different interventions in the post-operative period compared to the traditional post-operative patient. The Advanced Practice Providers (APPs) from the surgical oncology service reviewed the evidence-based literature and created a patient education book on the perioperative care of the gastrointestinal patient. This evidence-based education can be used by any nurse or provider to educate these patients before, during, or after their surgery. A specialized care of the robotic gastrointestinal surgery patient education handout was developed for patients and their families to be available on the institutions web site. It is very important for patient education to start as early as possible since hospital length of stay is reduced. Early ambulation, early feeding, and decreased opioid use are components of robotic postoperative care. The new gastrointestinal perioperative patient handbook and the new robotic surgery patient education handout will be evaluated by the patient education department and then approved for implementation. Patient education is a key factor for providing safe and efficient post-operative care to this population. Nurses are responsible for disseminating patient education information to the patients and their caregivers. Patients should understand the surgical procedure, side-effects and complications of the robotic procedure, and pertinent medication education. It is very important that patients and family members are included in the plan of care. Updated and accurate patient education is required for best patient outcomes. Robotic guidelines and pathways as well as order sets that include patient education need to be developed and presented in the literature.

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INTEGRATIVE ONCOLOGY FOR SYMPTOM MANAGEMENT AND WELLNESS AT THE BEDSIDE

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Integrative Oncology involves personalized, evidence-based, and safe application of complementary therapies in the context of conventional cancer care. 68% of oncology patients in the United States engage in complementary health approaches, most commonly to improve wellness, enhance immune function, and relieve symptoms. Integrative approaches can be effective at providing symptom relief and improving patients' physical and psychosocial health; however, patients often make decisions about integrative

modalities based on resources of variable reliability. Nurses are the front line in oncology patient care, providing clinical expertise, education, and support to patients and caregivers. Therefore, it is beneficial for oncology nurses to be informed of integrative approaches for cancer care. Nurses who are trained on the benefits, contraindications, and implementation of integrative techniques can provide education and safe application of these therapies. The Wellness and Integrative Oncology Program at UPMC Hillman Cancer Center trains nurses to provide integrative therapies at the chair and bedside as part of the Nurse Ambassador Program. When the program launched in 2016, four nurses were trained in aromatherapy and meditation techniques. The program has since expanded by training 47 oncology nurses across 14 sites in our large academic center and community network to deliver techniques including seated yoga, breathing and meditation techniques, aromatherapy, and hand and foot massage. Patients' trusted oncology nurses in the clinic, infusion room, and inpatient areas implement these techniques to improve symptom management. The present training involves two days of hands on and didactic instruction with credentialed providers of yoga, massage, and aromatherapy in addition to practicum and written examination. The focus of the Nurse Ambassador program is to improve symptoms and overall wellness. Nurse Ambassadors assess patient symptoms including pain, nausea, neuropathy, anxiety, insomnia, and decreased appetite with standard 10-point scales. Additionally, nurses empower patients to utilize these modalities as methods for self-care by providing resources for safe use of essential oils, meditation apps, and breathing and stretching exercises. The Nurse Ambassador program supports patients by implementing whole person care at the chair and bedside. Both patients and nurses feel empowered by the integrative approach to symptom management. Future growth of the program includes measuring nurse empowerment with the Conditions for Work Empowerment Questionnaire (CWEQ-II) and more precise appraisal of symptom modulation.

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MITIGATING FINANCIAL TOXICITY: NAVIGATING HEALTH INSURANCE

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Cancer care is expensive, insurance coverage is often inadequate, and cancer survivors have higher out-of-pocket health care costs, even years after diagnosis. Oncology nurses are well-positioned to help mitigate

the financial impact of cancer, across the continuum of care. Stories of lost jobs, damaged credit, bankruptcy, eviction, overwhelming medical debt, and huge amounts of stress, anxiety, and depression after a cancer diagnosis are common. By the time individuals seek help, they are in crisis. But with appropriate information and guidance, many of these crises are preventable. However, there is a gap in formal education related to health and disability insurance and finances. Health care professionals themselves indicate a gap in understanding and lack of awareness of relevant resources. To address this gap in knowledge, The Insurance & Finance Intensive was created. This innovative comprehensive certificate program trains oncology health care professionals on health and disability insurance and finances designed to improve patient and caregiver access to valuable information about these legal and practical cancer survivorship issues. Topics covered include: An overview of the U.S. health care system; Individual & employer-sponsored health insurance; Medicare & Medicaid; Tips on using health insurance & appeals; Navigating disability insurance & appeals; and Managing finances & getting financial help. Case studies and interactive group exercises are used to help nurses implement the learning. Since its inception in the fall of 2017, the Intensive has been provided five times nationwide, from California to Louisiana to Hawaii. Over 180 oncology health care professionals have been trained and provided overwhelmingly positive feedback, including: (a) “Wonderful beneficial intensive. I wish I had this 10 years ago!” (b) “I can’t believe I was allowed to work in my job as a nurse navigator without this knowledge.” (c) “As a nurse, this information is not provided in school and it is difficult to navigate day to day. All nurses need this information and if properly informed could grossly improve patient advocacy and knowledge.” When individuals understand how to obtain and keep health insurance, appeal denials, take time off work, access disability insurance, and manage other financial stressors, their quality of life and survivorship outcomes improve. Effectively training oncology nurses to better navigate patients through these issues, alleviate the financial burden of cancer and improve patients’ quality of life.

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THE ROLE OF THE ONCOLOGY NURSE IN SUPPORTING THE FINANCIAL HEALTH OF INDIVIDUALS DIAGNOSIS WITH CANCER

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Approximately 50% of cancer survivors are “working age” and, when faced with a diagnosis, must often address the central question of whether and/or how to continue working through treatment, take time off, or return to work. The Institute of Medicine (IOM) has called on healthcare teams to address the whole patient and warned that failing to address employment and financial concerns may increase suffering, and threaten a patient’s adherence to prescribed medications and overall return to health. Oncology nurses who have received the appropriate training are uniquely positioned to assess patients’ employment-related needs, and identify essential information and resources for balancing work and cancer that can help improve both job-related and health outcomes. However, there is a gap in formal education related to this topic, and professionals themselves indicate a gap in understanding and lack of awareness of relevant resources. To address this significant knowledge gap, a unique and innovative training was specifically developed to help oncology healthcare professionals better understand the workplace concerns of individuals diagnosed with cancer and how they can help to address those concerns. Navigating Cancer: Work & Insurance is a full-day, in-person training that provides up-to-date practical and legal information and tools to help guide patients in balancing work and cancer treatment. These issues include deciding whether to disclose their diagnosis to an employer, working through treatment and/or taking time off, returning to the workplace, maintaining both income and insurance, and more. Interactive group exercises and case studies are used to simulate the experience of the patient to help attending oncology professionals put learning into practice. To date, this training as been presented 45 times in 37 states, to 1,265 participants. For every session, attendees complete a pre-training assessment and post-training evaluation. In addition, in 2016, a post-intervention survey of 2015 participants was conducted to learn more about the impact the training was having on a community level. Among respondents, 96.5% felt better prepared to talk with patients about work and cancer than they did prior to attending; 84.2% said they initiate conversations with patients about the impact of work and cancer more frequently; and 73.7% indicated using the information provided in working with patients at least monthly, with 47.6% of that group using the information at least weekly.

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CREATING A CAR T-CELL INFUSION NURSING PRACTICE

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Chimeric Antigen Receptor (CAR) T-cell therapy is a novel immunotherapy that has been deemed the next pillar of cancer treatment but has significant toxicities associated with it. The nursing care identified for care of these patients included administration of lymphodepletion chemotherapy, cell infusion, patient education, toxicity management, and ensuring a smooth transition between care settings. Preparing to care for this patient population required collaboration with providers, researching best practices, educating and validating competency of nurses, and determining evaluation metrics. This presentation will describe the process taken to create infrastructure, to complete nursing education, and to ensure safe patient care of CAR T patients. The first step was identifying best practices through a literature review, consulting with the BMT practice and benchmarking with other CAR T nursing units across the country. A process of caring for CAR T patients was identified and included steps from initial consultation through patient follow up. Research protocols and commercial company package inserts were used to ensure compliance with all guidelines. The next step was to prepare nursing staff to care for these patients including education and competency validation that included CAR T-cell physician experts who spoke on the steps of CAR T-cell therapy, research outcomes, patient monitoring, common toxicities and patient management. An online module on nursing management included test questions that was developed and completed by nursing staff and all staff completed the Food and Drug Administration required Risk Evaluation Mitigation Strategy (REMS). A staff nurse currently enrolled in a nursing leadership development program was leveraged to provide teaching and competency validation. The unit successfully trained 33 RNs on the steps to complete the infusion. Those nurses not trained completed the REMS program and will be trained as part of their orientation pathway and over 150 RNs received completed training. Patients undergoing CAR T-cell therapy have unique needs and rapid onset of life threatening toxicities that require strong nursing assessment skills, timely communication with the providers, and a practice

that supports care of these patients. Through education, care management guidelines, and support, safe care can be given to this patient population and provide the hope that many of these patients are searching for.

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LOCAL CHAPTER REMODEL: LESSONS FROM LEADERSHIP

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The Columbus Chapter of Oncology Nursing Society (CCONS) has been active for over 30 years. It was started by just 12 dedicated oncology nurses who wanted to support each other. Over the years people have come and gone. There has always been a small group of dedicated nurses who seem to be the core of the chapter. Over the past several years we have tried to encourage more members to join Chapter Leadership in order to bring fresh ideas. The purpose of our intervention was to allow all CCONS leaders to be on the same page with where our Chapter needed to head and to assure that we aligned with ONS National. In order to accomplish this we were able to send 10 leaders to leadership weekend in 2018. We were better able to understand the new chapter model moving forward and decided to make some changes in order to accomplish that. We got some invaluable new ideas to refresh our chapter. In order to make sure the entire board was up to date and to continue moving forward we decided to take a retreat day in September and determine what our next steps were to be. After several of the lessons learned from the weekend were presented to board members who were not able to attend, we divided up to form groups that would look at our policies and procedures and revise them to meet the new goals of our Chapter. After making several changes to our policies and procedures, we look forward to starting a new year full of excitement and enthusiasm. The changes we are making will focus much more on needs of our members. It's never easy to make changes happen especially when there have been folks doing things a certain way for many years. But with growth comes change and if we are to capture new oncology nurses while sustaining the needs of experienced nurses, we must be creative in ways that meets both of their needs. Our innovative approach to change began with sending a majority of our board to Leadership Weekend and culminated in a day long retreat where groups could work together to update and refresh our policies to align with the new direction we are heading.

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INCREASING NURSE CAPACITY IN RESEARCH AND EVIDENCE-BASED PRACTICE THROUGH EDUCATION

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Implementing evidence-based practice (EBP) is vital to improving patient, family, and nursing outcomes. However, the process can be very intimidating for nurses, especially those that have been in practice for years. Nurses often feel underqualified to critically appraise research articles and are unfamiliar with the processes of how to implement the evidence at the bedside. The purpose of the Nursing Research and Evidence-Based Practice Council (REBP Council) is to promote the appraisal, use, and generation of evidence in clinical practice through: the support of research and evidence-based activities, the education of staff, and the recognition of scholarly and evidence-based initiatives. The REBP Council initiated a quarterly education series open for all nurses, providing lunch and contact hours. Topics include abstract writing, creating a professional poster, identifying key aspects of a research article, Journal Club critical appraisal, and panel discussions on successes and challenges with implementing EBP. The offerings were video recorded and posted on the hospital's learning management system for those that were unable to attend. The REBP Council created an intermediate-level critical appraisal tool to provide staff and journal clubs interested in increasing the rigor of their critical appraisals. The release of this tool was at a well-attended education series where nurses critically appraised a journal article lead by peer experts. All presentations concluded with describing the librarian and scientific nursing resources available to assist and support nursing research and EBP at the hospital. The REBP Council is also creating the REBP Champion role, integrated into the hospital's Career Advancement System, with the goal of one Champion per clinical service. The success of these initiatives includes consistent increase in attendance of the educational series, strong class evaluations, and nearly ten abstract submissions to ONS Congress 2019. Ongoing evaluation includes the number of nursing research and EBP projects initiated, applicants to the Nursing Research Internship, and abstracts and posters submitted to the hospital's Best Practice Showcase, as well as locally and nationally. It is imperative for nurses to feel empowered to improve their clinical practice using the steps of EBP. Through education and support, the REBP Council diminished fears and

barriers nurses experience with research and EBP by presenting content in an approachable and attainable manner.

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LEADERSHIP RESOURCE MANAGEMENT AND UTILIZATION TO CREATE CHEMOTHERAPY COORDINATOR ROLE

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The role of chemotherapy verification nurses meets the American Society of Clinical Oncology and Oncology Nursing Society (ASCO/ONS) safety standards and contributes to improved safety in chemotherapy administration. At a comprehensive cancer center in a quaternary hospital in the Mid-Atlantic, chemotherapy verification was completed by 16 oncology clinic coordinators with oncology nursing experience ranging from three months to 20 years. Consistency and accuracy in the verification process varied dependent on the coordinator. Clinic coordinators were spending on average 3 hours weekly on the verification process for chemotherapy orders. This was in addition to patient care coordination and was often fragmented between other tasks. Pharmacy and infusion staff receiving the completed orders regularly found errors not caught by the clinic coordinators resulting in a high volume of near misses and impeded workflows. A telephone triage line was concurrently operating, staffed by two registered nurses. A review of 3,568 incoming patient calls found 82% were administrative and only 18% required clinical intervention. Top call reasons were appointment changes (35%), returning a call (24%) and general information (18%). The purpose of this project was to improve the verification process and maximize the utilization of the nursing scope through implementation of two chemotherapy coordinator positions. The nurse manager of the outpatient clinic assessed human resource management and productivity. Two chemotherapy coordinator positions were created. The scope of this role included checking orders in accordance with the ASCO/ONS standards and hospital-based chemotherapy guidelines, monitoring the infusion schedule in advance to allow time for order preparation, and review of patients' charts for completeness of treatment history. Additionally, a medical assistant and administrative personnel were reassigned to the telephone triage line. Chemotherapy coordinators verify 100% of chemotherapy orders prior to orders being turned into pharmacy, approximately 450 monthly. Clinic coordinators now spend all of their time in direct patient care and care

coordination. Chemotherapy coordinators improve non-productive time for the oncology clinic coordinators. The new role better utilizes the scope of the chemotherapy coordinators previously answering telephone triage calls. From a leadership and resource management perspective, utilizing the nursing scope and skill set appropriately enhances the productivity of the unit. Phone triage calls continue to be managed efficiently by the administrative staff and medical assistant.

419 **ENERGIZING, INSPIRING AND EDUCATING PEER LED EDUCATION—BRINGING THE BEST OF CONGRESS HOME**

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Oncology nurses desire opportunities to learn about innovative treatments, patient management techniques and updated best practice guidelines. Nurses seek opportunities to develop presentation skills through formal and informal workshops and unit based teaching. Oncology Nursing Society (ONS) Congress is the premier setting to acquire information and provide networking and bonding opportunities. Attendees are inspired by the educational offerings and have a renewed passion and commitment to their career after attending. Many workplaces actively and financially support nurses to attend ONS Congress, however spots are limited due to financial, personal and staffing constraints. Nurses unable to attend feel disconnected and unaware of the notable presentations that inspired their co-workers. The Professional Practice Council (PPC) at our cancer center developed a nurse led continuing education program to highlight the experiences of the nurses who participated in the 2018 ONS Congress. The dual purpose of this project was to develop a continuing education (CEU) opportunity for nurses throughout the UPMC Hillman Cancer Center to learn new information presented at the 2018 ONS Congress and provide the Congress attendees opportunity to polish their presentation skills while networking. The UPMC Hillman Cancer Center is an outpatient center that delivers cancer care to its patients. The PPC is a group

of nurses who are committed to enhancing nursing practice. The PPC invited Congress attendees to present their abstract/poster or new information learned at the sessions. CEU application was completed with documented assessment of learner's needs and literature review. Collaboration with inpatient and network nurses, the ONS and ONCC served to promote the event. Fourteen nurses delivered presentations in a variety of formats during the two-hour session. Participants received one CEU if they visited at least six presentations and completed evaluation. Over forty network nurses attended this first ever event with surveys indicating that the variety of presentations, commitment of the presenters and opportunity for networking were both valuable and inspiring. Peer-Led professional development has been shown to improve staff satisfaction and foster communication and team building. The UPMC Hillman Cancer Center PPC hopes to make this an annual event that will continue to highlight the work that our nurses are doing and inspire nurses to participate in the educational opportunities available within the ONS.

420 **USE OF MOBILE APPLICATIONS AS AN INSTRUMENT FACILITATOR OF CONTINUING EDUCATION IN ONCOLOGY NURSING**

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Currently the treatment of cancer is based on surgery, chemotherapy, immunotherapy and Radiotherapy. therefore, the update and knowledge of the nursing team is essential to promote better implementation of the proposed therapies. The use of digital technology through mobile application, can be an auxiliary tool for support in continuing education, allowing a uniformity of knowledge, instantaneous dissemination of innovations proposed by the education team Continued and mainly, quick and easy access to Information. The objective of this study is to evaluate the use of mobile applications in health described in the literature and to present the structuring of a mobile application for continuing education in the institution of Oncology in Brazil. An integrative revision of the literature was carried out in the period from September to October 2018, with the previously defined descriptors: mobile applications,

continuing Education in nursing, Health education, permanent Education and Nursing. From the review, an application was developed using an on line platform called “Appy Pie”, which allows the structuring of applications without the need of a programmer. The application was fed with the information needed to update the health team, with pertinent information about the treatment in institution of the Oncology in Brazil. 220 articles were found among which were selected studies most related to the use of mobile applications in continuing Education. Subsidized by the review on the effectiveness of the use of the digital tool in the education process, we have created an informative application for the nursing team structured from the content needed to update the team, easy to access and dynamic form. It is understood that the use of mobile applications in education for the nursing team is still an incipient experience and needs more studies, as well as more implementations, mainly in the context in Brazil. Innovation: The use of this technology, in the practice of nursing in oncology can bring greater objectivity of the information, with increased speed of updating and assisting with the security of the Patient.

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EVALUATING INTERVENTIONS FOR INCREASING NURSE PARTICIPATION IN A PROFESSIONAL DEVELOPMENT PATHWAY

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Professional development in nursing is recognized through the Professional Development Pathway (PDP). This performance driven recognition program promotes quality improvement initiatives, research, and engagement in Shared Governance. The purpose of this project was to evaluate the effectiveness of interventions on an inpatient oncology unit during the facility’s last annual PDP cycle. The goal of these interventions was to increase the number of nurses on the unit engaging in the PDP process. Previously, participation in the program was minimal. Between 2010 and 2016, the unit saw an annual participation average of 3.8 nurses. The interventions implemented included: PDP workshops, PDP Unit Champions, and the promotion of constructive use of non-productive time. Four PDP workshops were organized and held on the unit, voluntarily staffed by previous PDP recipients. Their purpose was to coach and encourage new staff members as they began their journey on the Professional Development Pathway. PDP Champions were identified by

the unit’s the Shared Governance Development Council, based on previous PDP level attainment. The PDP Champions provided support at an individual level to help nurses successfully navigate through the process. The unit’s Charge Nurse established a non-productive time log and encouraged staff to schedule and record their non-productive hours spent completing activities required for PDP recognition, including building professional portfolios, attending workshops, and engaging in shared governance activities. This visual tracking system encouraged commitment to non-productive time as scheduled, and increased communication and collaboration among nurses. Through implementing these interventions, a culture of peer and leadership support was established on the inpatient oncology unit. The unit saw the number of nurses participating in the PDP process double from 2016 to 2017, with 12 recipients. The final number of nurses participating in 2018 will be available in December. Higher rates of nurse engagement are linked to better patient outcomes, higher patient satisfaction scores, and increased nurse satisfaction and retention. These interventions could be applied on any unit, inpatient or outpatient, oncology or otherwise, to increase participation in the Professional Development Pathway. As the nursing profession experiences a generational transition, new ways of engaging nurses in professional development should be identified and implemented in order to maintain growth and success in the nursing profession.

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THE USE OF DIGITAL TECHNOLOGY AS A FACILITATOR OF CONTINUED EDUCATION IN AN ONCOLOGY CENTER

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Digital technology has increasingly become a part of people’s lives around the world. Whether using computers, cell phones, or other devices, access to information has been facilitated and directed to the needs or interests of those who are seeking it. In this perspective, banks, schools, colleges, companies, among others began to insert this technology in the services offered or even in the way they connect with their target audience. Health education faces many

challenges in terms of continuity, as new technologies are constantly emerging and for each health center there are particular protocols of the Institution. In order to facilitate employee access to information, an oncology center began to use electronic forms, video, and instant messaging platforms to disseminate teaching in a personalized way. The possibility for the professional to have access to a previously taught content, wherever and whenever he or she wishes, assists in the process of continuity of education, optimizing time and breaking down barriers of space, such as the classroom, which can become any place the individual is. Furthermore, all theoretical content, when transformed into an image or step-by-step guide, e.g.: of a procedure, creates a bridge with reality and can be more easily visualized, optimizing learning. This study has quantitative nature with a descriptive approach. The survey covers nurses and nursing technicians. A link will be provided via instant message through mobile phone, where participants can access an electronic questionnaire on their own devices, after signing the free and informed consent form. Answers will be counted and reproduced in comparative graphs. It is understood that the use of digital technology in continuing education can exert significant influence on the continuity of teaching (learning). It has the capacity to reach health professionals as well as professionals of other areas, becoming an effective and facilitating method of encouraging the learning-teaching process.

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NURSING CITIZENSHIP

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Oncology nurses are a vital part of the healthcare team. They spend countless hours at the bedside providing quality care to patients. Frequently, oncology nurses receive their chemotherapy certification to administer chemotherapy but do not take an additional step to recognize their level of oncology care. Becoming an Oncology Certified Nurse demonstrates a nurse's professional maturity and ability to provide quality oncology care. At the Central Jersey Division of Regional Cancer Care Associates (RCCA, CJD) there are currently 6 locations with 19 RNs and 5 APNs and only 6 are ANCC OCN/AOCNP certified. To encourage professional citizenship, the nurse practitioners of CJD RCCA applied for the ANCC FreeTake Program in efforts to achieve 100%

certification level. Being an OCN/AOCNP nurse demonstrates to patients and their employer that they have validated advanced knowledge to care for oncology patients. With only 25% certified nurses the ANCC FreeTake Program was able to provide financial security for the employer and the nurses. As leaders in the department APNs vocalized and advocated for their nurses to receive reimbursement for obtaining the certification. For the employer, it provides reassurance for their patients that they are giving the highest level of quality care. After hearing the value of the OCN certification, RCCA, CJD was accepted into the FreeTake Program. Since participating in the program, the number of certified nurses doubled. Of the current staff 50% are now certified. The recognition of new OCN nurses by management and patients improved overall morale. In order to obtain 100% certification levels, the APNs plan to have a review session for the remaining nurses. Furthermore, the management team recognized the value of certification and an hourly wage increase was implemented for the certified nurses. Being an OCN/AOCNP nurse demonstrates to the patients and employers that specialized quality oncology care will be provided. In order to reduce financial burden to nurses, the FreeTake program was extremely helpful in overcoming that hurdle. By doubling the number of certified nurses, CJD RCCA management provided further financial incentive to strive for 100% certification. With the success of this professional development, the APNs of RCCA, CJD hope to pursue educational programs in the future and empower the nurses to promote nursing citizenship within the organization.

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TRIALS AND TRIUMPHS! IMPLEMENTATION OF A PHASE 1 CLINICAL TRIAL PROGRAM IN A COMMUNITY-BASED HOSPITAL

Morgan Horton, BSN, RN, CCRC, Lehigh Valley Health Network, Allentown, PA; Megan Derr, MSN, RN, AOCNS[®], CMSRN, Lehigh Valley Health Network, Allentown, PA; Dana Clark, BSN, RN, CCRC, Lehigh Valley Health Network, Allentown, PA; Ashley Patzuk, BSN, RN, OCN[®], Lehigh Valley Health Network, Allentown, PA Lehigh Valley Cancer Institute (LVCI) is a rapidly growing cancer center located in a community-based setting. Through the inception of pharmaceutical clinical trials in 2010 and a longstanding history with cooperative-group studies, LVCI has been a mainstay for patients seeking innovative clinical trial treatments. With the determination to offer the highest quality,

state-of-the-art cancer care to our local community, LVCI recognized the need for expansion into Phase-1 clinical trials. Phase-1 clinical trials require immense knowledge and clinical coordination in order to be conducted safely and in protocol compliance. They are very sophisticated studies and involve multiple pharmacokinetics, cardiac monitoring, and rigorous nursing assessments. LVCI has successfully conducted over 100 clinical trials in phases II-IV and understood the comprehensive care that phase-1 clinical trials demand. The implementation of the Phase-1 program required complete infrastructure development- from space construction and equipment purchasing to the creation of a core nursing team and development of research specific education. A Phase-1 Work Group was created and included nurse leaders from Clinical Trials and the Cancer Institute and the Physician-in-Chief. The work group first determined that dedicated space was needed for the phase-1 patient. Three private phase-1 infusion rooms now include cardiac and vital sign monitoring and a phase-1 lab processing room was constructed. Equipment for the processing room was purchased and contains a -20C freezer, refrigerated centrifuge, and designated area for research lab technicians. The success of this program lies in the education of clinical research and infusion nurses. A core team of expert oncology nurses were nominated to operate the Phase-1 clinical trial program. A continuing education course was created by the Oncology Clinical Trials Supervisor RN and Clinical Nurse Specialist focusing on research basics, navigation of a research protocol, toxicity management and grading for nurses, documentation requirements, and case discussion. The course is offered quarterly to infusion and clinical research RNs as a requirement to participate in care of the Phase 1 patient. There are multiple layers to implementing a phase 1 program in the community setting. Proper facilities to perform clinical research is key in early phase trials. Dedicating space, core nurses, and research specific education is imperative to the success delivering expert care in a safe and protocol compliant environment.

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EXPANDING PROFESSIONAL AND LAY-CAREGIVER PSYCHOSOCIAL SUPPORT ON AN INPATIENT ONCOLOGY UNIT

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Both lay and professional oncology caregivers face stress that is unique and prolonged given the nature of oncology care. The needed psycho-social support

for caregivers is lacking within oncology care. In response, support sessions are being implemented to provide additional support for the lay and professional caregivers on an inpatient oncology unit. Monthly support sessions are provided for nursing staff by a staff nurse with an advanced degree in counseling. Sessions are intermittently geared toward a specific topic and/or left open-ended for staff members to bring their thoughts or concerns. Sessions are designed to provide ease of access for staff and a welcoming environment. Sessions are in a small conference room, central to the unit allowing staff to “get away” without going far. The sessions are both morning and evening, rotating every other month to allow day and night shift participation. A welcoming environment is created by providing snacks and playing light music. Information shared during sessions is considered confidential. The session coordinator is not required to report to management the stressors and concerns voiced by the nurses unless specifically asked to do so. This was done to promote open debriefing among the nurses. Support sessions have also been implemented for the lay caregivers of oncology patients. These sessions occur once a month for approximately 1½-2 hours. Patients admitted to the oncology unit are provided a card regarding the Caregiver Support Group with other admission materials. On the evening of the session, the session coordinator visits any patients with caregivers at the bedside. She re-informs the caregivers of the group and re-invites them to participate. The group is conducted in the visitation room located on the inpatient unit. This allows the family/caregiver to get away from the bedside while remaining close to their loved ones. Snacks are provided to create a welcoming environment. The sessions are structured so that caregivers share with one another practical, emotional and potentially ongoing support. Since implementing the sessions, NDNQI scores and anecdotal evidence indicate both professional and lay-caregivers benefit from the sessions. Typically, 6-8 nurses participate in the staff support session each month. The sessions for lay caregivers range from 2 to 10 participants per month. Further development of psycho-social support is imperative.

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DEVELOPMENT OF A HYBRID CHEMOTHERAPY COURSE INTEGRATING WEB-BASED LEARNING, CLASSROOM AND SKILLS SESSION

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The University of Pittsburgh Medical Center (UPMC) Hillman Cancer Center is comprised of 38 medical oncology and 22 radiation oncology sites spanning across the state of Pennsylvania and into the states of Ohio and Maryland. Nurses hired to care for patients receiving chemotherapy are required to attend and complete the UPMC Comprehensive Chemotherapy and Biotherapy Course. Traditionally, the course is offered quarterly in a format consisting of four days of didactic lecture. After the course, competency is evaluated by an exam of 100 questions. An exam score of 80% or greater is required for passing the course. UPMC Hillman Cancer Center nursing managers identified a delay in new nurse orientation caused by the traditional course format, when a new nurse's start date would fall between the quarterly courses. The education department began development of a new course that would meet orientation and staffing needs of departments, abide by the policy guidelines for education, and provide the same quality of learning to the student. The Oncology Nursing Society (ONS) has specific education requirements for nurses to administer chemotherapy safely. Following the guidelines from ONS, a Chemotherapy Hybrid course was developed to include didactic lectures of critical aspects of safe oncology patient care, recorded lectures focusing on the pharmacology of treatments, a skills session to ensure nursing competency of the required hands on skills, and the exam requirement with a score of 80% or greater. Since the beginning of the Chemotherapy Hybrid course in April 2018, sixteen nurses have participated in the course. Success of the course has been evaluated through positive course evaluation feedback from students and managers, as well as test scores ranging from 80–100%. To date, all the nurses participating have passed the Chemotherapy Hybrid Course.

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PROPOSAL FOR ADAPTATION OF THE HOSPITAL MODEL OF NURSING PERSONNEL SIZING FOR AMBULATORY MODEL IN ONCOLOGY

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The number predicted for new cases of cancer in 2018 was 600,000, according to data from the National

Cancer Institute. Estimates aid in the planning, analysis of material and human resources. With advancement in early diagnosis and treatment of diseases, the role of the nursing team is present in the care and search for results that can offer the patient a correct treatment and an improvement in the quality of life. The change of scenario from the hospital to the outpatient setting, incorporation of new protocols and an increase in complexity in the oncology area makes it necessary to analyze and implement a differentiated model of nursing staffing in an outpatient oncology unit. Bibliographic research of content on the dimensioning of personnel in a hospital unit correlating the current legislation of the nursing category with the practice in an oncology outpatient clinic. It was used as a comparative basis, a study conducted at Hilcrest Hospital in Cleveland, Ohio, where the analysis of individualized variables in a chemotherapy sector was taken as the basis for a real oncology sizing, based on the criticality of cancer patients. The model of Hilcrest Hospital was implemented in an outpatient oncology clinic in Rio de Janeiro, making a comparison between the criticality and hospital design model used by the Federal Nursing Council. We could observe that there is concern in the Hilcrest Hospital model that the amount of nursing personnel for patient care is based on the care, the nurse's ability, the presence of other team members for support, and the availability of technology. On the other hand, the care model used in the hospital environment refers little to cancer patients and their physical and specialized treatment. With this comparison it is seen that special and / or outpatient units need to establish in their day-to-day practice adaptive tools to standard so that the sizing becomes effective. We conclude that staffing sizing based on patient criticality favors the adequate division of professionals in an oncology sector. Added to this we can identify the ideal time for new hires, providing the professional caregiver with a suitable work environment so that he can provide the best assistance.

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COMBATING COMPASSION FATIGUE AND BURNOUT WITH STAFF MORALE BOOSTERS

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One of the most frequent responses an oncology nurse will hear when telling someone what field of nursing they are in is "Oh, isn't that depressing." While many oncology nurses love what field they are in, the truth

remains that yes, it can get depressing at times and compassion fatigue/burnout is a concern. The purpose of this project was to combat compassion fatigue/burnout and improve employee satisfaction scores, Overlook Medical Center's inpatient oncology unit implemented several staff morale boosters. The staff morale boosters included an employee of the month voting ballot, a shout out board, Code Lilac basket, and staff theme days. Employee of the month and the shout out board were implemented to improve employee recognition. The shout out board is an informal outlet for staff recognition, while the employee of the month is formalized with a reward. Staff theme days were implemented as a way to bring joy and lightheartedness to the sometimes upsetting and sad tone that oncology floors can have. Example of theme days to date are: Princess day (Royal Wedding), Red White and Blue Jean Day (Memorial Day), Pumpkin Decorating (Fall season). The unit worked with CONCERN (hospital's Employee Assistance Program) to provide mindfulness sessions and provide grief sessions when needed. A Code Lilac basket was created to provide little tokens of appreciation to provide to each other; a variety of items included in the basket are stress-balls, pop up cards, angel pins, candy, stickers, bath bombs, etc. Evaluation of this project is being monitored with the NDNQI Employee Satisfaction Survey. Pre-data is obtained and post-data will be available prior to Congress, not available at this time. The staff engagement is noted in submitted "Shout Outs" and employee of the month nominations. Oncology nurses provide care to patients and families going through a difficult diagnosis, but we also need to care for ourselves. Focusing on opportunities of ways the team can provide care for each other helps to increase staff morale and helps to support each other with compassion fatigue and burnout. These staff morale boosters are a way to fight compassion fatigue and burnout, and in return help combat frequent staff turnover.

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ADDRESSING INCIVILITY AMONG NURSING STAFF

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Incivility in the workplace is not a new problem in Nursing. We have all at times experienced rude or unsocial speech or behavior from peers. There is significant literature that shows it can decrease productivity and have a negative impact on staff satisfaction and retention.

This behavior will have a negative effect on the overall functioning of the unit and ultimately on patient care. The purpose of this project was to determine if specific interventions would improve civility among staff in our ambulatory oncology infusion center with the intent of improving communication and cohesiveness of the unit. The first step was to increase awareness by distributing articles and studies regarding incivility to the staff over a five month period. The next intervention was to rotate staff seating assignments allowing for the opportunity to work more closely with others they had not previously worked with. Finally, each staff meeting included a discussion on the importance of treating each other with respect and kindness. To evaluate the effectiveness of our interventions, a survey was distributed to the staff. Twenty surveys were distributed and 17 returned, reflecting an 85% participation rate. The survey contained ten questions and had a place for comments and feedback. Staff was encouraged to give truthful feedback and assured answers were anonymous. 100% of responders felt they had established better relationships and communication with their co-workers. One response was "Changing seats regularly is a good way to know each other and communicate better." In addition to survey responses, there have been multiple observations that staff seemed to be interacting more with each other and that teamwork had greatly improved. The staff has even referred to themselves as "our family". Implementing these interventions in our infusion center has resulted in improved civility among co-workers by helping our staff see each other not only as professionals, but as people, with strengths and weaknesses, personal challenges and feelings. It has improved relationships, communication and our overall functioning as a unit. Mutual respect and kindness greatly assists Oncology Nursing as a whole. It increases staff satisfaction, retention and provision of care to patients. It creates a feeling of unity and support among peers

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TRANSITIONING FROM A MEDICAL SURGICAL UNIT TO A MEDICAL-SURGICAL/ ONCOLOGY UNIT: GROWING ONCOLOGY NURSES AND INCREASING THE NUMBER OF CHEMOTHERAPY CERTIFIED NURSES THROUGH THE IMPLEMENTATION OF AN ONCOLOGY CURRICULUM

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Caring for patients with a cancer diagnosis is complex and requires proper education and training.

A 36-bed Medical-Surgical/Oncology floor had no Oncology curriculum for nurses, and as a result, only eight (17%) were chemotherapy certified. On a growing Oncology Unit this often caused treatment delays and staffing difficulties when chemotherapy nurses not scheduled. Upon meeting with staff and assessing needs it was evident more education regarding cancer care and chemotherapy was needed. The purpose of this project was to increase the proportion of chemotherapy certified nurses to 75% and provide oncology education to improve nursing knowledge and comfort when caring for this population. An educational curriculum, including course work and skills training, was created for the nursing staff. Two eight-hour classes were provided, Introduction to Chemotherapy/Biotherapy and Caring for the Oncology Patient. The Introduction to Chemotherapy/Biotherapy class included cancer biology, chemotherapy drugs/regimens, administration and safety. The Caring for the Oncology Patient class covered how to care for the individual with cancer and symptom management. After completion staff registered for the ONS/ONCC Chemotherapy/Biotherapy Certification Course, and after achieving certification skills training took place. For new hires this process was built into orientation and involves first attending the Caring for the Oncology Patient class. Once off orientation they attend the Introduction to Chemotherapy/Biotherapy class and complete the ONS/ONCC certification course within six months to one year. As of December 2017, 38 (80%) nurses attended the courses and successfully complete the ONS/ONCC course; bringing the total number of certified nurses to 46 (96%). Of the 38 nurses completing the ONS/ONCC Course, 36 (95%) were successful on first attempt. The evaluations from the two eight-hour classes revealed an increased knowledge and comfort in oncology care. Upon completion of skills training one-on-one meetings took place with the nurse educator to assess for additional needs and address questions. An expanded oncology curriculum has been developed to increase the nurses' knowledge and allow them to grow into oncology nurses equipped with tools to better care for this complex patient population. Through chemotherapy certification and oncology education, nurses have a greater understanding of the treatment complications leading to hospital admission and how to provide appropriate care. In order to maintain chemotherapy competency hands on opportunities will take place annually and as needed.

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AN EFFECTIVE MEANS TO ACHIEVING A DURABLE REDUCTION IN CENTRAL LINE ASSOCIATED BLOOD STREAM INFECTIONS (CLABSIS) ON A MEDICAL ONCOLOGY UNIT

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Central venous access devices are commonly used in oncology patients due to poor intravenous access or treatment needs. These lines have become so mainstream that it has been questioned whether there is an overuse of central lines when not actually necessary. Oncology patients with central lines for long periods of time, especially those who are immunosuppressed, are at a higher risk for CLABSIs. When these infections occur, they affect patient care, mortality, morbidity and facility costs. Efforts, therefore, are underway at all institutions to decrease infection. The purpose of this project was to review our central line utilization through our hospital's daily "flash" quality meetings and determine if this review and subsequent actions could decrease our CLABSI rate. This meeting was instituted through a partnership with nursing leadership and our quality team. All patients on our medical oncology unit with permanent or temporary central lines are reviewed during an early morning "flash" meeting. The nursing director discusses in 5-7 minutes her unit's patients with central lines. The team then discusses risk factors for infection, the patient's needs, alternatives (e.g. midline catheters) or removal of temporary lines if determined not to be necessary. An email is sent to follow up in the afternoon to verify if lines that could be removed, were removed. Line days have decreased by 25% since 2016 since this meeting began. Since the implementation of "flash" meetings in 2015, our 24-bed oncology unit has had 3 CLABSIs. The patients noted to have these infections were immunocompromised for greater than one month. Even though our average daily census has increased from 15 to 20 patients, assessing device days in conjunction with quality nursing care has allowed a low CLABSI rate within our high-risk population. Implementing interdisciplinary "flash" meetings allowed our oncology unit to decrease our device days by 25%. In addition to diligent attention to central line care as outlined through Oncology Nursing Society (ONS) and Centers for Disease Control and Prevention (CDC), decreasing line days has resulted in a decrease in CLABSI's in our high-risk population. These results have been sustained over a period of 3 years.

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DISCOVERING THE VALUE IN AN OFF SHIFT SERVICE LINE EDUCATOR

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At Smilow Cancer Hospital (SCH), a large academic National Cancer Institute designated comprehensive cancer center, oncology service line educators (SLEs) function as active members of the leadership team, promoting on the spot and ongoing education, as well as professional development of the nursing staff. In the past, inpatient staff nurses voiced a desire for an off shift clinical expert, as well as the ability to receive education during their shift. In addition, there has been an increase of clinical questions on the off shift due to a high volume of chemotherapy administered throughout a twenty four hour period, and increased patient acuity. This project was developed to discover the functionality and value of implementing an off shift (SLE) for the four inpatient units at SCH. Prior to implementing the off shift SLE, rotating and PM staff were surveyed regarding their perception of the role of an educator, and their learning style. Common terms used to describe an educator included: resource, expert, knowledgeable, caring, safe, support, involved, and hands on. The functions of this unique role were then created utilizing staff feedback, which include but are not limited to: unit based hourly rounding, on the spot and scheduled clinical observations of staff, staff meetings, preceptor/preceptee check-ins, chemotherapy administration assistance and certification sign offs, clinical ladder advancement counseling, and collaboration with day shift leadership team members. In addition, education has been provided to the staff on the off shift, with many learning styles taken into consideration. Teaching modalities utilized thus far include face to face classroom lecture, online question and answer opportunities, open discussion, role playing, inquiry based brainstorming, games, and demonstration. Outcomes to be measured one year post implementation of the off shift SLE include a reduction of clinical questions due to the newly available resource, and a reduction of reportable chemotherapy events that occur on the off shift. Staff will also be surveyed regarding perceived support, after the implementation of the position. Next steps include the twelve month staff survey (January 2019), as well as a SLE debrief of the role, including lessons learned, areas for future improvement, and overall job satisfaction.

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AMBULATORY ONCOLOGY NURSING: UNDERSTANDING CURRENT PRACTICE KEY TO CLINIC REDESIGN

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While complex cancer care is increasingly provided in the outpatient setting, the nursing practice environment remains understudied in ambulatory oncology setting. Healthcare organizations continue to redefine healthcare delivery to improve the quality, efficiency, and effectiveness of patient care. As one comprehensive cancer care center is redesigning its ambulatory care model, an important focus for nursing leaders is to ensure practice within training and licensure scope practice of the multidisciplinary ambulatory team members. Multiple factors determine the appropriate skill mix and number of staff to effectively care for the cancer patient. Patient treatment, long-term chronic care needs, care coordination and management add to the complexity and acuity of the patients. An ambulatory nursing workload survey was administered in all cancer clinics within the cancer center. The survey was intended to understand the self-reported time ambulatory oncology nurses spent on various tasks and activities related to in-clinic visits, in-between clinic visits, patient screening and assessments, in-person assessments, patient education, electronic health record, care coordination, finance and insurance, patient flow, and clinical research. Additionally, nurses were asked to quantify their efforts in performing what they consider as the ideal nursing workload. Finally, nurses' role clarity and role ambiguity were also assessed. The following are the top 25 activities nurses spend most time on based on response weighted average: electronic charting, in-basket review/management, telephone triage, assisting providers during clinic visit, faxing documents, symptom management, review of consent and labs as well as other pertinent results, coordinating care with internal departments, medications and administration instruction, order entry of labs and procedures, communicates to providers any patient flow issues, provides patients information about delays, pain assessment, toxicity/treatment related side effects, problem solves patient delays, medication history, completing FMLA/Disability paperwork, follow-up of lab results, order entry for medications, prescription renewal, general orientation of clinical space/department and patient flow processes, procedure information, disease process, and requesting external records. Clinic nurses identified the following top 5 activities which are

most professionally rewarding: (a) face-to-face interaction with patient, (b) patient education, (c) patient assessment (Pain, distress, treatment toxicity assessment, etc.); symptom management, (d) direct nursing care: medication administration, lab draw, telephone triage, wound care, and (e) assisting with patient flow. These findings can inform redesign strategies for top of license work, workload variability reduction, and rightsizing skill mix.

434 **USING ANALYTICS TO IMPROVE PATIENT CARE IN A RADIATION ONCOLOGY CENTER**

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In healthcare today, we are evaluated monthly on our metrics within our departments. Therefore, every center needs to have the ability to analyze data in real time to evaluate processes, trends, and overall metrics to be able to make timely changes and improvements. Determining numbers through laborious processes has now moved toward advanced analytic programs. However, even within analytic programs, dashboards need to be personalized and evaluated based on a setting's needs. The purpose of this project was to evaluate the data obtained through a new analytic program in a radiation oncology center. This was in an effort to further understand current practice and to make improvements in care. In March, 2018, our electronic medical record (EMR) changed to ARIA Fullscale which then allowed us to be on the same system as 12 other Hospital Corporation of America (HCA) Sarah Cannon Radiation Oncology centers. With this change came an analytic program (Insightive) which allowed us to view our data in real time. This evaluation included: consult trends, patient volumes, asset utilization, patient throughput, referral maps, patient retention rate, and toxicities. This data was reviewed with all appropriate groups including our physicians, radiation oncology staff, and administration and varied based on the needs/interests of the given groups. A review of this data from simulation to first treatment has resulted in a process to schedule the patient at the time of simulation for their first treatment. This has improved timeliness from 9.9 days to 8.4 days. A review of linear accelerator utilization (2) identified a daily treatment census of 59.5 patients. This has resulted in the development of a business case for an additional linear accelerator. A review of toxicities per body treatment area has identified specific toxicity grading and increased awareness of current practices. A future use of this

program will be to analyze patient adverse events (AEs) with each treatment course to more definitively identify the point when AEs occur. This will assist with better calculation of the timing of adverse events and the ability to preemptively treat them. In addition, efforts are planned to grow our relationships with our community physicians based upon our referral map and future disease focus.

435 **CONFLICT IN THE HEALTHCARE WORKPLACE: FACING IT HEAD ON**

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The purpose is to provide nurse managers with an interactive presentation about managing conflict in the healthcare workplace. On completion of the presentation, attendees will identify 3 ways conflict presents in the workplace and recognize proactive methods for nurse managers to manage and control workplace conflict. This presentation is designed to teach nurse managers how to address conflict in the workplace. The presenter will explore strategies to manage and control conflict, transforming toxic workplace cultures into healthy, safe and professional. During the presentation, the following strategies will be discussed: teaching a simple AAA method: How to assess, address, and act during conflict process. The presenter will provide examples from her experience, addressing three common types of healthcare workplace conflict: conflict among staff and patients and family members, conflict between nurse managers and direct reports and conflict between nurse managers and providers. Scenarios and examples covered include: (a) assessing and observing staff during regular unit rounding; listening to staff, keeping calm, avoiding immediate reactions and taking notes about observations; (b) recognizing the early warning signs of conflict; How to be proactive with staff in conflict, paying attention to body language and the mood of the staff members; (c) establishing trusting, kind relationships among team members; (d) providing a safe and confidential environment for staff to discuss issues, feelings and to problem solve; (e) coaching staff on how to communicate with one another, addressing disruptive behavior when needed and praising them when warranted; (f) championing accountability, transparency and healthy peer-to-peer interactions; and (g) providing constructive feedback, reassessment and follow-up. Learning a new way to communicate and resolve conflict in the workplace which will foster healthier relationships.

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ENCOURAGING AMBULATION ON AN INPATIENT ONCOLOGY/STEM CELL TRANSPLANT UNIT

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Cancer is the second leading cause of death in the United States. Cancer treatment related side effects include: pain, fatigue, anxiety, depression, and distress. Side effects of inactivity can include: infection, decreased healing, and risk of developing thrombus. Lack of activity can cause muscle deterioration and exercise intolerance. Patient centered approach to patient exercises is important for positive outcomes. Involving the patient will impart accountability for the patient and autonomy with their healing process. Exercise has shown to increase a patient's mental and physical being. The purpose of this project was to encourage ambulation and activity on an inpatient oncology/stem cell transplant unit with education and the use of and a daily walking log to improve patient outcomes. Plan/Implementation: Map out the unit to determine the amount of laps in a mile. Develop a wipe away ambulation and message board for patients to keep track of daily laps. Develop an educational pamphlet on ambulation, safety, and patient role. Provide education to staff on the purpose of the patient. Provide education on ambulation and safety to the patient upon admission and throughout stay. Track the patient progress using the daily board that will be located in the front hallway the unit. Evaluation: Ongoing project. Evaluation based on patient involvement. Look at pre and post patient satisfaction scores for improvements. Outcomes: Ongoing project. Nurses are able to document the number of laps on the board that a patient has ambulated in their assessments. No correlation between patient satisfaction scores in respect to the implementation of the walking board. Need to develop a separate satisfaction survey that would address patient opinion on the walking board.

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IDENTIFYING EFFECTIVE STRATEGIES FOR ORIENTING NEW GRADUATE ONCOLOGY NURSES IN THE INPATIENT UNIT

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To receive licensure all prospective nurses in the US must take the National Council Licensure Examination (NCLEX). Although passing this exam confirms

a broad understanding of basic nursing knowledge and ensures standardization most nursing positions in a hospital require targeted knowledge and specific skills for each specialty. In the innovative and research based field of oncology, nurses must maintain an understanding of complex disease processes and treatment plans and must demonstrate advanced skills such as blood product transfusion management and central line care. Ideally, upon acceptance of an oncology nursing position, an orientation process should fill this information gap. More specifically in many cases it is in the unit-based orientation that plays a major role in a new graduate nurse's success. In this project the effectiveness of a unit orientation process of a 53-bed inpatient oncology unit at a National Cancer Institute designated comprehensive cancer center in North Carolina will be examined and compared to other hospital unit orientation processes for new graduate nurses via literature review. The current process under evaluation utilizes a preceptor-preceptee model for 12 weeks with emphasis on completing a skills checklist. To collect data a group of novice nurses who recently participated in the current unit orientation process will be surveyed on topics such as emotional well being, perception of oncology knowledge, actual oncology knowledge, and suggestions for improvement in the orientation process. The information gathered in this project will be used to revise the unit orientation process.

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NURSE NAVIGATORS—LEADING THE WAY IN EDUCATION: DEVELOPMENT AND IMPLEMENTATION OF A CANCER 101 PROGRAM FOR SUPPORT STAFF

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The value of staff development and continuing professional development for support staff (medical assistants, front desk, staff and new patient coordinators) in the oncology setting is often overlooked. A review of the literature indicates little has been done in developing cancer education programs for the above group. At the Abramson Cancer Center (ACC) an idea was born out of our operations meeting to develop an oncology education program specific for support staff. The nurse navigators were challenged with taking this leadership role to develop and implement a Cancer 101 program to meet the unmet needs of our staff. Our team partnered with ACC leadership in developing the program regarding dates and times that staff could attend

the course. Content outline was based on the ONS cancer basics course but adapted to meet the needs of the attendees many of whom had only basic medical knowledge. The navigator team taught the course based on their areas of expertise. Our main focus was to highlight the experience of the cancer patient for the staff therefor giving them a better understanding of the patient's experience. Pre and post tests were utilized to determine the change in the staff's knowledge regarding oncology. A total of 33 staff members attended one or more of the sessions. Themes that emerged upon program evaluation included engagement, relationship building, and empowerment. Post test scores improved slightly and written evaluations demonstrated meeting objectives of the program. The attendees found information about resources, roles of team members, and trials/treatment options most helpful. The majority of staff prefer this type of in person presentation, would like more educational opportunities, and felt better able to care for our patients. The outcome of this program was extremely positive both in written and verbal feedback. We learned the importance of a small group, face to face setting, allowing for the opportunity to share stories, ask questions and build the relationships. We have already initiated a Cancer 102 program with disease specific content for the staff (as a result of their feedback), and intend to repeat both programs annually. The development of this program and investment in staff education is in direct alignment with our institution's mission and values of education, opportunity and collaboration.

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ONC? OH, YES YOU CAN!

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While certification amongst specialized services, such as oncology, is highly recognized to be desirable, certification rates continue to be lower than desired. This study strives to gain insight into the discrepancy between desire to be certified, and actually becoming certified. A comparison survey between certified and non-certified nurses was sent out and analyzed for agreement with national Oncology Nursing Society (ONS) rationale for verification. A survey was sent to 54 registered nurses (RN's) working in a multi-specialty, out-patient, academic southern California clinic. Nurses were asked to take either the survey for nurses who had already obtained their Oncology Certification (OCN[®], CPHON[®], AOCNP[®], CBCN[®], or BMTCN[®]) or the identical survey for those who were not currently certified. Data was collected over the course of

1 month, and the results reviewed. Certified nurses tended to feel more strongly about their motivation than non-certified nurses. The strongest cohesive agreement was that of nurses who were certified who Strongly Agreed that certification "offers me personal growth and accomplishment" at 74%, in comparison with only 41% of non-certified nurses. 58% of certified nurses identified feeling strongly that it was the "next step" in their career, compared with 30% of non-certified nurses. Agreement that motivation was based on belief of patients value of certification was strikingly different, with certified nurses "Strongly Agreeing" 37% and "Somewhat Agreeing" 42%. Non-certified nurses strongly agreed only 12%, although they "Somewhat Agreed" 52%. Interestingly, no certified nurses "Strongly Agreed" with the statement of "Motivation to obtain my Oncology Certification because of monetary benefits/more money" as compared with 36% of non-certified nurses. 32% of certified nurses and 24% of non-certified nurses either "Strongly Disagreed" or "Somewhat Disagreed." Employer benefit did not seem to be a strong motivator, with 32% of certified nurses and 22% of non-certified nurses "Strongly Agreeing." The majority "Somewhat Agreed" (47% and 44%), with no certified nurses disagreeing strongly with this statement. Internal motivation for personal growth and accomplishment appears to be the strongest motivator, and this insight can help oncology nurses to create an environment where certification is the next step in their careers. This study will be repeated after a year, and extended to Advanced Practice Oncology Nurses, as well as out-patient Infusion Center, Breast Comprehensive Center, and Urology Oncology Clinic.

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BRIDGING THE GAP: INPATIENT AND OUTPATIENT ADULT AND PEDIATRIC ONCOLOGY NURSING PRACTICE IN A RURAL HEALTHCARE SETTING

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The American Society of Clinical Oncology/Oncology Nursing Society Chemotherapy Administration Safety Standards and Commission on Cancer include requirements for staff annual competency evaluation and comprehensive, continued education. The changing world of oncology care and risks associated with cancer treatments underscores the rationale. At a small healthcare organization located in northwestern rural Montana, nurses recognized the need for chemotherapy competency evaluation related to the dearth of standardization between inpatient and outpatient,

adult and pediatric oncology nurses; the organization lacked chemotherapy competencies, an oncology nurse educator, and opportunities for oncology nurses across settings to discuss practice. To standardize care and demonstrate competency across all areas of the organization, nurses developed a hands-on competency evaluation for chemotherapy nurses based on a scenario approach. A team assembled including nursing staff and nurse managers from the oncology adult inpatient unit and outpatient oncology infusion, hospital infusion area staff, educator from the pediatric inpatient unit, and staff from outpatient pediatric oncology infusion. The team met biweekly and identified practice variances in chemotherapy administration, extravasation, safe handling of body fluids, and hazardous drug (HD) spill management. Reasons for variances included differences in policies/procedures, equipment, and resources for inpatient as compared to outpatient, difficulties in locating updated/current information, and lack of knowledge/training. This ranged from inconsistencies in chemotherapy gowns, spill procedures, extravasation kits, HD trash bins, IV tubing set-up, and disposal of contaminated linens with body fluids. Team members gathered current literature as evidence to update practice. Policies/procedures regarding all aspects of chemotherapy administration were revised and merged to encompass inpatient/outpatient areas and made easily accessible to staff. All equipment required for HD administration was then standardized throughout the organization. Scenario-based, hands-on skills stations were created in the hospital's simulation lab. Through a train-the-trainer approach, oncology nursing staff volunteered to lead stations. Results included improved confidence, competence, identification of variation, and standardization of equipment, process, and policy. Feedback was extremely positive; many commented it was long overdue and were excited to meet staff "on the other side." Future direction includes continued work in standardizing patient education including materials provided. Oncology nurses practicing in rural settings lack resources, time, and opportunities to standardize and update evidence-based practice. Front line staff might consider taking the lead in creating a similar project to bridge gaps.

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CAUGHT IN THE ACT OF KINDNESS: THE EFFECTS OF PEER RECOGNITION ON STAFF ENGAGEMENT ON A MEDICAL ONCOLOGY UNIT

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Oncology nurses provide emotional support to patients and families however, they do not always feel recognized and appreciated. "Staff engagement is a positive fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption". The 2017 Gallup engagement survey scores for a 19 Bed Medical Oncology unit at an urban academic medical center was 3.96 out of 5.0. The survey identified employee recognition as an area for improvement. The purpose of this initiative is to increase the perception of peer recognition among team members. In May 2018, pre-survey of 43 team members including nurses, nursing assistant and unit clerks assessed the perception of peer recognition. Eighty-six percent (N=37) of staff responded to the survey. Staff that did not feel appreciated = 9 (24%), staff that felt appreciated = 29 (78%). Many staff commented that they liked to be recognized one on one while others liked to be recognized in a group setting. "Caught in the Act of Kindness" was implemented in August 2018 to encourage peer-to-peer recognition. Our goal is that the perception of peer recognition increases by 20% in six months. The healthcare system has a platform that teammates use to recognize each other through e-cards and award points via email. "Caught in the Act of Kindness" in conjunction with this existing platform provided additional recognition. Staff have loved being able to recognize their peers in a unique way. The staff engagement survey conducted in September 2018 resulted in a 93% participation rate, which is indicative of engagement among this team. We plan on developing an engagement plan to address any additional opportunities for improvement in the 2019 year. The engagement and happiness of the Oncology nurse is critical in positive patient outcomes; happy nurse equals happy patient. We plan on re-surveying the staff at 1,3, and 6 month intervals to measure perception of peer recognition. "Caught in the Act of Kindness" "is a creative way for peers to more publicly recognize each other for doing acts of kindness. A red bracelet was designed by the team and is presented to those recognized at team huddles. Teammates proudly wear their bracelets so everyone knows they were "Caught in the Act of Kindness".

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ONCOLOGY NURSE PRACTITIONERS AS PRINCIPAL INVESTIGATORS IN EARLY DRUG DEVELOPMENT CLINICAL TRIALS

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The role of an Oncology Nurse Practitioner (ONP) as Principal Investigator (PI) in early drug development trials is unique and challenging. Unique, as historically physicians have served in the role of PI and challenging, as there are currently no training or fellowship programs specifically designed for ONP's to learn and be mentored as clinical investigators (CIs). Due to an anticipated decline in the number of future physicians and ongoing acceleration in bench to bedside discoveries especially in cancer, there is a growing need for a well prepared CIs. ONPs are uniquely capable and permitted by the FDA to function as PI in phase 1 and 2 clinical trials, but few ONP's are functioning in this role. In September of 2018, the inaugural ONP Clinical Investigator Intensive Course, was held in Scottsdale, Arizona. The course was designed in collaboration with HonorHealth Research Institute (HRI) and the City of Hope (COH). Thirteen ONPs were selected based on their oncology clinical experience, interest in clinical trials, letter of support from a physician colleague mentor, and support of their institution to advance the role of ONP's as clinical investigators. This 4-day intensive course designed and presented by the clinical trial teams of both HRI and COH, was modeled after the AACR/ASCO education workshop, Methods in Clinical Cancer Research, which has educated over 2600 physicians. Thirty continuing education credits were offered. The goals of the course was to provide an intensive review of: (a) Vision, evolution and reality of NP's as Principal Investigators in Phase 1 clinical trials; and (b) Research designs, new drug discovery from preclinical work to human protocols, investigators responsibilities, regulatory issues and processes, role and value of research teams, project management, determination of disease response, patient care and documentation for clinical trial patients, data management, patient access to trials and funding sources, protocol synopsis development and presentation. Twelve of 13 participants successfully completed a protocol synopsis and presented orally with the mentoring of onsite faculty including physicians, ONPs, and biostatistician. Participant 13 chose to audit the course. All participants have taken their protocol synopsis back to their home institution for further development and

implementation with a local physician mentor. Based on favorable course evaluations by participants and faculty, plans are underway to repeat this course in 2019.

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LOS: SHORTER STAY, SAME GREAT CARE

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Hospitals typically follow Center for Medicare/Medicaid Services (CMS) length of stay (LOS) guidelines. These guidelines do not account for severity of illness. Length of stay (LOS) is an outcome metric used to evaluate the cumulative effect of inpatient processes. The hospital is a referral center for acute leukemia and blood & marrow transplant patients. The oncology population LOS at Baylor University Medical Center (BUMC) is above external benchmark. A multidisciplinary team comprised of oncology nurses, nurse practitioners, physicians, administration, and quality, Comprehensive Care Management, Health Information Management (HIM), and the Advanced Analytics departments was formed to impact LOS. The goal of the project was to decrease LOS in the oncology setting by improving interprofessional communication and collaboration. The team sought to assess current LOS trends compared to DRG data, determine variables that would impact LOS, and identify opportunities that would decrease it. After review of the prior year's data, the team identified an overall hospital goal. In an attempt to impact the hospital goal, the oncology service line focused on specific DRGs related the leukemia and chemotherapy population. Interventions included implementation of multidisciplinary rounds (MDR) including posted LOS and provider attendance, discharge area for stable independent ambulatory patient, weekly provider and Advanced Practice Provider meetings to review hospitalize patients, and Strength Weakness Opportunity Threat (SWOT) focus group. An additional point the team addressed was facility distance from patient home. Interventions have raised awareness of expectations for LOS specific to the patient's diagnosis. Improved dialogue regarding plan of care

has enhanced collaborative practice between providers and bedside leaders. Care coordination, social work, physical and occupation therapy participate in daily MDR identifying barriers to discharge. Recurring barriers are escalated to the manager and then senior leadership. An escalation guide was developed to address issues that occur in departments outside of nursing. As hospitals across the United States struggle with reimbursement, identifying opportunities to decrease LOS offer nursing (bedside leaders and management) an avenue to provide consistent quality of care impacting patient satisfaction.

444 **CONTINUOUS EDUCATION OF EVIDENCE BASED POLICY AND PROCEDURES TO PREVENT VARIABILITY IN PRACTICE: IMPLICATIONS FOR PRACTICE**

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Ongoing review and updates of nursing policies and procedures that is evidence based ensures patient safety, quality care and improved outcomes. Providing evidence based and quality nursing care to a high acuity oncology patient population poses a unique challenge. To provide superior care that is evidence based, standardized processes on nursing policies and procedures which are consistently being revised, developed and evaluated are constantly presented to nursing staff to ensure that staff does not deviate from practice. It is important that the nursing staff is aware of any changes to nursing policies to stay up to date on current practice. This ensures our compliance of NCI Designated Cancer Center policies and procedures. As such, practice alerts on new and revised policies are emailed to all nursing staff throughout the organization. Additionally, in person education confirms that current information is delivered to all nursing staff. Practice changes are alerted and provided to all nursing staff through emails and the web. Morning huddles are an opportune time to review and inform the staff of these practice changes. Attendance records are maintained to confirm that information is received. Nursing staff have actively participated in policy and procedures updates. Questions and concerns are addressed in real time. This continuous follow up and review helps to promote consistency and compliance of safe practice and to maintain regulatory compliance. Policies and procedures are constantly being added or revised to follow current

evidence base practice. It is essential that all nursing staff receives updates of this vital information. To guarantee that all nursing staff comply with these policy and procedures, it is important to confirm that this vital information is delivered promptly with confirmation of understanding. Consistent review of new/updates on evidence based policy and procedures have been the impetus for an innovative means of preventing deviation of practice. This standardized process of educating nurses sets the foundation of the delivery of safe and high-quality care always.

445 **BENEFITS OF MULTIDISCIPLINARY DEPARTMENT HUDDLES IN AN OUTPATIENT INFUSION CENTER**

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An outpatient infusion center has many working departments consisting of Nursing, laboratory, pharmacy, revenue cycle, and Advanced practice providers. Each department has the common goal of providing safe, quality care to the patient, and the work done by each is key in the delivery of that care, however executing that goal can come with complications when there are multiple departments involved. Complex regimens, variable volumes, and increased patient acuity are all factors that can make achieving a common goal difficult. In this 80 chair infusion center chairs are divided into 3 areas and split over 2 floors. Over 120 patients are seen daily with treatments ranging from injections to phase 1 protocols. With such a diverse patient population communication amongst all the key players is vital. While all departments are working within the same area, towards the same goal, each tends to work in silos. This can cause delays in patient care, misunderstandings between departments, and decrease staff satisfaction. Midday multidisciplinary huddles were established to provide a setting for interdepartmental collaboration and improve communication throughout the infusion center. These huddles occur daily and a leader from each discipline attends to provide information that facilitates communication and coordinates delivery of care. The current treatment day and the next treatment day are both discussed. Information shared ranges from staffing to potential delays and high-risk patients. Once information is exchanged, each department can plan accordingly. There is also time

in each huddle to cover questions and concerns that arise. Since the implementation of the huddles communication amongst the departments and the staff are now consistent. This increased communication has decreased delays and improved the satisfaction of the teams.

446 **INFREQUENT CODE SETTINGS: GAUGING THE EFFECTIVENESS OF ONCOLOGY CODE SIMULATION**

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In 2018, only three codes were seen on the inpatient unit and one code in outpatient at a Comprehensive Cancer Center; nursing has not been exposed to many code blue situations and code simulation with a mannequin had never been part of training for oncology nurses. The cancer center is growing, thus the need for exposure to critical code situations is necessary. The oncology educator collaborated with a simulation center to draft oncology-specific code scenarios for both inpatient and outpatient. Nurses and Clinical Associates were scheduled for two hour sessions. The goal of simulation was to set a baseline for knowledge as well as increase confidence in and comfort with participation in codes. After simulation, a retrospective pre survey was sent to participants. Three weeks following the pre survey, a post survey was sent to gauge change since simulation. Findings indicated that nurses need more experience with codes and simulation, but the experience increased logistical and clinical knowledge such as when to call a code, what to do until a code team arrives, how to do effective compressions (including use of the backboard) proper use of a bag valve mask, and where to find items in the code cart. Pre survey data indicated 75% respondents said “agree” to “I am comfortable knowing what to do until the code team arrives” and post surveys had 71% responding “strongly agree”. In a growing oncology center, code simulation is an invaluable undertaking, and in order to stay current with American Heart Association recommendations and hospital-specific changes to code carts and supplies, it is imperative to continue to do simulations. Not only is it clinically necessary, but it increases staff satisfaction and confidence; the simulation received extremely positive feedback from all participants in their evaluations. Although there was a chair in the room to mimic an infusion chair, multiple outpatient center nurses requested that simulation be done in their location as opposed to the inpatient room as

their patients are not in beds and they would like to have comfort responding with their own supplies and surroundings. In addition, in the future, collaboration not just with Clinical Associates but with physicians and pharmacists would be beneficial.

447 **LEADERSHIP: A GUIDE FOR TRAINING SUCCESSFUL NURSING LEADERS**

Allison Wonoprabowo, RN, Loma Linda University, Loma Linda, CA; Amanda Tarez, BSN, RN, OCN[®], Loma Linda University Medical Center, Loma Linda, CA
Leadership is a core element to produce an excellent team working cohesively towards a shared goal. In healthcare, this goal is exceptional patient care. Many health organizations have limited formal structure for new leaders into managerial positions. At Loma Linda University Health (LLUH) the significance our training program has made is recognizable. An employee is our greatest asset and we believe leadership development is essential to maintaining organizational excellence and strategic goals achievement. It's important to train leaders to lead the care not only for patients but also to best serve the employees. One of the top places to find a leader is frontline staff who shows leadership potential and is looking for career advancement. The Leadership Curriculum (see attached brochure) requires the completion of 16 classes to help develop a new leader, though completion is not required before acceptance into an official leadership position. The courses allow others (e.g., experienced leaders, non-nursing leaders) within the organization to attend who also look to expand their knowledge and skills. A secondary purpose of the program also creates a cohort and encourages networking within the organization. In concurrence with these leadership courses, the new managers are encouraged to meet with their mentor/leader weekly during 1:1 meetings to evaluate progress. A “common” leadership model is to have nurses with tenure receive “on the job” training. The curriculum at LLUH provides structure in the transitional period and paves the way to shift from frontline staff to leader. The classes focus on how to give appropriate/ timely feedback, conduct yearly appraisals, prioritize workload, use tools to handle difficult conversations, and guidance on building/supporting an effective team. To date we have two oncology leaders in the leadership curriculum; a manager and a charge nurse. Both nurse leaders have discernible interpersonal skills, created fresh collaboration, and impacted effective communication within the department. This is validated through multi-rater

feedback (direct-reports, colleagues, mentor), action planning during 1:1 meetings based on feedback, and accomplishment of set goals. One suggestion offered to the curriculum director is to have multiple class offerings each year to accommodate work schedules/responsibilities of the new leaders. By setting time aside to focus on synergizing the team and engaging staff these leaders have been able to help champion positive change within LLUH.

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INNOVATIVE CHEMOTHERAPY EDUCATION

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Cancer treatments can be extremely upsetting and frightening. Patients receiving chemotherapy treatment require adequate education and skills to help them deal with the treatments and associated side effects. Patients also present with diverse learning needs and barriers to learning. With these factors in mind, the Cancer Center Patient Experience Committee (CCPEC) identified chemotherapy patient pre-treatment education a top priority based on Press Ganey survey responses and patient feedback. In the previously established process patients have received chemotherapy education by the infusion nurses in the infusion unit during their first chemotherapy treatment. The infusion nurses long have been aware that patients are anxious and overwhelmed on that first chemotherapy day and have noted a lack of retention of information. The nurses in the CCPEC focused on adding additional education options for patients in addition to the standard education they received at their first chemotherapy visit. Metrics from the Oncology Press Ganey survey were selected as a baseline to measure improvement: 1. Explanation of what to expect during your chemotherapy 2. Explanation of how to manage side effects 3. Please rate the education you received to help any symptoms you experienced during treatment. The purpose of this presentation is to demonstrate improvement for the metrics identified using questions from the Oncology Press Ganey related to chemotherapy education after additional learning tools were introduced to new chemotherapy patients. In an effort to better prepare the chemotherapy patients for their visit the infusion nurses created an information document outlining what the patient needs to know for their chemotherapy visits, updated printed chemotherapy drug information explaining why the medication is being

given, how the medication works and side effects patients need to be advised of, a video on chemotherapy education in English and Spanish, and verbal one to one chemotherapy teaching by the Nurse Navigator delivered again in English and Spanish. As a result of the education provided in the cancer center, all three metrics showed a positive increase in the scores. This demonstrates a direct correlation between additional education provided and the patient's ability to manage the side effects and expectation of their chemotherapy treatment. By knowing what to expect it helps reduce the additional anxiety patients encounter while undergoing cancer treatment.

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STRENGTHENING OUR CLINICAL TEAM: AN EDUCATION PROGRAM FOR PATIENT CARE TECHNICIANS TO PROMOTE PATIENT CARE EXCELLENCE

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On a high acuity inpatient Progressive Care Oncology Unit at an urban comprehensive cancer center, Registered Nurses (RNs) have many mandatory annual educational competency requirements. In their roles as unlicensed assistive care providers, Patient Care Technicians (PCTs) partner with RNs to deliver high quality patient care. However, despite their vital role in care delivery, PCTs have fewer competency requirements. Nursing Leadership and clinical staff identified the need for an educational program designed for inpatient oncology PCTs. The PCT education program was offered as two full day sessions to facilitate attendance by all day and night shift staff. Content was selected based on needs identified by nursing and ancillary staff as well as from the input of the unit's Nurse Educator and Nurse Leader. A variety of teaching strategies were used, including games, psychomotor skills demonstrations, PowerPoint Presentations, and discussions based on clinical situations. Education topics included the PCT scope of practice, unit responsibilities, communication with staff/patients/families/caregivers, and clinical indications for RN notification. Safety topics emphasized the PCT role in organizational protocols to prevent hospital acquired pressure injuries, catheter-associated urinary tract infections, central line-associated bloodstream infections, and falls. Additional content included hand hygiene, suicide precautions, and safe

patient handling. Program evaluations completed by the PCTs reflected positive responses for increases in knowledge and skills related to oncology patient care. An increase in unit patient satisfaction scores on Press Ganey Reports is likely influenced, in part by the additional PCT education. Occurrence rates of quality indicators are continuously monitored and are expected to decrease as a result of enhanced PCT education. Interactive education focused on the PCT learner can foster increased knowledge and skills, thereby promoting excellence in patient care and job satisfaction. Future unit plans include conducting a formal PCT learning needs assessment and developing additional content for program inclusion.

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THE NURSES' ROLE IN THE IMPLEMENTATION OF GRAND ROUNDS FOR NON-CLINICIANS

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High performing leaders cultivate environments in which employees feel valued and managers who provide support and knowledge can influence employee engagement. In order to engage, every team member needs to feel valued for the work he or she performs. Held at lunchtime, the 55 minute Grand Rounds for Non-Clinicians were designed to educate and inform Smilow Cancer Hospital's non-clinical staff on cancer and cancer care. The ultimate goal is to develop a collaborative team that is committed to excellence in patient care. A planning committee was formed of two oncology team nurses and the operations coordinator. Grand Rounds for Non-Clinicians occur monthly at noontime in a large auditorium. Clinical experts, APPs, physicians, and other team members present oncology topics with attention attracting titles such as Not so Fun in the Sun: What Everyone Should Know about Melanoma, the Social Work Umbrella, and Beam On: Radiation Oncology. A luncheon is served and rounds are live streamed for those who cannot attend in person. A question and answer session follows each presentation and post Grand Round surveys are distributed to attendees for feedback on the session and ideas for future topics. Attendance ranged from 21 participants to 135 participants with an average of 71 participants. The number of evaluation surveys returned per session ranged from 6 to 52 with an average of 31 surveys returned. Of 217 Likert scale surveys, 195/217 (90%) were very

satisfied with the presentation, 189/217 (87%) rated the speaker as excellent and 210/217 (97%) rated the subject matter as important. Suggested topics for future rounds included various cancers, nutrition, integrative medicine, clinical trials, spiritual care, and research. Grand Rounds provides an excellent vehicle to engage members of non-clinical departments. The planning committee works with Marketing and hospital wide departments to be inclusive. Attendees from Information Technology, Facilities, Maintenance, Environmental Services, Finance, Human Resources, Security, Materials Management, Marketing, Service Response, and Patient Relations gained a better understanding of the importance of their role in cancer care. Grand Rounds for Non-Clinicians provides a vehicle to maximize employee engagement with a special focus on those who are not directly involved in patient care.

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NAVIGATING THE PROCESS TO INITIATE SCALP COOLING

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Scalp cooling is a useful technique for decreasing hair loss and reducing the stigma patients feel when they experience alopecia. That said, setting up scalp cooling as an offered service at an outpatient facility or office presents many challenges and changes in workflow. The purpose of this presentation is to prepare other oncology staff nurses and managers to implement scalp cooling using a machine based system in their setting. Product support, logistics, patient satisfaction, equipment and education needs will be discussed. This project description will highlight the steps taken to implement scalp cooling at a comprehensive cancer center for breast and gynecology oncology patients. Initial efforts to review the literature, investigate equipment choices and compare use with other centers will be reviewed. The management aspects of setting up a new service e.g. business plan, physical plan considerations, staffing, workflow, clinic schedules, safety and staff education will be shared. Important tips for keeping patients

safe and comfortable while achieving maximum therapeutic benefit will be discussed. Evaluation will be presented in the form of lessons learned during implementation resulting in more efficient work flow and greater patient comfort during scalp cooling. Patient satisfaction data will be disseminated. The oncology community is eager to provide patients with scalp cooling but no literature to date has described the detailed aspects of implementation. This presentation will offer comprehensive information to assist other settings when starting this service. Machine based, scalp cooling is a new service being demanded by patients and has just been FDA approved for solid tumors other than breast and gynecology oncology.

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PROVIDING PALLIATIVE CARE NURSES WITH COMMUNICATION SKILLS TRAINING

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Over the last decade, research has demonstrated the benefits of palliative care for oncology patients including increased patient understanding and improved shared decision-making. A key clinical element of quality palliative care is communication. Effective communication functions as the foundation of palliative care and can improve the patient's quality of life and overall satisfaction with care. Although it is necessary for all palliative care clinicians to possess communication skills, oncology nurses have important and unique clinical communication responsibilities and opportunities that require strong communication skills. Nurses are often on the front lines of care and play a key role in assisting cancer patients and families establish goals of care, discussing barriers to care, and finding resources to help patients navigate their illness journey. There is an overwhelming need for communication training programs that are tailored towards the oncology nurse's role in patient-centered care while promoting training among colleagues. However, there are still barriers to communication education for oncology nurses including institutional commitment and financial support. The purpose of this abstract is to describe the development and evaluation of the End-of-Life Nursing and Education Consortium (ELNEC) Communication Curriculum and its train-the-trainer

course for oncology nurses. In 2017 the ELNEC Communication Curriculum was created and piloted to prepare palliative care professionals with more focus on their role in the communication training of other healthcare professionals. Clinicians who attended previous courses requested more assistance in training others in communication and suggested that a more practical and clinically-focused model would be more helpful than previous curricula. In order to fulfill the needs of participants, a train-the-trainer format was utilized and a new curriculum was created. Organized by the eight domains of the National Consensus Project (NCP) Guidelines for Quality Palliative Care, a one day course was provided in August 2018 to 46 oncology nurses representing 38 institutions. Post-course evaluation data revealed that participants were very highly satisfied with the course (4.96). On a scale of 1 to 5 with 1=lowest & 5=highest, participants indicated the materials and resources were highly applicable and useful to their practice (4.93). This presentation will report on the qualitative post-course evaluations and the pre-course Educational Program Assessment survey data, which identifies educational programs offered to healthcare professionals in palliative care education.

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STRATEGIES TO INCREASE MULTIDISCIPLINARY TEAMWORK IN ORDER TO IMPROVE PATIENT CARE OUTCOMES IN AN OUTPATIENT ONCOLOGY CLINIC

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The GU and Hematology Malignancy clinic, situated at an outpatient cancer center located within a large academic medical institution, sees a combined population of around 180 patients daily. Leadership within this clinic has been unstable over the past six years with five different staff in the role of Nurse Manager within that time. Based on provider, staff, patient and upper management feedback, the clinic staff needed assistance to develop the existing team into strong oncology providers to improve patient care. The purpose of this project was to improve multi-disciplinary teamwork and communication in order to provide quality oncology patient care and enable all team members to work to full scope of practice. The clinical leadership identified a seasoned nurse manager who transformed another clinic within the outpatient cancer center to fulfill the open Nurse Manager vacancy. Utilizing solid principles of management and nursing, the new Nurse Manager began to encourage and facilitate open communication by

utilizing daily rounding with providers and staff. HR policies were used consistently and fairly to address negative behaviors of nursing staff and staff who performed to their job expectations were rewarded and recognized. Using open communication and teamwork, staff collaborated together to address hot topic process issues that impacted their daily workflow. As a result, protocols to support procedural clinics were created, implemented and positively adapted by all staff including providers. Maximizing the staffs scope of practice and increasing communication amongst the multi-disciplinary team has helped to develop a team that is excited about their accomplishments and eagerly approach challenges to improve care in our cancer center. Employees report that relationships with all providers has improved and work culture scores have improved. In order to maintain this positive work environment it is important to consistently re-evaluate our processes and look for ways to improve. It is also important to celebrate member's and their accomplishments. The goal is for staff to look at processes and make a rapid improvement that continues to improve multidisciplinary teamwork and have all of our nursing staff lead initiatives in a clinic that did not believe in themselves.

454 **OUR SUCCESSFUL RAIDS SAVE LIVES (RECOGNIZE AND INTERVENE IN DETERIORATING PATIENTS)**

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Oncology patients receiving chemotherapy and/or stem cell transplants may develop life-threatening complications during their treatment. Early detection and response to patient deterioration by oncology nurses and clinicians is critical. When nurses or clinicians don't recognize and respond to signs of patient deterioration and escalate care quickly, patients may worsen or die. The Joint Commission's National Patient Safety Goals has listed "Improve the effectiveness of communication among caregivers" as a goal since 2003. Through our RAID program, we are facilitating effective communication to improve patient

outcomes. Failure to escalate appropriately may lead to delayed treatment, emergencies or critical events. As part of a quality-improvement project, a group of nurses and clinicians created an escalation simulation curriculum designed to overcome barriers to escalating care for a deteriorating adult oncology patient. Our project aims to increase the interdisciplinary team's confidence and improve interdisciplinary communication when patients deteriorate. Our curriculum initially focused on night shift nurses and physician assistants during a two-month period. TeamSTEPPS (Team Strategies and Tools for Enhancing Performance and Patient Safety) provided the framework for effective communication training, using simulations based on real-life events. Our simulation lab used high-fidelity mannequins to enhance the learning experience. We created an education-focused session that incorporated role-play and case studies review, allowing caregivers to practice TeamSTEPPS communication techniques. Nursing and medical leadership supported this initiative from the nascent stages of this project and allotted three hours of education time to all oncology unit night shift nurses and clinicians. We used a version of Grundy's C-Scale to measure confidence level pre- and post-intervention. An Interdisciplinary Communication Survey looked for trends in communication between physicians, physician assistants, and nurses. We administered surveys before each session, and again after three and six months, allowing us to assess changes in attitudes and communication trends. Preliminary data demonstrated a 20% improvement in confidence scores. Educating and training oncology teams together, using validated communication strategies helps overcome barriers to effective team communication. High-fidelity simulations offer an effective forum for interdisciplinary education by providing a safe, controlled learning environment. While it may be a challenge to coordinate interdisciplinary education, it is worthwhile. Effective interdisciplinary communication improves oncology patient outcomes.

455 **UNDERSTANDING THE MAIN TYPES OF ONCOLOGY THERAPIES—A NURSING TOOL**

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It is evident to the oncology healthcare provider that treatments used to treat various kinds of cancers are developing at warp speed. Even the most experienced

practitioners face challenges in keeping up with the rapidly evolving therapies used in the treatment of oncologic diseases. Oncology nurse educators are faced with the challenges to not only keep themselves up to date on advances in oncologic therapies, but to also develop resources for nurses in practice. Because patients have unique needs depending on the treatment they are receiving, oncology nurses need to have an understanding and general knowledge of the variety of therapeutic options for patients with cancer. The Education Department at the University of Pittsburgh Medical Center (UPMC) Hillman Cancer Center received multiple requests from staff nurses surrounding the need for a nursing resource distinguishing the main types of oncology therapies used in the outpatient cancer centers. After a literature review and feedback from staff, it was determined that the three main therapy types to be included on the nursing tool are chemotherapy, immunotherapy, and targeted therapy. Each section further provides explanation regarding the definition of the therapy, the main subtypes of drugs seen within the category, and most common side effects of each drug category. On the back of the tool, nurses are provided a blank area under each main category where they may list common drugs they experience in practice to serve as reference until they become more comfortable and familiar with newer therapies. The tool includes a disclaimer urging nurses to, "Always review individual drug specific side effects and be sure to educate patients which side effects are an emergency, requiring immediate intervention," as the side effect profiles are not inclusive of each drug that may fall in a category. Success of this tool will be measured by nursing feedback specifically focusing on its helpfulness in clinical practice.

456 **MONTHLY EDUCATION MODULES: AN EFFECTIVE INTERVENTION TO ADDRESS UNIT VARIATION OF STAFF EXPERIENCE AND CHEMOTHERAPY VOLUMES ACROSS A MULTI-HOSPITAL SYSTEM**

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When our healthcare system expanded from five to ten hospitals, standardizing across the system created challenges. The Director for Oncology Professional Practice (DOPP) was tasked with conducting an oncology service line assessment to establish priorities. Key areas with need or opportunity for standardization included patient care and equipment, job descriptions, policies/procedures, and education/training. Findings were that

some inpatient and ambulatory departments had experienced oncology nurses who cared for high volumes of chemotherapy patients daily. Other units had few oncology patients and provided chemotherapy on an infrequent basis. Staff in the latter group expressed a lack of confidence in their knowledge and skills despite completing initial and annual competency check offs. At the system-wide clinical meeting, nurses agreed that monthly education modules would be an effective way to disseminate information and track individual participation. Topics were selected to introduce or re-educate on existing policies, promote best/safest practices, or address priority professional and clinical issues. From January to December modules (article, policy, power point or reading assignment) with 5 question post-tests were emailed to approximately 130 nurses each month. Topics included: standardizing first time chemotherapy patient education, managing tumor lysis, meeting the distress screening standard, managing oral mucositis, readiness for USP <800>, nurse initiated hypersensitivity protocol, accurately calculating chemotherapy doses, managing cancer related nausea and vomiting, implementing extravasation policy/procedure, trouble shooting implanted vascular access devices, managing cancer related pain, and effective interventions for caregiver compassion fatigue. The cancer committee also saw value in this initiative and selected monthly education participation of at least 75% as a clinical goal. Staff were to fax or email tests to the DOPP to meet requirements for participating. More than 90% of the nurses completed each monthly module and test. Staff were engaged and began suggesting topics to be addressed. Managers reported that modules generated discussion about content and clinical application on their units. Although it was thought that the less confident nurses would benefit most from modules, the experienced nurses had higher levels of engagement and completed more modules. When preparing the modules, outdated policies were identified and updated before being included. Overall this project was an effective, efficient, low cost approach for integrating and standardizing oncology nursing practice across a large oncology network.

457 **THE JOURNEY FROM EVIDENCE TO POLICY: NURSING LEADS THE WAY. WRITING THE INTEROPERATIVE HYPERTHERMIC INTRAPERITONEAL CHEMOTHERAPY ADMISSION PROTOCOL**

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During review of our InterOperative Hyperthermic IntraPeritoneal Chemotherapy Administration Protocol (HIPEC) we found our guidelines and those from other systems regarding the protection of Staff during Chemotherapy cases to be lacking. A clear gap in Evidence-Based (EB) knowledge was identified. National standards have been published and are commonly implemented in outpatient and acute care Oncology settings. These practices are less commonly implemented in the Operating Room. Upon querying other hospitals/systems it was determined no such Policy as we needed existed. Many Nurses are unaware of how to translate EB practice into policy change. The focus of this project was to incorporate EB research to write a thorough Policy to protect Staff from unintended exposure. This would include many changes in practice as well as purchasing specific Personal Protective Equipment (PPE) and specific equipment for these cases. An inter-professional team of key stakeholders and Subject-Matter-Experts (SMEs) was formed and reviewed literature on occupational exposure and safe handling practices. The Policy was revised to include EB practices. Over 139 Staff members were interviewed initially and many contributed to the Policy. OR, as well as other Departmental Staff (such as Environmental Services) were interviewed regarding their knowledge and skill, to determine gaps to be remedied and addressed. An updated Policy is now in place that safeguards against occupational exposure to interOperative Chemotherapy. Some of the key additions include an additional time-out (specifically for Chemotherapy administration in the OR suite), a new procedure for Chemo-active specimens, a specific perfusion machine designated for HIPEC cases only, specific workflows have been mapped, and additional eyewash stations installed. Our Occupational Health Team offers monitoring of any Staff that requests it. Gaps in knowledge and skills have been closed through annual education and training. Our Electronic Medical Record now has an active Chemo alert that can be seen by Staff when opening a chart. The practice of Nursing is ever-changing and MUST stay updated on new information. Nurses are ideally positioned to lead practice changes. Utilizing an inter-professional team approach was integral to a successful Policy revision. Support from the system and our awesome PeriOperative Director were key to moving this complex Policy through to approval. We will continue to update this Policy annually with a focus on remaining Evidence-Based.

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BIOSIMILARS ENTRY TO ONCOLOGY PRACTICE: THE APPROVAL PROCESS IN THE UNITED STATES

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With the advent of biosimilars into the United States health care market, knowledge deficits exist for nurse leaders, nurses, and patients alike regarding the regulatory approval process of biosimilars. This presentation will provide essential information for the oncology nurse leader who directly supervises nurses delivering patient care and who will be administering any of the four Food & Drug Administration (FDA) approved biosimilars for oncologic use to date. Oncology nurses must be informed on their therapeutic uses, mechanisms of action, and administration considerations. An overview of the birth of biosimilars first used in Europe, its progression and lessons learned, and now with the introduction of biosimilars into the United States will be offered. Oncology biosimilars are safe and effective treatment options that will likely increase patient access, possibly decrease health care costs through competition, and undoubtedly improve the lives of patients suffering with certain malignancies. Oncology nurse leaders are in key roles in patient care to foster the transition from previously patented, branded, and expensive medications to biosimilar ones that should achieve the same desired effects for less. Oncology nurses need to be aware of the current state of health care trends with the increasing use of biosimilars in clinical practice; and that these products are not simply termed “generics”. The scientific pathways establishing equivalence and biosimilarity have been developed in the US using the EMA’s proven model with a few exceptions; however, this process is significantly less complicated, costly, and intensive when compared to that of seeking initial FDA-approval (relying on the FDA’s previous determination of safety and efficacy of the reference product) and based on the “totality of evidence” threshold. United States legislators do not understand this process and oncology nurse leaders can help educate them in particular with legislation that may be developed in the future regarding policies pertaining to biosimilars and its current approval process. Oncology nurse leaders need to be knowledgeable about this process in order to safely implement nursing care policies and procedures to ensure the safe delivery of care to patients across the United States.

RESEARCH

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EFFECTIVENESS OF GINSENG TO REDUCE CANCER-RELATED FATIGUE LEVELS

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Cancer-related fatigue (CRF) is defined as a distressing, persistent, subjective sense of physical, emotional, and/or cognitive tiredness or exhaustion related to cancer or to the cancer treatment that is not proportional to recent activity and does not recover with rest. The prevalence of CRF is about 70–100%, that impact in the quality of life of patients undergoing cancer treatment. There is no consensus about which treatment is the best choice to reduce CRF levels. Ginseng is an intervention widely used for the treatment of various symptoms, including fatigue. It is a plant of the Araliaceae family, which has pharmacological actions such as anti-fatigue. This study aimed to evaluate the effectiveness of the use of ginseng in reduces cancer-related fatigue. We conducted a systematic review on the following electronic databases: CINAHL EBSCO, Cochrane Central Register of Controlled Trials, LILACS, PubMed, SCOPUS, and Web of Science, with no restrictions. In addition, a gray literature search was performed using Google Scholar. Only clinical studies that evaluated the use of ginseng to reduce cancer-related fatigue were included and analyzed. A total of 789 potentially relevant articles were identified. After removal of duplicates, 614 articles were screened and 17 were selected for full reading. Only four studies were included, published in English, between the years 2010 and 2017. American ginseng (*Panax quinquefolius*) was used in doses of 750 mg/day, 1,000 mg/day, and 2,000 mg/day, and Asian ginseng (*Panax ginseng*) at a dose of 800 mg/day. In all studies, ginseng at the highest dosages was effective in reducing cancer-related fatigue levels. This systematic review investigated the available evidence in order to evaluate the effect of ginseng to reduce CRF. We found three articles that demonstrated major clinical benefit with ginseng. However, the studies showed differences between the types of ginseng, administered doses, and measurement scales. Despite the heterogeneity among the studies,

all of them demonstrated clinical benefits in reducing fatigue levels. The results demonstrated that ginseng might be an important substance in the management of CRF. However, comparable scales should be used in future studies, so that the evaluation of the effectiveness of ginseng may be more reliable.

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INFLUENCE OF SOCIODEMOGRAPHIC CHARACTERISTICS, RELIGION, COUNTRY OF BIRTH AND KNOWLEDGE ON MAMMOGRAPHY SCREENING IN THREE ARAB AMERICAN WOMEN SUBGROUPS

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Mammography screening (MS) has been identified as the single most effective tool to detect breast cancer early. Although the effect of screening with mammography on mortality and morbidity is debatable, it is recommended that mammograms should be continued based on the age of the woman. Arab American women (AAW) were identified as an ethnic group with lower MS rates compared to other ethnic women in the United States. In addition, knowledge about their health practices and attitudes toward MS is still very scanty. Variations that exist between and within national groups of Arabs, such as country of origin and religion, should be considered by nurses who play an important role in improving health outcomes and reducing racial disparities in health and ensuring social justice. The purpose of this study was to examine associations between MS and the variables of sociodemographic characteristics of AAW and their knowledge and perceptions about MS; and to identify which of those variables acted as significant predictors of MS. A literature review supported the proposed study variables demonstrating direct and indirect influence on screening. In this comparative, cross sectional study, 316 AAW, Muslim and Christian, from three Arab countries, Jordan, Lebanon, and Egypt, completed a survey that combined the sociodemographic variables and the Arab Specific-Culture Barriers instrument. Pender's Health Promotion Model was employed to guide the exploration of different biopsychosocial variables in relation to MS, and to predict the likelihood of engaging in screening behaviors. A series of chi-square and odd ratio tests was conducted to determine which variables significantly associated with MS. Logistic regression was performed to ascertain the effects of age, country of birth, religion, and knowledge on the likelihood that participants would perform mammography screening.

The study revealed significant relationships among the variables of age, country of birth and religion, and MS. Women who reported accurate MS recommendations and familiarity with the test had higher odds of participating in screening. Knowledge and age were found to be significant predictors of MS. This study supports the previous literature conferring the importance of increasing efforts by oncology nurses to improve MS rates in this ethnic group through education, overcoming barriers, motivation, and consideration of the influence of culture and religion on those women's behaviors and attitudes toward screening.

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PHYSICAL, PSYCHOLOGICAL AND COGNITIVE SYMPTOMS EXPERIENCED BY PATIENTS WITH GASTRIC CANCER: AN INTEGRATIVE LITERATURE REVIEW

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Gastric cancer is the fifth most frequently diagnosed cancer and the third leading cause of cancer deaths worldwide in 2018. Gastric cancer survivors experience concurrent and synergistic disease- and treatment-related symptoms. When symptoms remain unrecognized or undertreated they can have a detrimental impact on patient-reported outcomes including functional performance, emotional status, quality of life and they can increase the cost of treatment. The purpose of this literature review was to describe the state of the science on symptoms experienced by patients with gastric cancer and synthesize findings on symptom trajectories and predictors to inform future symptom self-management research. Combinations of search terms related to "gastric cancer", "symptoms" and "experience" were used to search three electronic databases (PubMed, CINAHL and PsycINFO) without a time limit. The search yielded 1209 articles; 24 studies were included: 23 quantitative studies and 1 qualitative study. The most common symptoms were categorized into physical (i.e., gastrointestinal symptoms, fatigue, weight loss, sleep disturbance), psychological (i.e., anxiety, depression, psychotic symptoms), and cognitive (i.e., delirium) domains. Abdominal pain was the most prevalent symptom in gastrointestinal symptoms. Seven to sixteen symptoms occurred concurrently.

The severity of most symptoms was reported as mild to moderate level. Individuals with gastric cancer experienced different degrees of severity over the time after the treatment. Predictors of symptom experience including older age, male sex, advanced stage, lower socioeconomic status and distal gastrectomy were associated with a higher number and severity of symptoms. Only one study described symptom clusters in patients with gastric cancer. Our review suggests that symptom clusters and their trajectories and predictors have yet to be fully understood in gastric cancer survivors. Symptom clusters might help in determining how symptoms are related to each other and how they influence patients' outcomes. It is critical to know what types of symptoms form a cluster. Additional research into symptom clusters might clarify the characteristics and relationship of multiple symptoms in patients with gastric cancer in order to develop targeted interventions to self-manage symptoms for these survivors.

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USING MIXED METHODS TO DEVELOP AND EVALUATE A PEDIATRIC THEORY BASED SUPPORT INTERVENTION IN ONCOLOGY CARE

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To effectively support families who are navigating care when a child is diagnosed with cancer, it is critical to be guided by evidence-informed care. Specifically, the integration of effective and convenient supportive tools into formalized care can help family caregivers in the management of illness-related challenges and family functioning. Efforts to enhance hope are also valuable because hope has been identified as a critical resource for families facing uncertainty related to a child's illness. Accordingly, a psychosocial support intervention, the Keeping Hope Possible (KHP) Toolkit, was developed through a qualitative grounded theory study, Delphi analysis, and focus group interviews with parents and health care practitioners. The self-administered support intervention for family caregivers is being evaluated

with participants from a small centre in mid-western Canada. A multi-phase, mixed methods approach was adopted to evaluate the KHP support intervention for parental caregivers. Phase 1 is complete and currently Phase 2 involves the collection of quantitative data from participants at four time-points using four standardized questionnaires before and during use of the KHP Toolkit. Qualitative interviews are also being conducted to gain insight into participants' views of the support intervention. To date, fifty-four participants have been randomized into one of two groups that receive the KHP intervention either at Time 1, or two weeks later at Time 2. Both qualitative and quantitative analyses are ongoing, and the preliminary findings will be described. Based on parental input the research process is feasible and acceptable. The intervention was revised following Phase 1, and additional testing is underway with a larger sample. Ultimately, the intervention will support health care providers by enhancing family care in pediatrics and improving health outcomes for parents and children who are affected by childhood cancer. The objective of this presentation is to describe the study and progress to date including the research design and data collection processes, findings from Phase 1, and preliminary data from Phase 2. Given the lack of research, clinical supports, and understanding of the needs of parental caregivers, this intervention is one-of-a-kind and is expected to result in clinically useful knowledge that will easily translate into improved health care in pediatric oncology care.

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PRESERVING ONESELF IN THE FACE OF UNCERTAINTY: A GROUNDED THEORY STUDY OF WOMEN WITH OVARIAN CANCER

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Ovarian cancer is the leading cause of death from gynecologic cancer and the fifth leading cause of cancer death among women living in the United States. Although treatment that adheres to guidelines issued by the National Comprehensive Cancer Network (NCCN) is associated with a 33% decrease in disease-specific mortality, recent evidence suggests that fewer than 40% of women with ovarian cancer receive NCCN guideline-concordant care. Although retrospective analyses of cancer registry data have identified patient, provider, and systems factors

associated with the receipt of guideline-concordant care, no known studies to date have explored the process by which women with ovarian cancer proceed from pre-diagnosis to treatment and the decisions they perceive along the way. Cross-sectional, descriptive design using a qualitative approach. Eligible participants (a) were at least 18 years old; (b) had received a diagnosis of ovarian cancer; and (c) were able to speak and understand English. Data were collected via individual unstructured interviews. Purposive sampling and data analysis were consistent with grounded theory methods as described by Corbin and Strauss. Eighteen participants completed the study. Interviews ranged in length from 40 to 90 minutes. Participants described a basic social process of preserving oneself in the face of uncertainty. Participants' trajectories from diagnosis to treatment were influenced by the quality of patient-provider communication, the extent of support received from significant others, and self-concept. Across the continuum of cancer care, participants sought to preserve physical and psychological health while also maintaining identities and social roles. The findings of this study suggest that while women with ovarian cancer are motivated to preserve physical health, support needs and threats to self-concept may also affect decision making. Patient-centered care should be a priority in the ovarian cancer care setting, and innovative approaches to the promotion of guideline-concordant treatment and adoption of novel therapies may benefit from consideration of these findings.

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LIVING IS MORE THAN SURVIVING: THE LIVED EXPERIENCE OF YOUNG WOMEN WITH ADVANCED BREAST CANCER

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The purpose of this project was to describe and interpret the meaning of the experience of young women living with advanced breast cancer. Little is known about the daily life experiences of young women living with advanced breast cancer. Limited research suggests they face unique challenges that differ from those of women at other life stages as well as with

earlier stages of breast cancer. A larger study aimed to describe and interpret the lived experiences of young women with advanced breast cancer to contribute to our understanding of the needs of this population. Their day-to-day experience emerged as a significant theme. The goal of the overall study was to inform the development of person-centered interventions. The main research variable was the phenomenon of young women living with advanced breast cancer. This was a longitudinal qualitative study using a hermeneutic phenomenological approach. Participants were recruited from private Facebook groups for women with breast cancer. Women aged 25–39 with Stage III or IV breast cancer were included. Data were collected through one or more semi-structured interviews over 6 months depending upon participant willingness, desire, or ability. Journals were provided to write additional thoughts. Data were drawn from interviews about daily life experiences. Enrollment continued until thematic saturation was achieved. Techniques to establish credibility, transferability, dependability and confirmability were utilized. Analysis was conducted using NVivo for Mac software. Twelve women (mean age 35.9) were included. All were married, had at least one child and most (n=7, 72.7%) worked full-time. Twelve participated in the first interview, 9 in a second interview, and 6 in a third interview. Three returned journals. The meaning of their day-to-day experiences is captured by the theme: Living is more than surviving. Nine subthemes were identified. Participants were aware of the life-threatening and probable life-shortening nature of their cancer, but did not want this to dominate their daily activities. They focused on living with their illness and making the most of their lives. Provision of resources and support was identified as lacking by most participants, implying that improvements in nursing practice to anticipate patient needs are warranted. This study provides an initial exploration of what some of those resources and supports may be, including supportive care, social service support, and educational materials.

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EARLY SURVEILLANCE IS ASSOCIATED WITH LESS INCIDENCE AND SEVERITY OF BREAST CANCER-RELATED LYMPHEDEMA COMPARED WITH A TRADITIONAL REFERRAL MODEL OF CARE: A RETROSPECTIVE STUDY

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Breast cancer-related lymphedema (BCRL) is estimated to affect 21% of patients with breast cancer, and results in substantial physical, functional, psychosocial and financial burden. Clinical guidelines from the USA, UK, and Australia recommend early detection and intervention programs be developed within the multidisciplinary team setting whereby oncology nurses and lymphedema therapists play an integral role. Bioimpedance Spectroscopy (BIS) has enabled the early identification of BCRL. The aims of this study were to evaluate differences in health service metrics, incidence and severity of BCRL and evolution of lymphedema over time in an early surveillance model of care compared with a traditional referral model of care. Retrospective analysis of data from 753 women who had BIS measures between 1 January 2007 and 31 December 2016. Women (n = 188) were assigned to the “early surveillance” group if lymphedema monitoring began pre-surgery (n = 121) or within 90 days post-surgery (n = 67). Women were assigned to the “traditional referral” group if monitoring began after 90 days post-surgery (n = 285). Health service metrics were calculated as the time to first BIS measure after 90 days post-surgery, median follow-up and the number of healthcare visits. Lymphedema was diagnosed on the basis of BIS measures. Women in the early surveillance group received lymphedema care significantly earlier than women in the traditional referral group. However, there was no difference in the number of visits per year to the clinic between groups. Significantly more of the traditional referral group were diagnosed with clinical lymphedema (39% vs 14%, Stage I–III) ($p < 0.001$) with significantly more of the traditional referral group being diagnosed with moderate to severe lymphedema (24%, Stage II–III) compared to the early surveillance group (4%). Regular clinic visits to monitor extracellular fluid provides an opportunity for breast care nurses and lymphedema therapists to provide risk-management education, psychological support, physical rehabilitation, empowerment and survivorship care. This study supports the use of BIS as part of an early prospective surveillance model of care that results in significantly earlier detection of lymphedema over time. Furthermore, the earlier detection of lymphedema will lead to lower health care costs if it results in the effective management of symptoms and prevents progression to severe clinical lymphedema.

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PREVENTING BURNOUT AND COMPASSION FATIGUE: FINDINGS FROM A SYSTEMATIC REVIEW

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Oncology nurses care for high-acuity patients. High patient-demands combined with increased patient mortality can lead to complicated grieving. When nurses do not utilize grief resolution strategies, burnout may ensue resulting in negative outcomes for nurses and employers. While burnout itself is an unpleasant experience for nurses, the negative outcomes that follow are the reason for concern. Burnout can lead to decreased staff retention rates, lower quality of care delivered to patients, and hostile work environments. The purpose of this project was to explore interventions to combat compassion fatigue and burnout in oncology nurses and make recommendations. A literature search was conducted using CINAHL, PubMed, and PsycINFO databases with search terms nurse, oncology, cancer, “attitude to death,” “attitude to illness,” perception, death, and “terminally ill.” Inclusion criteria: articles were primary research reports or systematic literature reviews, English language, published > 2008, focus on oncology nurses’ perceptions of death and dying within adult populations. Exclusion criteria: articles focused on pediatric oncology nursing. Of 414 articles, 10 articles of national (n=8) and international (n=2) origin met inclusion criteria. All included articles are of descriptive, cross-sectional, and literature review design. All 10 articles agree upon ensuring resource availability to enhance professional support. Recommended interventions fall into six categories: support groups/debriefing sessions, end-of-life education programs, promoting positive work environment, ensuring balanced patient assignments, tailored interventions to meet specific staff needs, and other interventions which do not fall under the aforementioned categories. The interventions explored in this literature review are effective in preventing and managing the effects of burnout. As every nurse is an investment to their unit, the responsibility falls to unit leadership to ensure measures are taken to prevent and address burnout for their staff. Recommendations include that any combination of these interventions can be selected for unit implementation. Institutions should conduct studies to determine the best way to meet the needs

of their own staff. Providing these resources early in nurses’ careers can increase staff retention rates, improve emotional health of nurses, and increase quality of care delivered to patients. This work supports how self-care interventions can be implemented for oncology nurses as they care for patients and families during times of uncertainty.

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CULTURAL ADAPTATION OF THE MEMORIAL SYMPTOM ASSESSMENT SCALE IN COLOMBIA: ADULTS WITH CANCER IN TREATMENT

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Patients with cancer often experience between 3 to 13 symptoms with an average of 6, during the course of the disease. Associated symptoms include fatigue, nausea, vomiting, pain, depression and difficulty in sleeping, among others. To determine the burden and evaluate the symptoms, it is important to have adapted a specific scale that allow their application in the Colombian context. For nurses practice in oncology, it is crucial to recognize and manage the symptoms with an adapted tool that allows its identification, assessment and management according to the conditions of each patient. The purpose of the project was to adapt culturally and validate the Memorial Symptom Assessment Scale for oncology scenes in the Colombian context. This was a quantitative approach study of scale validation, which included: translation, backtranslation, assessment of semantic adequacy and application to 30 adults with cancer and 30 healthy adults. An adapted version of the Memorial Symptom Assessment Scale was obtained from the Colombian context in oncology scenes, which shows satisfactory equivalence between the original and the translated version. The version adapted to the Colombian context contributes to establish a diagnosis of the burden of symptoms experienced by people with cancer. This scale should be used in the follow-up and treatment programs for cancer patients in Colombia.

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PSYCHOMETRIC PROPERTIES OF THE ATTITUDES TOWARD CERVICAL-HEALTH BEHAVIORS (ACHB) SCALE

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Incidence and mortality rates of cervical cancer have dramatically decreased across all four major racial/ethnic groups in the United States. Yet, recent estimates suggest that cervical cancer still represents a significant health risk for different racial/ethnic groups (e.g., Hispanics, Vietnamese, and Korean) and age groups (e.g., ages of 34 and 44). To better-predict different types of health-related behaviors from attitudes, a number of researchers have identified the importance of using a bidimensional model of attitude structure approach that incorporates both the affective and cognitive components of attitudes. However, no previous studies have used this approach in explaining cervical health behaviors. Importantly, there are no measurements for the assessment of attitudes toward cervical health behaviors that use this approach. To address this research shortfall, we developed the Attitudes toward Cervical-Health Behaviors (ACHB) scale designed to measure a bidimensional structure of attitudes toward cervical cancer screening and evaluated its psychometric properties. The ACHB scale consisted of 44 items and administered to 313 college students online. The content validity was evaluated by a panel of experts and the reliability was estimated using Cronbach's alphas. An exploratory factor analysis (EFA) was conducted to evaluate the underlying structure and construct validity of the scale. Participants' age ranged from 18 to 48 years ($M \pm SD$, 20.05 ± 2.50). The majority of the participants were non-Hispanic Whites (68%), single (66%), Christian (79%), and non-smokers (97%). Most participants (86%) indicated that they have not received a cervical cancer screening within the past 3 years; yet, 47% of the participants reported that they have talked about cervical cancer related topics with their family members. Participants who were currently or previously in a relationship tended to hold positive cognitive attitudes toward cervical cancer screening. The Cronbach's alpha for the ACHB scale ($n = 44$) was .88; the Cronbach's alphas for both affective ($n = 22$) and cognitive ($n = 22$) components in the ACHB scale were .80 and .87, respectively, indicating satisfactory internal consistency of reliabilities. A series of EFAs revealed four interpretable factors (i.e., 2 affective and 2 cognitive components of attitudes), explaining 52% of the variance in the scale. The study provides support for the validity and reliability of the ACHB scale and its use for assessing affective and cognitive attitudes.

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A HERMENEUTIC PHENOMENOLOGICAL PHOTOGRAPHY EXPLORATION OF FEMALE BREAST-CANCER SURVIVORS' EXPERIENCES OF ILLNESS AND ITS MEANING

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Among women, Breast Cancer (BC) is one of the most commonly diagnosed cancers. There is a lack of research focused on Breast Cancer Survivors' (BCS) personal experiences and meaning-giving processes after they have been discharged from oncologist follow-up to primary care. This study explored the meaning-giving process occurring when women are no longer followed by their cancer specialist and are discharged to primary care. We employed a qualitative research design based on hermeneutic photography. Snowball sampling was conducted to recruit participants. Data was collected using semi-structured interviews of ten BCS. During the study period, we asked participants to take one or two photographs that best described the story of their illness experiences. All the interviews were audio-recorded and transcribed verbatim. One of the authors controlled transcriptions and another author checked analysis and helped re-define themes. The transcripts were recorded with QSR International's NVivo 10 Software. According to Benner, analytical steps were employed for hermeneutic-interpretative phenomenological research. Ten women participated in the study. The mean age of participants was 50.7 (± 5.27) years and an age range from 44 to 62 years. The average time from BC diagnosis to the interview was 11.5 (± 3.54) years (range 5–17). Three key themes emerged: getting back to normal, emotional ambivalence, and recalling as re-living it. Overall, aside from the fear of recurrence, participants desired to get their lives back to normal. Guided by their coping strategies, participants showed the co-existence of positive and negative feelings. Some of them claimed that personal events like BC cannot be relegated to the past. Our findings show that the process of adjustment of BCS

is still present in women many years after cancer treatment ends. The themes highlight what being a long-term BCS means, between remembering the disease and living day by day a strong ambivalence. The collection of visual metaphors through photo-elicitation had the power to give words to BC experiences.

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QUALITY OF LIFE AND ITS DETERMINANTS IN ADULT CANCER PATIENTS UNDERGOING CHEMOTHERAPY TREATMENT IN KARACHI, PAKISTAN

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Cancer is a leading cause of death worldwide. Likewise, in Pakistan, it is a major health problem, with an approximate increase each year. Since the past few years, quality of life (QOL) is considered as the primary goal of cancer treatment in patients' survival. Cancer treatment, particularly chemotherapy, produces a detrimental effect on individuals' well-being. Many of the recent cancer studies focus on the physical and psychological adverse effects of chemotherapy treatment or emphasize on certain specific cancer sites. However, studies examine the overall QOL components and its related factors are rare. Thus, this current study aimed to assess the QOL and its determinants in adult patients suffering from any type of cancer and undergoing chemotherapy treatment. An analytical cross-sectional design was employed to achieve the study objectives, utilizing consecutive sampling technique. A total of 150 adult (≥ 19 years) cancer patients were recruited from a Tertiary Care Hospital in Karachi, Pakistan. The data was collected using the Functional Assessment of Cancer Therapy-General, a QOL questionnaire. The content validity index (CVI) for FACT-G tool was 0.84 and Cronbach's alpha was found to be 0.88. Multiple linear regression was run to determine the effect of predictor variables, with a mean QOL score. The overall mean score of QOL as 57.37. The domains of physical and emotional well-being were mainly affected by the chemotherapy treatment. Variables such as no previous hospitalization and no significant changes in life events were positively associated with the QOL. On the other hand, being female, unemployed, chemotherapy side

effects (>1 week), impaired socialization, and discrimination by family/relatives were negatively associated with the QOL. The study findings suggested an overall low QOL among adult cancer patients undergoing chemotherapy treatment. It is recognized as a stressful treatment, which adversely affects the QOL of cancer patients. Interventions like cancer support groups; psychological screening in the regular assessments and public awareness campaigns about the disease and its effects can potentially help to lessen emotional distress and stigma regarding cancer treatment. For an in-depth understanding of the concept of QOL a mixed method approach needs to undertake; which should focus on both the physical and psychological issues and needs to be addressed to improve the QOL of adult cancer patients.

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THE ASSESSMENT OF FUNCTIONAL STATUS FOR OLDER ADULTS BEGINNING CHEMOTHERAPY AT A COMPREHENSIVE CANCER CENTER

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Maintenance of physical function is important for older adults with cancer. We sought to describe their functional status prior to starting a new chemotherapy regimen, develop an algorithm for referral to Physical Therapy (PT) and Occupational Therapy (OT), and assess the percent who accepted the referral and participated. This is an ongoing prospective longitudinal study of patients age 65+ with cancer beginning a new chemotherapy regimen. Functional status was measured by self-report of Instrumental Activities of Daily Living (IADLs; measured by the Older American Resources and Service [OARS] Scale) and Activities of Daily Living (ADLs; measured by the Medical Outcomes Study [MOS] Physical Health Scale). National geriatric oncology expert recommendations were utilized to develop the criteria for PT/OT referral. Patients who reported needing assistance with IADLs were referred to OT. Patients who reported being "limited a lot" on the MOS Physical Health Scale were referred to PT. The percent of patients who met the criteria for referral, who accepted the referral, and who participated in PT, OT, or both were evaluated.

The current analysis includes 260 evaluable patients (recruited August 2015 to April 2018). Their median age was 71 years (range 65-91), 42% male, and 76% with Stage IV cancer. The most common cancers were: gastrointestinal (31%), breast (22%), genitourinary (18%), and lung (17%). The median IADL score was 13 (range 4-14) and median MOS score was 65 (range 0-100). Of the 118 (45%) patients referred to PT and/or OT, 36 (31%) were referred to both, 72 (61%) to OT alone, and 10 (8%) to PT alone. Of the 118 patients referred to PT and/or OT, 83 (70%) accepted the referral and 75 (90% [75/83]) participated. Among the 108 patients referred to OT, 72 (67%) accepted the referral and 64 (89% [64/72]) participated. Among the 46 patients referred to PT, 27 (59%) accepted the referral and 23 (85% [23/27]) participated. Almost half of older adults with cancer starting a new chemotherapy regimen reported limitations in ADLs and IADLs and met criteria for referral to PT and/or OT. Algorithms are needed to routinely assess functional status of older adults with cancer. Ongoing research is underway to understand the efficacy of PT/OT referral as well as to understand barriers to accepting the referral.

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FACTORS ASSOCIATED WITH FATIGUE IN PROSTATE CANCER PATIENTS WITH ANDROGEN DEPRIVATION THERAPY

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Fatigue is a common adverse effect among prostate cancer (PC) patients undergoing androgen deprivation therapy (ADT), yet depression, PC-related symptoms, clinical variables, and physical activity influencing its development are poorly understood. The purposes of this study are to describe demographic, clinical, lifestyle, psychological, and PC-related symptom factors that differently affect fatigue; to better characterize variables related to fatigue development in PC patients during ADT; and to make recommendations for nursing practice to improve care of individuals suffering from ADT-related fatigue. The study has a cross-sectional design. One hundred and sixty-one men with prostate cancer receiving ADT (mean age: 73 years) were recruited at two university-based hospitals in South Korea. Participants completed a self-reported questionnaire including the Hospital Anxiety and Depression Scale (HADS), the Godin Leisure-Time Exercise Questionnaire (GLTEQ), the Functional Assessment of Chronic Illness Therapy-Fatigue (FACIT-F) subscale,

and the Functional Assessment of Cancer Therapy-Prostate (FACT-P). Descriptive statistics were used for the sociodemographic and clinical characteristics of the study participants and the outcome variable scores. We examined univariate associations of FACIT-F with demographic, clinical, lifestyle, depression, and PC-related symptom factors using independent t-tests, analysis of variance, and Pearson correlation coefficients. After multicollinearity testing, we conducted multiple linear regression analysis using a forced entry method for FACIT-F. The mean scores were 30.3 (SD = 7.4) for fatigue with a prevalence of 15.6%, 5.7 (SD = 3.8) for depression with prevalence of 25.5%, and 12.9 MET-h/week (SD = 16.4) for physical activity. Over two thirds, 68.9%, of participants had at least one comorbid condition. In univariate analyses, the number of comorbid conditions, level of physical activity, depression, weight loss, experiencing pain, and urination problems were significantly associated with fatigue. Multiple linear regression analysis revealed that depression, physical activity < 3 MET-h/week, number of comorbid conditions, and weight loss were potential risk factors for fatigue. This study suggests that interventions aimed at improving fatigue in men receiving ADT should consider depression, physical activity, comorbidity, and weight management. This knowledge can help nurses and other health care professionals develop appropriate interventions to reduce the burden associated with fatigue.

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COMPARISON OF THREE CONCENTRATIONS OF GEL OF CHAMOMILE TO DELAY ACUTE RADIATION DERMATITIS: A PHASE II STUDY

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About 80 to 90% of patients treated by radiotherapy for head and neck cancer experience radiation dermatitis during treatment. Acute radiation dermatitis may lead to premature interruption of radiation therapy, which in turn could be detrimental to the treatment outcome. There is no evidence-based standard approach for the prevention of radiation dermatitis. In the present phase II study, we have prospectively compared three concentrations of chamomile gel to delay the occurrence of acute radiation dermatitis in patients with head and neck cancer. Between

April 2014 and April 2015, 28 patients were enrolled in this Phase II trial and sequentially assigned to groups receiving concentrations of gel of chamomile of 2.50%, 5.00% or 8.35%. All patients were assessed daily during 3 weeks. The primary endpoint was the time to occurrence of erythema, according Radiation Therapy Oncology Group criteria. The study was registered with Clinical Trials Registry (ClinicalTrials.gov Identifier: NCT02249884). Most patients developed erythema during the three-week assessment. There was a longer time to occurrence of radiation dermatitis for 8.35% gel (mean = 10.7 sessions, SD = 4.4), followed by 5.00% (mean = 7.8, SD = 4.9) and 2.5% (mean = 6.2, SD = 4.4). No dry desquamation or any other adverse events related to the gel were observed in any of the groups. Gel of chamomile showed to be a good candidate for further investigation as an intervention to delay the occurrence of radiation dermatitis in patients with head and neck cancer. The higher concentration of 8.35% chamomile had longer delay than the smaller concentrations and no adverse events occurred. Further studies should assess the effects of gel of chamomile in this population.

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THE MINDFULNESS PILOT PROJECT: THE EFFECTS OF A BODY SCAN ACTIVITY ON BONE MARROW TRANSPLANT PATIENTS

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Patients with hematological malignancies, particularly those with acute diagnoses requiring immediate treatment and hospitalization, often experience high levels of distress. Mindfulness has been shown to alleviate symptoms of distress in cancer patients, but there is limited research on the effects of mindfulness on distress in this inpatient population. The purpose of this pilot study is to determine the effects of a mindfulness intervention on symptoms of distress during inpatient hospitalizations for patients with hematological malignancies (HM). A convenience sample of 30 patients with HM admitted to an oncology floor in a large, Midwestern hospital participated in this study. Participants completed the Rotterdam Symptom Checklist (RSCL): 30 physiological and psychological symptoms of distress, rating how much the symptoms bothered them during the past week on a Likert-type scale. Patients completed a 20-minute mindfulness activity including breathwork and the Body Scan in their rooms. Participants were given a summary sheet and practice log. The RSCL was again completed at two weeks. Patients were asked

open-ended questions regarding their experience. A Wilcoxon Signed Rank Test revealed a statistically significant reduction in physiological and psychological distress at the two-week follow-up, $z=4.12$, $p<0.05$, with a large effect size ($r=.54$), and $z=2.16$, $p<0.05$, with a small effect size ($r=.28$), respectively. Change in quality of life score was not significant. Qualitative data also demonstrate value of the intervention, with patients reporting successful use of the intervention in falling asleep, reducing anxiety during an MRI, and reducing stress of follow-up appointments. Patients expressed the desire for their care to include mindfulness interventions. This intervention is low-risk and low-cost and might be extended to include recorded mindfulness exercises or informal classes. Future studies might explore the use of different media such as audio recordings or phone apps as a means for self-practice while in the hospital. After initial education of the Body Scan, nurses might encourage patients to utilize it while waiting for as-needed medications to be administered, before or during inpatient procedures, or in conjunction with medication to alleviate side effects of treatment. Doing so could empower patients during the course of their hospitalization and improve the patient experience.

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SELF-PROTECTION AND OTHER CONDITIONS SUPPORTING ADHERENCE IN POST- MENOPAUSAL BREAST CANCER SURVIVORS

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Hormone-receptor positive breast cancer survivors (BCS) traditionally were prescribed adjuvant endocrine therapy (AET) for five years at the completion of definitive therapies. The duration of treatment continues to be explored with recommendations indicating that eight to ten years may be more effective in the prevention of breast cancer recurrence. Non-adherence rates are as high as 50% disruption or discontinuation before the recommendation of the provider. With extended durations of treatment, non-adherence will continue to be a challenge, impacting the incidence of breast cancer recurrence in this population. The purpose of this research project was to explore the conditions

that support adherence to AET in post-menopausal BCS in extended durations of survivorship. Grounded Theory utilizing dimensional analysis was employed. Twenty-one post-menopausal hormone-receptor positive BCS, more than three years out from definitive treatment, were recruited. Coding occurred in four phases: initial coding, focused coding, axial coding, and selective coding. From the broad analysis, a focused look into self-protection and other conditions that support adherence to AET was completed. The Desire for Self-Protection is a central condition supporting adherence to AET and includes two key dimensions: Fear of Recurrence and Belief in the Power of the Medication. Self-protection is a mechanism that survivors use to shield themselves physically and mentally from the fear of recurrence and recurrence itself. By understanding a survivor's belief in their AET and fear of recurrence, the influence of self-protection on adherence may be better understood. Interventions targeting nursing assessment and education may be used to strengthen the desire for self-protection which will lead to a more consistent ability to adhere. This is one of the first studies to examine conditions surrounding adherence in its extended durations. With the extended prescriptions of AET, women must lean into their strategies for self-protection in order to continue with their medications. This allows women to exert control, providing a "protective bubble" around them as they navigate through the extended survivorship period.

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FACTORS ASSOCIATED WITH SYMPTOM BURDEN IN OLDER ADULTS WITH AGE RELATED CONDITIONS: A UNIVERSITY OF ROCHESTER (UR) NCI COMMUNITY ONCOLOGY RESEARCH PROGRAM (NCORP) STUDY

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Over 60% of patients with cancer are aged 65 and over, and there is strong evidence that demographic and disease factors are associated with symptom burden. However, because of the complexity of the interactions between cancer, its treatments, and age-related concerns, limited research has examined these relationships in older adults. The geriatric assessment

(GA) has emerged as a useful clinical tool to determine age-related concerns. The aims of this study were to determine the relationships of 1) demographic and disease factors, and 2) GA factors, with symptom burden in older adults with advanced cancer. A secondary analysis was conducted with data collected nationally through the UR NCORP. Eligibility criteria specified that patients were ≥ 70 years old, had incurable solid tumors, and had impairment in at least one GA domain. Measures included the MD Anderson Symptom Inventory and a GA battery of validated assessment scales in geriatric domains (polypharmacy, physical (falls), functional, psychological, social, cognitive, nutritional, and comorbidities); responses were declared impaired (or not) using established cut points, and a summary symptom severity score was used as a dependent variable. Analysis included descriptive statistics, examination of bivariate relationships, and multivariate linear regression modeling. 527 patients [mean age 77 years (range 70–96), 49% female, 89% White, and mixed cancer type] provided baseline data. Total Symptom Severity Score Mean=29.31, SD=21.78, Range 0–111. Bivariate associations with higher symptom severity scores (all p 's < .05) were: younger age; lower performance status; lung cancer diagnosis (versus all other); and impairments in the GA domains of comorbidity, nutrition, physical, falls, functional, and psychological. Bivariate associations were not significant for gender; being partnered; race; and impairments in polypharmacy, social, and cognitive domains. All bivariate relationship retained significance in the multivariate model except physical status that become non-significant. The model explained 24% of the variance in symptom severity scores. Thus, findings indicate that: 1) there is variability in symptom burden, 2) selected demographic and disease factors are related to symptom burden, and 3) age-related concerns as measured with GA are associated with symptom burden. When addressing symptoms in older adults with advanced cancer, nurses need to be aware of the age-related factors that put patients at risk for increased symptom burden.

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THE EFFICACY OF PHYSICAL ACTIVITY AFTER THE DEATH OF A LOVED ONE: WALKING AND GRIEF AN INTERVENTION STUDY

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The death of a loved one is often associated with feelings of grief. Grief is a multifaceted emotional response for individuals' who are attempting to cope

with a loss. The grieving process can have an unpredictable trajectory for each person, even though it may encompass many common and familiar features. Grief after a loss incorporates an expansive range of emotional and physical responses, which frequently consist of feelings of sadness, depression, and loneliness. Few studies have reviewed effective interventions for combating the emotional and physical symptoms of grief after the loss of a loved one. Walking is an affordable bereavement care intervention that may prove beneficial in improving grief responses and the related physical and psychological symptoms. A physical activity, such as walking, is a type of activity that is easily performed that may ultimately reduce the effects of stress, decrease depression, and improve mood in persons who have experienced the death of a loved one. The purpose of this study was to decrease the severity of grief related symptoms associated after the death of a loved one using an acute three-week walking regimen and comparing baseline responses to walking completion responses on the Texas Revised Inventory of Grief (TRIG). The conceptual framework that guided this study was the Roy Adaptation Model. A convenience sample of 62 persons in southeastern Georgia who had experienced the loss of a loved one at any point in their life participated in the three-week walking regimen. The results of this study showed no statistical improvement in grief scores after a three-week walking program. Further research should be considered limiting subjects to the newly bereaved in order to evaluate a walking intervention for acute circumstances. A walking intervention may still be an effective intervention for those persons who wish to be participatory in the management of their grief response.

478 **CONSENSUS RECOMMENDATIONS FOR MANAGEMENT AND COUNSELING OF ADVERSE EVENTS ASSOCIATED WITH LORLATINIB**

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Lorlatinib is a highly potent, brain-penetrant, anaplastic lymphoma kinase (ALK)/ROS1 tyrosine

kinase inhibitor (TKI). In an ongoing phase 1/2 study (NCT01970865), lorlatinib has shown clinical activity among patients with ALK-positive advanced non-small cell lung cancer (NSCLC), many of whom had CNS metastases and were treated with a range of prior ALK TKIs. Lorlatinib is generally well tolerated and it has a safety profile distinct from those of other ALK TKIs. Adverse events associated with lorlatinib are primarily mild to moderate in severity and are manageable through dose modification and/or standard medical therapy, as indicated by a low rate of permanent discontinuations due to adverse events. Lorlatinib provides a potential treatment option for patients with ALK-positive advanced NSCLC previously treated with ≥ 1 ALK TKI, for whom further treatment options are limited. The purpose of this paper is to provide guidance to oncology nurses and advanced practice providers for management of key lorlatinib-emergent adverse events, based on clinical experience accumulated during the phase 1/2 study. Nurses and advanced practice providers should educate patients and caregivers on the most common and potentially serious side effects associated with lorlatinib, which include hyperlipidemias, changes in cognition, mood, or speech, weight gain, edema, and peripheral neuropathy. At the start of treatment, resources should be provided to patients to describe the signs and symptoms of common adverse events, e.g. numbness or tingling in extremities associated with peripheral neuropathy, and to instruct patients to call their oncology team if such symptoms arise. Patients should be instructed that they may be prescribed new medications (e.g. a statin for hypercholesterolemia) or may be advised to make lifestyle modifications (e.g. dietary and exercise changes for weight increase and edema) to manage certain adverse events. Additionally, patients and caregivers should be counselled that if changes in mood, thinking, or speech occur, these are generally mild and reversible following dose modifications, if needed. Both patients and their caregivers, in particular, play an important role in monitoring for these changes and should be alerted to the importance of notifying the patient's oncology team if any such changes occur. Proactive counseling, monitoring, and effective management of treatment-related adverse events are critical and can potentially help patients to attain maximum benefit from lorlatinib by allowing treatment to continue until disease progression.

479 **A SYSTEMATIC LITERATURE REVIEW OF CURRENT STATE OF KNOWLEDGE RELATED**

TO INTERVENTIONS FOR BEREAVED PARENTS

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The purpose of this systematic literature review is to describe the interventions for bereaved parents, evaluate intervention effectiveness through study methodology rigor, replicability, and theoretical foundations. We searched MEDLINE via PubMed (1966–2018), CINAHL (1937–present), PsycINFO (1887–present), and Embase (1947–present) using various search words and MeSH terms related to the study purpose. The search words were combined with controlled vocabulary from PubMed/MEDLINE for the preliminary search. Then, a blinded screening of title/abstract was performed, with conflicting inclusion decisions resolved through group discussions. Matrices for remaining articles were created and discussed among the team. The levels of evidence of the 11 articles were rated from very low to high based on the GRADE guidelines. Our initial pool included 1025 articles. After the screening of titles/abstracts, 63 articles were retained for full-text reviews. Evaluated based on the inclusion/exclusion criteria, 11 articles met the criteria for the review. Of the 11 articles, 3 were graded as very low, 5 low, and 3 low to moderate. The interventions for bereaved parents varied from using single-model interventions such as expressive arts therapy and telephone support to multi-model interventions that combined resources (i.e. peer support, resource packets, and healthcare support). Only one study explicitly illustrated how its bereavement intervention was designed based on the proposed theoretical model. This review highlights the need for individualized, well-tested, and effective bereavement care interventions to support bereaved parents. The development and implementation of effective precision interventions require researchers to integrate theories and bio-medical research evidence to lay the foundation for bereavement care interventions.

480 USING SIMULATION TO TRAIN FAMILY CAREGIVERS OF PATIENTS WITH HEAD AND NECK CANCER: RESULTS OF A RANDOMIZED PILOT TRIAL

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Patients with head and neck cancer (HNC) undergo rigorous, combined-modality cancer treatment and are dependent to a large extent on the adequacy of care provided by family caregivers (CGs) to avoid complications, such as dehydration, malnutrition, and excessive symptom burden. CGs feel unprepared and untrained to assume the multiple, complex tasks of caregiving, and experience moderate to high psychological distress. There is great need for CG interventions that are feasible and delivered at the point of care by oncology nurses, promoting integration of the CG into the clinical setting, facilitating CG assessment, support, and training. To address this gap, an interdisciplinary team, including nurses, designed a psycho-educational, skills training intervention that incorporated simulation experiences to improve CG self-efficacy for both technical and communication skills. Simulation, which is commonly used in training healthcare professionals, is a form of experiential learning that creates situations to mimic clinical situations. The aims of this study were to (1) evaluate the feasibility, acceptability, safety, and fidelity of this intervention, and (2) obtain preliminary data of the effect of the intervention on CG self-efficacy, anxiety, depression, HRQOL, and patient healthcare utilization. The design was a two-group, randomized pilot trial with a convenience sample of CGs of patients with HNC who were receiving radiation therapy. The intervention was delivered to the CG in four one-on-one sessions. Simulations for technical skills training utilized a low-fidelity manikin, while common caregiving scenarios were used in the communication and CG self-care simulations. The control group was usual care. Measures were taken at baseline, the 5th week of radiation, and 4 weeks post. Descriptive statistics were used. Eighteen CGs enrolled (consent rate 60%) and 4/9 (44%) intervention CGs completed all sessions. CG and nurse satisfaction was high. Although there were no statistically significant differences in outcomes between groups, improvements in scores for the intervention group were noted for self-efficacy, global mental health, anxiety, depression, unplanned hospital admissions, and interrupted treatment course. CG interventions are complex and require flexibility in the protocol to tailor to the CG's needs. Preliminary support was found for the use of simulation, previously unstudied in cancer family

CGs, as a primary component of a psychoeducational intervention. Future studies should establish intervention effectiveness, determine adequate dose, and evaluate covariates.

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WOMEN NAVIGATING SURGICAL OPTIONS AFTER BREAST CANCER DIAGNOSIS: PICTURES ARE WORTH A THOUSAND WORDS

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Approximately 266,120 women are diagnosed with invasive breast cancer or DCIS in the USA annually. These women subsequently make lifelong, often-irreversible decisions regarding mastectomy and breast reconstruction. The number of women choosing breast reconstruction following mastectomy is increasing each year. Timing from diagnosis of breast cancer to surgery is often a matter of weeks and treatment decisions are made quickly at a time of personal stress and body image threat. Breast cancer reconstructive surgery is unlike cosmetic breast augmentation and not all cancer patients are referred to see a plastic surgeon. This nurse-led study sought to improve surgical decision-making by introduction of educational materials (a Navigator Notebook) that included before & after photographs of women who chose breast cancer reconstruction. The research questions were 1) How do women learn about breast cancer reconstructive surgical options? 2) Do visual aids enhance patient's understanding of breast reconstructive options, processes, and satisfaction with surgical results? This quantitative, quasi-experimental investigation employed a pre-post intervention study. The pre group of women received general breast surgery information during their preoperative clinic visits. Standard education included available resources including nutrition, financial counseling, social work, exercise and psychology to name only a few. The post group (intervention) received enhanced Navigator Notebook includes all the above but also photographs of breast reconstructions and written reconstructive information. An eleven-item questionnaire was distributed to two patient groups. 37 women participated in the pre group (standard care) while 38 women participated in the post-enhanced Notebook group (intervention). The mean age of both groups was 53.23. The majority of the sample were white, 60.61% (black – 39.39%) The convenience sample was reflective of the population served at the facility. All eleven questions

demonstrated statistical significance. Education that included visual aids was highly favored over materials without (p-value ≤ 0.006). Preliminary findings from this study found that an innovative nursing education intervention (a pictorial Navigator Notebook) enhanced how women learned about breast cancer treatment, breast reconstruction options, and their satisfaction with educational materials and surgical outcomes.

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SELF-REPORTED PROSTATE CANCER SPECIFIC ANXIETY FOLLOWING STEREOTACTIC BODY RADIATION THERAPY FOR CLINICALLY LOCALIZED PROSTATE CANCER USING MAX-PC

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The prevalence of anxiety in men with prostate cancer, across the treatment spectrum, is relatively high. Currently, patients with localized prostate cancer achieve excellent outcomes with current treatment modalities including ultra-hypofractionated stereotactic body radiation therapy (SBRT). With an emphasis on survivorship after cancer treatment, long-term survival of these patients requires special attention to their quality of life. Fear of cancer recurrence alters patient's perception of well being and may require intervention given their otherwise excellent prognosis. The Memorial Anxiety Scale for Prostate Cancer (MAX-PC) is a validated survey developed to detect subtle symptoms of anxiety in patients treated for prostate cancer. Here we report the results of MAX-PC for patients treated with SBRT in our institution. Patients with clinically localized prostate cancer, treated with SBRT at Georgetown Hospital from 2007-2018 were included in this study. MAX-PC surveys were mailed to 461 eligible patients in July 2018. Patient's total MAX-PC score (scale 0-54) was recorded, and disease specific as well as demographic features were analyzed for possible correlation with their self-reported anxiety. By August 2018, 227 patients had responded to the survey through mail. The scores ranged from 0 to 41. Thirty-four patients scored 0 and only 6 patients had

a MAX-PC score of 27 or greater suggesting at least moderate anxiety. Median score for all patients was 5. Stratified by risk grouping; Low, Intermediate, and High Risk patients' median scores were 7, 4.5 and 6 respectively. Caucasian patient scored a median of 5 versus their African American (AA) counterparts with a median score of 6. Stratified by age, patients > 80 years old had a median score of 2 versus those ≤ 70 with a median score of 6. Patients treated with SBRT for localized prostate cancer have very low over all anxiety as assessed by MAX-PC. Risk grouping by itself does not increase disease related anxiety. Caucasian patients have a slightly lower score than their AA counterparts. Older patients have lower anxiety level compared to the younger cohort. Longer follow up will allow longitudinal assessment of patient anxiety and identification of additional trends related to disease specific outcomes.

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PSYCHOLOGICAL DISTRESS AND DEPRESSED MOOD AMONG CANCER SURVIVORS AND THEIR SPOUSES: FINDINGS FROM MEDICAL EXPENDITURE PANEL SURVEY

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Cancer affects the psychological well-being of both the cancer survivor and his or her spouse. Although research with couples in which one spouse was a cancer survivor has found differences in psychological distress related to gender and role (survivor or spouse), the studies to-date have been limited by small samples with a specific cancer type. This study aims to increase knowledge of the psychological effects of cancer by examining survivors and their spouses to 1) describe prevalence of psychological distress and depressed mood, 2) determine the relationship of psychological distress and depressed mood, and 3) examine differences in psychological distress and depressed mood related to gender and roles of survivors and spouses. A sample of 875 survivor-spouse heterosexual couples was identified from the 2011–2015 Medical Expenditure Panel Survey. Survivors were diagnosed with a range of cancers. Psychological well-being and depressed mood were assessed for survivor-spouse dyads using the 6-item Kessler Psychological Distress Scale (K6) and the Patient Health Questionnaire (PHQ-2). We defined psychological

distress using the suggested cut-point of 13 on the K6, the cut-point of 3 on the PHQ-2 to define distressed mood. Presence of psychological distress and depressed mood was dichotomized. Analyses of data for survivor-spouse dyads used McNemar's test. Prevalence of psychological distress was 5.8% among survivors and 4.20% among spouses. Depressed mood was present among 4.67% of survivors and 3.42% of spouses. Survivors and spouses were highly congruent on both prevalence of psychological distress (92.59%) and depressed mood (93.23%). Among couples in which the male was the survivor, 6.09% of the survivors had psychological distress whereas 3.16% of their spouses had psychological distress ($p < .05$). Findings illustrate the importance of psychological screening in identifying survivors or their spouses who may be at increased risk for psychological distress and depressed mood stemming from the cancer experience. The congruence of psychological distress and depressed mood in couples suggests that intervention programs targeting both survivors and their spouses, particular male survivors and their female spouses, may enhance the mental well-being of couples during cancer survivorship.

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CHARACTERIZING PATIENT-CLINICIAN CHEMOTHERAPY-INDUCED PERIPHERAL NEUROPATHY ASSESSMENT AND MANAGEMENT COMMUNICATION APPROACHES

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Unmanaged chemotherapy-induced peripheral neuropathy (CIPN) symptoms may lead to increased health care costs, the inability to complete daily activities, and the withdrawal of life-saving chemotherapy. However, current evidence suggests that CIPN is inadequately assessed in practice. Despite the knowledge of recommended patient-clinician CIPN assessment and communication approaches, little is known as to whether these recommendations are incorporated into patient-clinician discussions of CIPN. The purpose of this analysis was to describe the frequency and characteristics of CIPN assessment and management communication approaches between patients

receiving neurotoxic chemotherapy and clinicians. A cross-sectional design was used to investigate the study aims. Data used in this analysis originated from a randomized controlled trial in which adult participants with cancer self-reported treatment-related symptoms using web-based symptom assessment technology during treatment. Three-to-six weeks after study initiation, the participant's outpatient visit was audio-recorded. Audio recordings and associated clinician notes for 159 participants who received platinum and/or taxane-based chemotherapy were coded for the presence of several CIPN assessment and management communication characteristics. The frequency of participant-clinician assessment (e.g., discussion of CIPN, types of assessment questions) and management characteristics (e.g., appropriateness of management) were described. Participants received low cumulative neurotoxic chemotherapy doses (75%) at the time of audio recording. CIPN was respectively discussed and documented in 44% and 46% of participant-clinician encounters. For participants reporting increased CIPN severity (n=43), CIPN was respectively discussed and documented in 51% and 60% of participant-clinician interactions. CIPN was more frequently documented in cases where CIPN was discussed. In symptomatic participants (n=44), clinicians asked an average of 0.7 open-ended questions, appropriately managed 70% of cases, and asked upper/lower extremity CIPN questions in 25% of cases. Clinicians infrequently discussed and documented CIPN symptoms in participants with low CIPN severity, but clinicians discussed and documented CIPN more frequently in participants reporting moderate-severe CIPN. Clinicians appropriately managed mild CIPN. Development of interventions to promote the implementation of recommended CIPN communication approaches into practice are required. This study is among the first to characterize patient-clinician communication regarding CIPN assessment and management. Effective participant-clinician communication is required at each clinic visit during neurotoxic chemotherapy treatment to identify initial signs of CIPN and offer appropriate treatment.

485 **RURAL CANCER SURVIVORS' DEPENDENCE ON WALKING FOR PHYSICAL ACTIVITY**

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Engagement in regular physical activity (PA) is a major recommendation for all cancer survivors due to their significant risk of developing a second primary cancers and potential increased risk of cardiovascular disease, diabetes, and osteoporosis. However, most U.S. cancer survivors do not meet American Cancer Society recommendations for PA, and rural survivors are far less likely to engage in physical activity than those living in urban areas. Very little is known about barriers to rural cancer survivors' participation in regular physical activity. To adequately develop strategies to address sedentary behavior among rural survivors, rural-specific barriers must be elucidated. We interviewed seven rural-dwelling, post-treatment cancer survivors in Central Virginia to explore what barriers they perceived to achieving regular PA. Qualitative interviews were coded using Dedoose software; themes were developed from the codes. Survivors were between 1–5 years from their most recent cancer diagnosis. Three of the seven survivors were male, and only one self-identified as low-income, defined as having difficulty meeting the financial needs of his or her household. All lived a Virginia rural county, at least 45 minutes driving time from the nearest NCI-designated cancer center. Survivors were motivated to “get back to normal,” by including regular physical activity, but several reported developing physical limitations resulting from cancer treatment that limited their activity. Rural survivors were unlikely to belong to a gym due to travel distance, and walking was the predominant form of exercise. Safety and poor weather conditions limited locations and timing of walking, although one survivor reported walking indoors during poor weather. Counseling rural survivors to achieve physical activity should focus on walking as a core activity. Both the patient and the residential environment need to be assessed. Patient assessment should include motivation to increase activity and newly developed physical limitations. Assessment of the residential environment should include existence of lighting, sidewalks or other paths, and wildlife, as well as the availability of indoor walking locations.

486 **RESOURCEFULNESS AND FATIGUE IN ELDERLY PATIENTS WITH CANCER PAIN: A PROSPECTIVE SURVEY AND ANALYSIS**

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The first inventor of resourcefulness concept is Zauszniewski, who is also the main developer of Resourcefulness Scale (RS). The research team focused on the elderly returning home, the general elderly, grandmothers caring for grandchildren, and so on, and carried out a full study. In China, there are few people who focus on wisdom, only nurses, breast cancer, nasopharyngeal carcinoma, coronary heart disease and dental implant patients as the research objects. Our project group introduced, translated and produced the Chinese version of the Resourcefulness Scale in the early stage, using this scale around breast cancer patients. On the basis of previous application, this article launches a new round of research and exploration based on the elderly cancer pain patients. The purpose of this project was to analyze the resourcefulness and physical and mental fatigue of elderly patients with cancer pain and identify related factors. This is an investigation with strict quality control. The survey period was from July 2017 to February 2018, and strict inclusion and exclusion criteria were set. A total of 89 elderly patients with cancer pain (≥ 60 years old) were investigated using the general status questionnaire, the Numerical Rating Scale (NRS), the Chinese Resourcefulness Scale (C-RS) and the Fatigue Scale-14 (FS-14). The total score of resourcefulness was 78.40 ± 26.42 , in which the personal resourcefulness score was 42.04 ± 16.73 and the social resourcefulness score was 36.34 ± 12.94 . Patients with different ages ($F=6.449$), education ($F=4.015$) and self-efficacy ($F=19.985$) had different mentality ($P < 0.05$). The higher the resourcefulness score, the better the pain control ($r = -0.785$, $P < 0.05$); The total fatigue was 8.57 ± 3.02 , The fatigue status of patients with different pain levels ($F=2.313$) was different ($P < 0.05$). The total scores, personal resourcefulness and social resourcefulness of patients were negatively correlated with total fatigue score, mental fatigue and physical fatigue, and the difference was statistically significant ($P < 0.05$). Nurses should pay special attention to the resourcefulness of elderly patients with cancer pain over 75 years of age and low education level. Improving resourcefulness level can help elderly patients effectively control cancer pain. Then, relieving pain can relieve physical and mental fatigue. Improve the quality of life.

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AN EXPERIMENTAL STUDY OF THE EFFECT OF A COOL WASHCLOTH PLUS PEPPERMINT ESSENTIAL OIL (MENTHA PIPERITA)

VERSUS A COOL WASHCLOTH ALONE ON THE INTENSITY OF NAUSEA IN PATIENTS RECEIVING CHEMOTHERAPY IN THE OUTPATIENT SETTING

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Research shows patients receiving chemotherapy report nausea and vomiting to be among the most distressing and feared symptoms of cancer treatment. There is information in lay publications about aromatherapy; however, there is a paucity of evidence-based information regarding the use of aromatherapy in chemotherapy patients. This study evaluated the effect of 2 drops of peppermint oil added to a cool washcloth and applied to the neck area of patient's undergoing chemotherapy, compared to the use of a cool washcloth only on the patient's self-reported level of nausea. A convenience sample of oncology patients in the ambulatory infusion center was used. Eligibility in the study was determined using the inclusion/exclusion criteria. Each participant was randomly assigned into Group A (cool wash cloth with no peppermint oil) or Group B (cool wash cloth with peppermint oil). Patients were assessed using the BARF (Baxter Assessment of Retching Faces) pictorial nausea scale to assess the intensity of nausea pre- and post-intervention. Seventy-nine subjects were enrolled with ages ranging from 18 to 79. Both Groups A & B had pre-intervention BARF scores which were not significantly different; however, the post-intervention BARF scores for Group B (peppermint oil) decreased significantly more than did the post-intervention scores for Group A. Limitations were study team members (STM) trained to consent were providing direct patient care so there were missed opportunities. Majority of patients screened reported minimal to no nausea on initial assessment therefore recruitment took longer than anticipated. Recommendations: to have all STMs available to consent patients, provide ample time for the process, and identify specific chemotherapy regimens to determine if peppermint oil is effective. The use of peppermint oil may be a non-pharmacological intervention with a positive effect on patients' experiences with nausea. Further nursing research on the use of complementary and alternative therapies in the oncology population is needed.

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PREFERENCES FOR A GOOD DEATH: A CROSS-SECTIONAL SURVEY AMONG CHINESE PATIENTS WITH ADVANCED CANCER

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The quality of dying and death is increasingly important. Good death, as a primary goal of end-of-life care, thus becomes a hot research topic in recent years. However, we had still few studies investigating this topic in China. We try to understand preferences for a good death and to explore factors associated with their preferences from the cancer patients' perspective, thus providing practical guidance for helping patients actualize a good death. The purpose of the project was to describe preferences for a good death among Chinese patients with advanced cancer, and to explore factors contributing to their preferences. A convenience sample of 275 advanced cancer patients was recruited from a tertiary cancer hospital in Beijing, China, between February and December 2017. Data were collected using the Good Death Inventory (GDI) and a multi-itemed questionnaire focusing on patients' demographic and disease characteristics. Of the 275 questionnaires returned, 248 responses were analyzed (effective response rate 90.2%). The 3 most important domains of a good death were: good relationship with family (19.80±2.39), independence (19.66±2.56), maintaining hope and pleasure (19.56±2.55); the 3 least important domains of a good death were: dying in a favorite place (16.27±5.62), feeling that one's life is worth living (15.81±5.18), control over the future (15.60±5.09), pride and beauty (11.36±5.66), religious and spiritual comfort (10.50±6.01). Patients characteristics including age, educational status, religious belief, family economic status, past experiences of the death of others, the period since cancer diagnosis, past experiences of hospitalization and subjective physical condition influenced their preferences (all $P < 0.05$). We found some differences when comparing the attitudes of other countries from the perspective of patients,

which suggested that cultural differences should be an important consideration to achieve a good death. Meanwhile, we found some patient-related factors contributing to different preferences. These findings have the potential to guide hospice care services aimed at achieving a good death for patients with advanced cancer.

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DESIRED FEATURES AND FUNCTIONALITIES OF A WEB-BASED SELF-MANAGEMENT SUPPORT INTERVENTION DURING THE ACTIVE TREATMENT PHASE OF CANCER

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A diagnosis of cancer is a physically and emotionally overwhelming experience. Although past research demonstrates that patients benefit from self-management support, patients report limitations in the type and amount of self-management support they receive from their healthcare providers. To intervene in this critical period, our team is developing a web-based self-management system, called I Can Manage Cancer (ICMC). The purpose of this presentation is to describe the desired key features and functions of a web-based self-management tool from the perspective of patients and cancer clinicians. As part of a user-centered design approach, we employed descriptive qualitative methods, and conducted interviews with people diagnosed with cancer ($n=16$) and focus groups ($n=3$) with cancer clinicians ($n=19$). Data were analyzed by thematic analysis using NVivo qualitative software. Findings from our interviews and focus groups made evident the need for self-management support and explicated two main themes: (1) Desired features and functions of ICMC, and (2) Necessary content. Participants wanted features and functions that were user-friendly and engaging. The importance of connectivity—between patients with similar diagnosis and with clinicians to receive information and support—was forefront for patients and clinicians. Although both parties acknowledged potential privacy limitations and challenges with sharing information, connectivity was a recurrent theme. Regarding content, participants emphasized

the importance of evidence-based digestible and trustworthy health information, with information on topics such as treatment options, medication management, treatment side effects, and financial support during cancer. The findings from our study articulate the features and functions of a self-management support system important to people with cancer and their clinicians. The emphasis on content that is evidence-based and easy to understand will inform the development of our self-management intervention. There was significant overlap between patient and clinician perspectives regarding both content and functions, which bodes well for future implementation and uptake in clinical settings.

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EFFECTS OF ANAT BANIEL METHOD® NEUROMOVEMENT® LESSONS ON WOMEN WITH BREAST CANCER TREATED WITH AN AROMATASE INHIBITOR

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It is estimated 330,080 women will be diagnosed with breast cancer in the U.S. in 2018. Of these diagnoses, two out of three will be a hormone receptive cancer, which has an indication for endocrine therapy. Up to 50% of women treated with an aromatase inhibitor will complain of arthralgia. Twenty percent of these patients may become non-compliant secondary to this side effect. Pain can interfere with exercise adherence, which shows survival benefit compared to patients who are inactive. In addition, women reporting better social support show increased endocrine adherence. "Anat Baniel Method® NeuroMovement® (ABMNM) is a novel, holistic approach to human functioning and health, supported by current neuroplasticity science. The method uses functional movements combined with the 9 Essentials (conditions) that act as a catalyst to upregulate neuroplasticity that often results in reduced pain and increased flexibility, strength, and well-being." reports Anat Baniel. Research on Tai Chi Chuang, evaluating a form of slow movement with attention (the first Essential of ABMNM), shows efficacy in treating arthralgia. ABMNM can potentially decrease pain and improve mobility, and thus,

could be an effective treatment for arthralgia, improving quality of life, and increasing adherence among women taking aromatase inhibitors. In this study, which concludes November 16, 2018, women who have been on an aromatase inhibitor (AI) for at least one month and up to two years will participate in ABMNM lessons. Lessons will be three times per week for a total of four weeks. Physical Therapy will assess the participants pre- and post-trial using the Tinetti Balance and Gait Assessment and dynamometer strength testing. Investigators will assess participants' quality of life via FACT/GOG-NTX and social support via a social connections tool. Investigators will compute basic descriptive statistics and scale reliabilities in addition to correlations between variables. Structural equation models, including mediation models, will also be used to assess relationships between variables. Efficacy of interventions will be assessed using multi-level models for all relevant outcomes. Factor validity of self-report outcome measures will also be tested using exploratory and confirmatory factor analysis. ABMNM is a holistic, inexpensive, self-prescribed alternative that may lead to improvement in arthralgia, quality of life, and increased social connectivity. Helping women overcome these barriers could help increase endocrine therapy adherence.

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WORTH THE EFFORT: ENGAGING PATIENTS AND CLINICIANS TO DESIGN A PATIENT EDUCATION TOOL FOR IMPLANTED PORTS

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Cancer patients are often faced with unfamiliar information and required to make treatment and care decisions quickly. One important decision for some is whether or not to have an implanted port. For many patients, the concept of an implanted port is difficult to understand, potentially causing fear and impacting their ability to provide informed consent. Using models to support verbal education can enhance patient understanding. The author's workplace had a tool/model to support nurses with patient education for implanted ports. The existing tool/model was damaged and outdated. Updated versions were not readily available. Several guidelines and frameworks for patient engagement exist but can be

overwhelming for nurses in the clinical setting looking to engage patients for projects; practical examples of application are needed. The project's primary aim is to co-produce with cancer patients, a visual patient education tool for implanted ports. Its secondary aim is to detail the application of patient engagement principles in the nurse-led development of a patient education tool to simplify and disseminate the process for future ease of use by nurses. A mock-up using updated graphics from the old tool was created. From August to October 2018, invited patients and clinical staff are participating in one-on-one semi-formal feedback interviews. Twenty-five patient and ten clinician interviews will be recorded and analysed to identify improvements for the final tool, which will be produced in December 2018. Copies of the final tool will be distributed to clinical areas responsible for providing port education. The project received ethical approval from the Peter MacCallum Cancer Centre Human Ethics Committee. Follow up analysis on the effectiveness of the tool will be completed in February 2018. The author's experience and recommendations for applying patient engagement principles to the development of a patient education tool will be communicated to the nursing community through abstract submissions/presentations. The approach taken with this project empowered those most affected by implanted port education to define the tool. The project provides a practical example to encourage nurses to apply patient engagement principles to the development of patient education resources. Engaging patients in the design of an education tool is expected to result in an innovative tool which considers kinaesthetic, verbal and visual learning styles.

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AN EVALUATION OF THE NEW JERSEY CANCER EDUCATION AND EARLY DETECTION PROGRAM

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The National Breast and Cervical Cancer Early Detection Program (NBCCEDP) was established in 1990 by the Centers for Disease Control and Prevention to provide low income, uninsured, and underserved women with screening and diagnostic services for breast and cervical cancer. The purpose of this study was to evaluate the effectiveness of New Jersey's NBCCEDP (New Jersey Cancer Education and Early

Detection program [NJCEED]) by considering stage at diagnosis for women enrolled in NJCEED as compared to non-enrollees diagnosed in the state of New Jersey. A retrospective analysis of ten years of breast cancer data from the New Jersey State Cancer Registry for women ages 40–64 (based on NJCEED eligibility) diagnosed with ductal carcinoma in situ and invasive breast cancer from 2004 through 2014. Logistic regression was used to evaluate stage at diagnosis (stages 0, I and II as early stage, stages III and IV as late stage). A total of 47,162 women included, 1,364 of these women were enrolled in the NJCEED program. NJCEED enrollees were younger; more likely to be African American, Asian, or Hispanic when compared to non-enrollees, and more likely to reside in communities classified as poor or extremely poor. Enrollees were more likely to be diagnosed at a later stage when compared to non-enrollees, and with larger tumors on diagnosis. Enrollees were also more likely to have positive nodes at diagnosis. In the logistic regression, NJCEED enrollees had 83.3% higher odds of being diagnosed at a late stage as compared to non-enrollees. African American women had 50% higher odds of being diagnosed at a later stage. The likelihood of a late stage diagnosis increased as poverty level increased. These results were consistent with other National Breast and Cervical Cancer Early Detection Program state evaluations. Providing a free screening service is not in itself adequate to encourage screening in low income uninsured women. In this era in which the federal government is considering cutting funding for programs specifically targeted to low income, vulnerable populations, it is crucial that states can justify outcomes of such a federally funded program. These findings can inform state and local stakeholders and policy makers as to how to maintain this program and potentially improve patient outcomes to justify continued funding.

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A SINGLE-BLIND, RANDOMIZED CONTROLLED TRIAL OF A SILICONE-BASED FILM-FORMING GEL DRESSING FOR PROPHYLAXIS AND MANAGEMENT OF RADIATION DERMATITIS IN PATIENT WITH HEAD AND NECK CANCER

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This was a single-blind, randomized controlled, superiority trial. A computer generated random number sequence to allocate treatments. The objective was to investigate the effects of StrataXRT[®] versus 10% Glycerine (Sorbolene cream) for preventing and managing radiation dermatitis in patients with head and neck cancer receiving radical radiotherapy (≥ 50 Gy) with or without chemotherapy/biotherapy. Patients either received treatment 1 (StrataXRT) or Treatment 2 (Sorbolene). Skin toxicity, pain, itching and skin-related quality of life scores were collected for baseline, and up to four weeks post-treatment. Randomization used a computer generated random number list, stratified by schedule for biotherapy. Blocked randomization using permuted block sizes of four and six was performed. A total of 197 patients were randomized into the study. Skin toxicity was dependent on the treatment group with StrataXRT patients experiencing lower mean skin toxicity at the end of the radiation treatment ($P=0.002$). At the end of treatment, the StrataXRT arm had a lower percentage of grade 2 (80%) and grade 3 (28%) skin toxicity compared to the sorbolene arm (91% and 45% respectively). After adjustment for Cetuximab, the StrataXRT arm had a 12% lower risk of experiencing grade 2 skin toxicity (RRR=0.876, 95% CI: 0.778–0.987, $P=0.031$); and a 36% lower risk of experiencing grade 3 skin toxicity (RRR=0.648, 95% CI: 0.442–0.947, $P=0.025$). Cox regression analysis showed that patients receiving StrataXRT had a 41.0% and 49.4% reduced risks of developing grade 2 and 3 skin toxicity respectively throughout treatment compared to the Sorbolene arm. Patients in the StrataXRT arm generally reported better scores (lower pain and itching, and better quality of life) compared to the Sorbolene arm, these findings however did not reach statistical significance. No treatment interruptions and adverse events related to study products were reported in either arm. StrataXRT is effective for preventing, and delaying the development of grade 2 and 3 skin toxicity.

494 CHARACTERIZATION OF INTERNAL VALIDITY THREATS TO PHASE III CLINICAL TRIALS FOR CHEMOTHERAPY-INDUCED PERIPHERAL

NEUROPATHY MANAGEMENT: A SYSTEMATIC REVIEW

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The recent American Society of Clinical Oncology (ASCO) clinical guidelines for chemotherapy-induced peripheral neuropathy (CIPN) management (48 Phase III trials reviewed) only recommend duloxetine. However, before concluding that a CIPN intervention is ineffective, scientists and clinicians should consider the risk of type II error in Phase III studies. The purpose of this systematic review was to characterize internal threats to validity in Phase III CIPN management trials. The PubMed, CINAHL, EMBASE[®], and Scopus databases were searched for Phase III clinical trials testing interventions for CIPN management between 1990 and 2017. The key search terms were neoplasms, cancer, neuropathy, and CIPN. Two independent researchers evaluated 24 studies, using a modified Joanna Briggs Institute Checklist for Randomized Control Trials developed by the authors specific for CIPN intervention trials. Two studies exhibited minimal or no design flaws. 22/24 Phase III clinical trials for CIPN have two or greater design flaws due to sample heterogeneity, malapropos mechanism of action, malapropos intervention dose, malapropos timing of the outcome measurement, confounding variables, lack of a valid and reliable measurement, and suboptimal statistical validity. Numerous CIPN interventions have been declared ineffective based on the results of Phase III trials. However, internal validity threats to numerous studies may have resulted in type II error and subsequent dismissal of a potentially effective intervention. Patients may benefit from rigorous re-testing of several agents (e.g., alpha-lipoic-acid, duloxetine, gabapentin, glutathione, goshajinkigan, lamotrigine, nortriptyline, venlafaxine, vitamin E) to expand and validate the evidence regarding ASCO's recommendations for CIPN management.

495 USING A SIMPLE TOOL TO ASSESS GERIATRIC SYNDROMES IN OLDER ADULTS AT A COMPREHENSIVE CANCER CENTER

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Geriatric syndromes are clinical conditions that occur more frequently in older adults (OA), and cannot be attributed to a specific disease category. OA with cancer experience a higher frequency of geriatric syndromes than those without cancer. These syndromes (delirium, incontinence, falls, and frailty) are highly prevalent, multifactorial, and connected with substantial morbidity and poor outcomes in OA. A simple tool, SPICES, developed by Terry Fulmer, may help detect these conditions in this vulnerable population. Data are from an ongoing prospective longitudinal study with the goal of identifying vulnerable OA (age ≥ 65) prior to the start of chemotherapy in the ambulatory setting. Pre-chemotherapy collection of data included SPICES: An Overall Assessment Tool for Older Adults. Patients were asked to answer yes or no to the presence of the following problems: sleep disorders, problems with eating or feeding, incontinence, confusion, evidence of falls, and skin breakdown. Patients who answered yes were assessed by an advanced practice registered nurse (APRN) who offered education and targeted referrals to rehabilitation services, nutrition services, social work and/or wound care. The percent of patients who endorsed problems based on the SPICES tool and accepted interventions was tabulated. The current analysis included 260 evaluable patients recruited between August 2015 and April 2018. All of them completed the SPICES tool, the median age was 71 years (range 65–91), 58% (n=150) were female, and 76% (n=198) had stage IV disease. Most common cancers were: gastrointestinal (31%, n=81), breast (22%, n=57), genitourinary (18%, n=46), and lung (17%, n=45). Sixty-six percent (n=171) of patients endorsed yes to one or more of the items on the SPICES tool: sleep disorders (45%, n=116), problems with eating (37%, n=97), incontinence (23%, n=60), confusion (15%, n=38), evidence of falls (16%, n=42), and skin issues (5%, n=14). Overall, 96% (165/171) of those that reported problems on the SPICES tool received at minimum education from the APRN specific to the condition identified, and accepted referrals to a multidisciplinary team based upon the findings. A significant proportion of OA with cancer have a geriatric vulnerability identified by the SPICES tool and accept referral to a multidisciplinary

team to help address these vulnerabilities. This study highlights the importance of screening for common geriatric problems encountered by this population.

496 FAN THERAPY FOR THE RELIEF OF DYSPNEA IN MALIGNANT AND NON-MALIGNANT DISEASES

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Dyspnea is a common and distressing symptom in patients with advanced stages of malignant and non-malignant diseases. Fan therapy—which uses a fan to blow air in the direction of the patient’s face—is often used to alleviate dyspnea, and evidence has been emerging in support of its effectiveness. The purpose of this review was to examine the body of evidence in support of the effectiveness of fan therapy to alleviate dyspnea in patients with malignant and non-malignant diseases. Cochrane Central Register of Controlled Trials (CENTRAL) in the Cochrane Library, MEDLINE (EBSCO), CINAHL (EBSCO), and Scopus were searched in 21 August 2018. In addition, we hand-searched studies and used the ‘Similar articles’ feature on PubMed to search for articles. Any randomized controlled trials comparing the effects of fan therapy with those of placebo or any other interventions to alleviate dyspnea in patients with advanced disease, including adults aged ≥ 18 years, were eligible for inclusion in the review. Articles on long-term intervention involving fan therapy and complex intervention (including fan therapy) were excluded. Three review authors independently assessed the titles and abstracts of all the studies. They independently assessed all potentially relevant studies (full text), as well as performed data extraction and assessment of methodological quality. Three studies, including 119 participants, met the inclusion criteria. The trial size varied from 30 to 49 participants. Two studies were conducted on patients with terminal cancer and the third was conducted on patients with malignant and non-malignant disease. Two studies compared fan therapy with fan-to-legs, and the third study compared fan therapy with no fan + patient’s caregivers. All studies reported fan therapy to be an effective treatment for dyspnea, and no

adverse effects were reported in any of the studies. Few studies have assessed the effects of fan therapy on dyspnea in patients with malignant and non-malignant diseases. However, all studies meeting our inclusion criteria reported that fan therapy is an effective treatment for dyspnea without adverse effects. Therefore, we recommend fan therapy in the clinical setting for dyspnea in patients with malignant and non-malignant diseases.

497 **EFFICACY OF INTERMITTENT HEPARIN FLUSH VS NORMAL SALINE FLUSH IN ADULT IMPLANTED PORTS IN PREVENTION OF CATHETER OCCLUSIONS**

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This study examined the use of intermittent heparin flushes of 50 units in implanted subcutaneous ports after each IV medication administration, compared to flushes with 10 milliliters of normal saline in the prevention of catheter occlusions requiring the use of alteplase. Study inclusion criteria were inpatient oncology unit admissions, 18 years of age and older, between October 2013 and May 2017, with an oncology/hematology diagnosis, and an accessed implanted subcutaneous port during their admission. Exclusion criteria included patients who had more than one central line (such as a peripherally inserted central catheter (PICC)), flushes that were given off of the inpatient oncology unit, and continuous fluids ordered at time of the heparin flushes. This study was approved by the Institutional Review Board (IRB). A retrospective quasi-experimental 2-group comparison design was implemented (n=161 in each group) with data retrieval from the Epic electronic health record at Carilion Roanoke Memorial Hospital. From the data that were collected, the number of occlusions was extracted and the line orders were reviewed to see whether a trend in the number of occlusions differed with use of heparin versus normal saline flushes. Preliminary findings reveal that in the normal saline flushes where no heparin flushes were used at all, there were no occlusions. However there was one use of alteplase for a line that was difficult to flush and sluggish blood return. When heparin flushes were used, there were several instances where alteplase was administered. In these cases it was noted that the implanted subcutaneous port still flushed without difficulty; however, no blood was returned, so the alteplase was used. The samples of 480 encounters were reviewed

to get 161 heparin flushes, and a total of 64 encounters were reviewed to get 168 normal saline flushes. Our analysis came back with 99.4% of normal saline flushes being successful, and 97.52% of the heparin flushes were successful. Based on the Farrington-Manning test, we can conclude that normal saline flushes are non-inferior to heparin flushes when intermittently flushing implanted port lines.

498 **A PALLIATIVE CARE INTERVENTION FOR FAMILY CAREGIVERS OF ADVANCED CANCER PATIENTS**

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The increase of informal caregiving in the home as the primary source of patient care assumes that skills already exist to manage patient needs, financial matters, the complex healthcare system and, taking care of self. The purpose of this project was to test a Family Caregiver Palliative Care Intervention (FCPCI) by providing education and support needed to prepare them for the complex physical, psychological, social, and spiritual impacts of cancer. Eligibility criteria included: Primary family caregivers of cancer patients with stage III or IV gastrointestinal, gynecologic, and genitourinary; self-identified as having financial difficulty related to patient's illness or treatment; patient prognosis > 6 months; ≥ 18 years old. 240 family caregivers who reported financial strain from cancer and treatment were recruited to the study. This randomized clinical trial included a 4-part tailored education program including self-care content based on baseline outcome measures, concerns and needs for those on the intervention arm. Participants randomized to the control group received usual care, were provided monthly follow-up phone calls, and at the end of the study period, were offered the FCPCI intervention sessions and all teaching materials. All participants were on study for 6 months and primary outcomes included caregiver burden, skills preparedness, quality of life, psychological distress, and caregiver costs. Caregiver mean age was 55 with 81% being female. Twenty-nine percent worked full time, with 45% having quit work due to caregiving responsibilities.

Thirty-seven percent had a chronic illness. Over 90% were primary caregivers and 30% were caring for other family members along with the patient. Average length of time as primary caregiver was 4.4 years. Repeated measures analysis by ANOVA comparing pre and 1-month post intervention demonstrated improved outcomes for the intervention group in caregiving preparation ($p=.006$), and QOL ($p=.01$). Providing tailored psycho-education and support is important for meeting integral needs of family caregivers caring for patients with cancer as well as enhancing caregiver self-care.

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“I JUST WISH I KNEW SOMEBODY ELSE THAT WAS STRUGGLING”: EXPLORING STAKEHOLDER PERSPECTIVES OF SELF-MANAGEMENT NEEDS TO INFORM AN MHEALTH SELF-MANAGEMENT INTERVENTION

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Cancer remains a life-altering disease. During the acute treatment phase of cancer, patients face a complicated healthcare system and overwhelming information, while also managing the physical and psychosocial effects of cancer treatment. To support patients during this critical phase, our team is developing a web-based self-management system to support people to live with cancer and the accompanying uncertainty. In this presentation, we share patient and clinician perspectives on self-management needs in the diagnosis and treatment period, that informed the development of a web-based self-management tool, called ‘I Can Manage Cancer’ (ICMC). Underpinning the development of ICMC, is a user-centered design to support patients in the acquisition of core skills in self-management to manage symptoms. Key stakeholders, including patients and healthcare professionals participated in the software design process. Using a descriptive qualitative approach, we interviewed people with cancer ($n=16$) and conducted focus groups ($n=3$) with cancer clinicians ($n=19$) at two cancer centres in a Canadian province. Data were analyzed by thematic analysis using NVivo qualitative

software. Participants in this study described emotional and physical upheaval during the diagnosis and treatment phase. Patients described the challenges of treatment and diagnosis in the first person, whereas clinicians echoed patients sentiments. The following recurring themes related to self-management and support developed: (1) experiencing feelings of uncertainty, fear, and lack of control; (2) looking inward and outward for support, information, and strength; (3) system challenges and gaps in care; and (4) a desire for tools to solve problems, gain control, and normalize the situation. Findings from this study support the need for a self-management intervention and lay the framework for requisite content, features, and functionalities of ICMC. We noted duplication between much of the extant literature regarding self-management needs at this phase of the cancer trajectory, and the developing framework for ICMC. These findings demonstrate the need for ICMC, and emphasize the importance of key features, for example completing action plans and behavioural tools to support symptom monitoring. Findings from this study will be integrated into ICMC, with the aim of equipping cancer patients with skills to manage their illness, resulting in an improved cancer experience during the critical period of diagnosis and treatment.

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EARLY-ONSET CONTINUOUS CIPN: AN INDICATOR OF FUTURE DISABILITY?

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Up to 80% of women exhibit chemotherapy-induced peripheral neuropathy (CIPN), manifesting as numbness/tingling (N/T), during front-line chemotherapy for gynecologic cancer. It is unclear which of these women will develop functional disability. This prospective symptom assessment pilot aimed to identify a) time to onset of continuous CIPN, and b) whether time to CIPN onset is associated with disability after

completion of chemotherapy. Participants (n=30) were enrolled before initiation of platinum/taxane chemotherapy for gynecologic cancer. CIPN was assessed with daily diaries during 6 cycles of chemotherapy using a single N/T severity item (0=did not experience to 10=as bad as I can imagine). CIPN-related interference with life activities was assessed Day 1 of each cycle using MDASI Interference Scale (0=symptoms did not interfere to 10=interfered completely) for six life activities (activity, mood, work, relations with others, walking, enjoyment of life). Days to N/T onset and to continuous N/T (>21 consecutive days of N/T³³) were determined. Bivariate correlations were calculated between N/T variables, Cycle 6 interference scores, age, and comorbidities. The 25 participants with 3+ full data cycles (mean age 59.6 years) are included in this analysis. Experience of N/T was highly variable: 13 participants never experienced sustained (21+ days) of continuous N/T. However, among the 12 participants who did, average time to continuous N/T was 35.0 days (range 0–87). Age and comorbidities were not associated with Cycle 6 interference scores, but earlier onset of continuous N/T was associated with greater interference with general activities, walking, work (all $p < .05$) at Cycle 6. Time to CIPN onset is highly variable in our sample. Time to continuous N/T is associated with disruptions in important life activities. These results highlight the importance of integrating intensive, daily assessment into oncology practice to identify women who develop early onset and persistence of N/T, and suggest that early onset of continuous N/T can identify women at risk for future disability. It is difficult to identify patients in greatest need of cancer rehabilitation; our results are the first to highlight one subgroup of patients that should be prioritized for rehabilitation referrals early in treatment, to prevent future disability. Confirmatory studies in a larger sample should be undertaken.

501 **UNDERSTANDING THE JOURNEY TO MANAGE HEALTH AND FAMILY LIFE AS LIVING WITH CANCER**

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Cancer patients are living longer after treatment and may present multifaceted needs as following cancer treatment. There is little understanding about how they perceive and manage their life when years have passed after diagnosis in Taiwan. The purpose was to describe the experience of living with cancer at the follow-up period of survivorship in Taiwan. The

qualitative inquiry with open-ended interviews on a purposive sample of 20 cancer survivors was studied. The participants were survivors with stage 0 to IV, living with breast, cervical, colon-rectal or oral cancer for 2 to 5 years and finished their primary cancer treatment. Data were collected via tape record and analyzed by constant comparison. The main theme of living with cancer that emerged was to manage health and family as surviving with limitation after cancer. After years with cancer, the survivors perceived their life as being but with limitation, changes and uncertain as consequence of cancer and treatment. Efforts that aimed for future were vivid, including change for healthier life style, learning for cancer care management, mindfulness to regain balance, re-normalization of family life and relation with others. The most difficult experience included managing for medical care to integrate cancer and non-cancer, coping for symptom distress and returning to work. The findings of this study facilitate the understandings of unique psycho-social issues of cancer survivorship and also raise awareness of unmet supportive care needs in cancer survivors. Further supportive care for health management, medical care, family management and return to work are needed.

502 **HEALTH-RELATED QUALITY OF LIFE AMONG OLDER ADULT SURVIVORS OF BREAST CANCER**

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Older adults account for 75% of all cancer survivors in the United States and are at high risk to experience adverse effects related to cancer and its treatments. Advances in cancer care have significantly decreased morbidity and mortality in older adult cancer survivors. We aim to determine whether advances in cancer care over the last decade have improved health-related quality of life (HRQOL) among older adult breast cancer survivors. This study was informed by Ferrans' revision of the Wilson & Cleary Model of HRQOL. This secondary analysis utilized the linked Surveillance Epidemiology and End Results-Medicare Health Outcomes Survey (SEER-MHOS) dataset for two cohorts of breast cancer survivors: Cohort 5 (collected 2002–2004) and Cohort 15 (collected 2012–2014). The dataset includes information on demographic and clinical variables related to cancer, comorbidity, functional status and symptoms, and the Veterans Rand 12-item scale (VR-12) for HRQOL.

Participants from each cohort were matched utilizing propensity score matching. T-tests were used to compare HRQOL mental and physical component scores, along with subscales, in each cohort both before and after propensity score matching. Prior to propensity score matching, participants in cohort 15 (n=2,766) scored significantly better on the HRQOL physical component score (p=0.027) and equally well on the mental component score as participants in cohort 5 (n=877). Pre-matching, cohort 15 also scored significantly better than cohort 5 on the subscales of physical functioning (p=0.004), role-physical (p<0.001), and role-emotional (p=0.019). Post-matching, there were no significant differences between the cohorts for any outcome. Despite advances in oncology treatment regimens over the past decade, significant improvements were not seen in the HRQOL of older adult breast cancer survivors in this study once adjusting for demographic and clinical variables. Further research is needed to determine the impact of current oncology treatment regimens on HRQOL. Capitalizing on the availability of a national database linked to a cancer registry that allows for the analysis of data from two cohorts of older adult breast cancer survivors a decade apart, this study not only adds to our understanding of the impact of breast cancer and its treatments on HRQOL, but also allows us to appreciate gaps that remain in improving HRQOL outcomes in this population.

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DOES SEXUAL FUNCTIONING DECLINE IN FEMALE BREAST CANCER PATIENTS RECEIVING CHEMOTHERAPY AND SURGERY AS DEMONSTRATED BY THE FEMALE SEXUAL FUNCTION INDEX-BREAST CANCER QUESTIONNAIRE?

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There is a documented lack of sexuality-based assessment and education for women with breast cancer undergoing intravenous (IV) chemotherapy treatment and surgery. Sexuality-based concerns are not routinely assessed and discussed with breast cancer patients. This descriptive, prospective, three-month quantitative study was completed at three outpatient oncology infusion sites of an urban, tertiary hospital health system. The study evaluated if sexual functioning declined in female breast cancer patients 25

to 75 years of age, diagnosed with Stage I, II, or III breast cancer. A total of 23 participants met inclusion criteria. Six participants were excluded due to participation refusal or disease progression. Seventeen participants met both inclusion and exclusion criteria and were asked to complete the Female Sexual Function Index- Breast Cancer (FSFI-BC), a valid and reliable sexuality-based assessment tool. Consented participants completed the FSFI-BC questionnaire at two time points: (a) after breast cancer diagnosis and following lumpectomy or mastectomy, but before IV chemotherapy was initiated, (b) at least four-weeks following lumpectomy or mastectomy, and after the first cycle of IV chemotherapy. Data collected at the two time point intervals were compared utilizing paired-groups t-tests. Findings demonstrated a statistically significant decline (p < 0.05) in sexual functioning during two-different time-points during treatment in six areas. The final sample size of seventeen participants provided enough power to detect a large effect (d = 0.74). Findings showed that the FSFI-BC scores were statistically significant in six of the scales after IV chemotherapy and surgery, and that breast cancer patients experience a perceived sexual dysfunction throughout treatment. At questionnaire one, after diagnosis and surgery, an initial decline in sexual function was noted. Further decline occurred after receiving IV chemotherapy. Initial research recommendations include a follow-up of the participants in this study at six months and one-year post breast cancer diagnosis and treatment. Research recommendations include further study in breast cancer patient's sexuality-based educational needs and studying of healthcare providers' feelings on implementing sexuality-based education. Research findings from this study may help support development of sexuality-based assessment guidelines for female breast cancer patients, including implementation of the FSFI-BC into current standard of practice use.

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GLYCEMIC VARIABILITY IN PATIENTS WITH GASTROINTESTINAL CANCERS

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Identifying biomarkers that predict toxicities and responses to cancer treatment is a growing area of research. Biological changes that are known to occur in patients with cancer include variations in blood

glucose (BG) levels resulting from cancer, treatment, medications, infections, and/or acute illness. Increased glycemic variability (GV) has been defined as a standard deviation (SD) between BG measurements of 29 mg/dL or greater and 36% coefficient of variation (%CV) for BG. Increased GV has been associated with higher rates of infection and death in patients with cancer. The purpose of this integrative review was to synthesize studies published in peer-reviewed journals that address GV in patients with gastrointestinal (GI) cancer and describe the state of the science of GV and cancer treatment. The Malglycemia Orbit Model provided the conceptual framework for this review. The initial search of PubMed, CINAHL, EMBASE, and Cochrane yielded 676 articles and 5 additional articles were identified manually. Key search terms were blood glucose, blood sugar, blood control, glycemic variability, malglycemia, neoplasms, cancer, malignancy, drug therapy, radiotherapy, radiation therapy, chemotherapy, surgical procedures, and operative surgical procedures. After reviewing titles, abstracts, and removing duplicates and studies that included non-gastrointestinal cancers, 17 articles remained. Data were extracted and analyzed using an evidence table. BG and/or HbA1c data were reported from 2415 patients with GI cancers. The majority (56%) of studies evaluated the effect of surgery on glucose levels while others reported the effect of chemotherapy/radiation, insulin, or other medications. Acute GV from BG levels was reported in 11 studies; 6 used SD, 3 used Standard Error Mean (SEM), and 2 used interquartile range (IQR). Chronic GV from HbA1c levels was reported in 6 studies; 4 reported SD, 1 used SEM, and 1 used IQR. Results revealed wide fluctuations in glucose and increased GV in numerous studies. Timing of measurements varied from within 7 days to 2 years post-operatively. Evaluating GV in patients with GI cancers is a novel approach to understanding glucose fluctuations during cancer treatment. Further research is needed to investigate whether GV may be a predictive biomarker of cancer outcomes, treatment toxicities, complications, and infections.

505 PATIENT SATISFACTION WITH IMPLANTED VASCULAR ACCESS DEVICES: A PROSPECTIVE QUALITATIVE COHORT STUDY

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Between August 2015 and September 2016, 389 oncology patients were followed in a prospective study

evaluating the incidence and risk factors for deep vein thrombosis associated with the insertion of an implanted vascular access device (IVAD). The study included a patient satisfaction component designed to evaluate the comfort levels and to identify issues that patients experienced following the insertion of an IVAD. The primary outcome of the self-designed questionnaire was to elicit patient's perceived problems with their IVAD and the levels of comfort experienced during access and de-accessing the device. Patients were eligible to receive four follow-up phone calls over the one year period. Although the interview was structured no attempt was made to limit the conversation. Of the 389 patients, 42 died prior to the first contact scheduled approximately 3 months post insertion. One hundred and eighty-nine had no difficulties with their IVAD. Seventeen expressed very strongly that they 'loved' the port and preferred it over other types of devices such as peripheral intravenous or peripherally inserted central catheters. The remaining 158 (41%) patients reported issues including: discomfort when the IVAD was accessed; concern re skill level of the registered nurse (including fear); poor IVAD body placement and sporadic difficulty with blood withdrawal. Other patients were concerned with the lack of knowledge in some care settings where the use of IVADs was not supported. Two patients reported insertion of other central vascular access devices rather than using their IVAD. Forty-eight patients reported using an agent to reduce pain when accessing the device. Fourteen used ice as a local anesthetic agent, 32 used an anesthetic gel or patch and 5 patients used both. Two patients reported ice as being superior to the anesthetic gel. Surprising findings were the number of patients whose IVAD was never used. There were a variety of reasons for this; patients' death, oral chemotherapy or no treatment prescribed. This presentation will describe the overall patient experience and will use actual clinical scenarios to provide the attendee with resources to improve patient outcomes.

506 GENERAL HEALTH PERCEPTION AS A PROXY FOR QUALITY OF LIFE ASSESSMENT IN THE CLINICAL SETTING

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Within oncology, quality of life has been studied extensively and it has become commonplace for this

assessment to be included in research focused on cancer patients. As survival rates have improved, clinicians and researchers are also interested in the effect of cancer on all domains of life. It has been measured in numerous settings and validated across multiple disease and developmental stages. However, quality of life assessment becomes problematic when used in the clinical setting due to time constraints in nurse-patient interaction. Most of the instruments measuring quality of life are lengthy and require additional time away from patient care for responding to, and scoring the items. There exists a need for a one-question item that can be used to elicit an individual's quality of life in the clinical setting. General perception of health is a one-item global question that measures an individual's reported health status on a scale from 1 to 10, with higher scores representing better perception of health status. The premise of general health perception is that individuals assess various aspects of their health and life experience to form a single overview of their health. Using Pearson product-moment correlation coefficient, data collected from a sample of 56 young adult cancer patients between ages of 18 and 41, were analyzed to evaluate the relationship between their health status rating (general health perception) and quality of life, as measured by satisfaction with, and the importance of, various domains of life. The Quality of Life Index–cancer version instrument was used to measure quality of life. Preliminary analyses were performed to ensure no violation of the assumptions of normality, linearity and homoscedasticity. There was a strong, positive correlation between general health perception and quality of life, $r=0.686$, $p<0.001$, with high health status rating associated with higher levels of overall quality of life. The results suggest its use by oncology nurses in the time constrained clinical setting as a proxy for evaluating quality of life. Further probing based on rating response can then be implemented. Given the low level of health literacy in the adult population a simple one-item question evaluating quality of life may be more appropriate in the time constrained clinical setting. Further research using a larger sample of cancer patients is needed.

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HEPARIN X SALINE SOLUTION FOR CENTRAL VENOUS CATHETER MAINTENANCE: A SYSTEMATIC REVIEW

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The usage of central venous catheter became a routine practice in oncologic patients. This kind of

catheter is indicated for those patients who are in need of venous access for a long period, having many goals. The central venous catheter permeability loss is one of the complications related to its usage. Thereby, it is important the health professionals have the knowledge of which solution is the most indicated for its maintenance, avoiding possible device loss. The objective was to describe which solution (heparin or saline 0,9%) is the most efficient to the maintenance of central venous catheter permeability through a literature review. A systematic literature review was done, analyzing articles included in data basis Cochrane, CINAHL, LILACS and MEDLINE (via PubMed). The search strategies were built considering two conceptual blocks related to intervention compared to patient. The study data were organized on a board contemplating the following items: article identification; methodological features and found results. 516 articles were found, being included to analysis of this review 8 original articles, being 5 randomized and controlled clinic test, 1 systematic review with meta-analysis and 2 systematic review without meta-analysis. The study results showed that there is no significant difference between the heparin solution usage or saline 0,9% solution to maintain the central venous catheter permeability. The number of studies about the theme is insufficient, being in need of new researches of kinds of randomized clinic test comparing to the usage of these two solutions, considering the difference of each kind of central venous catheter.

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EDUCATIONAL INTERVENTION IN CANCER PATIENTS TREATED WITH SURGERY: A QUASI-EXPERIMENTAL STUDY

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Surgery as one of the central treatment options in the attention of cancer patients implies changes, modifications in lifestyles and generates a profound impact in these. Particularly in the physical and psychological domains. Patients require preparation from the attention centers in topics like wound care, pain management and monitoring of complications, to minimize the symptoms and post-surgical discomforts, as well as contributing to the optimization of the services and reduce the readmissions. Oncology surgery nurses are in charge of providing education to patients about post-surgical care at home, so it is essential to evaluate the intervention effect and

the impact on patient recovery. The purpose of this project was to assess the effect of an educational intervention (CUIDAR) in cancer patients during the post-operative, aimed to strength the competence to care patients at home in the dimensions knowledge, instrumental unicity, enjoy, anticipation and social relationships and interactions. This was a quantitative quasi-experimental design with control and intervention groups, with 192 patients who received surgery in the Instituto Nacional de Cancerología in Bogotá, Colombia. The intervention was conducted since the admission to the sixth week after release. Measurements of the home care competence and number of readmissions were made before and after the treatment. In the intervention group a positive and statistically significant effect was observed in six dimensions, as well as the reduction of hospital readmissions. The educational intervention CUIDAR provided by nurses is a feasible strategy that increases the capacity to care at home and significantly reduces the readmissions to emergency services in cancer patients treated with surgery. Educational intervention with an instrument was developed for Colombian nurses (CUIDAR) to evaluate the competence of the patient with cancer for care in the post-operative.

509 THE EFFECTIVE EVALUATION OF WECHAT GROUP ON IMPROVING MEDICATION COMPLIANCE OF BREAST CANCER PATIENTS RECEIVING ENDOCRINE THERAPY

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NCCN suggest that eligible BC patients require at least five years adjuvant endocrine therapy after surgery, but in China, Medication compliance is not ideal, which increased the risk of recurrence and metastasis, even death. So our research was to evaluate the effect of WeChat group on improving medication adherence of breast cancer patients receiving endocrine therapy. 120 breast cancer patients receiving adjuvant endocrine therapy after surgery from May 2016 to May 2017 were recruited by convenient and were randomly divided into two group. 60 cases took web-based WeChat follow up, 56 cases of the control group received routine telephone follow-up. Before intervention and after 3 months, 6 months, 9 months, 12 months, we used the MAQ, FACT-B and FACT-ES to investigate and compare in the two groups. It is remarkable difference in MAQ scores between different times and groups by repeated measure with

analysis of variance (Time: $F=3.316$ $P<0.03$; Groups: $F=0.164$ $P<0.05$). There were significantly different time effects and grouping effects in the total score of FACT-B (Total time: $F=1.508$ $P<0.001$; Groups: $F=2.087$ $P<0.02$). There was a significant difference of total score of FACT-ES of the two groups in time effect (Time: $F=2.435$ $P<0.001$). There was a significant difference of the score of hectic fever, hyposexuality and body swelling in group effect (Group1: $F=0.35$ $P<0.001$; Group2: $F=7.63$ $P<0.01$; Group3: $F=5.25$ $P<0.03$). WeChat group can be a real-time and effective management method of improve the patient's short-term medication compliance and endocrine symptoms of BC patients. It is worth further promotion and application. Wechat is a free application that Tencent launched on January 21, 2011 to provide instant messaging services for smart terminals. WeChat supports cross-communication operators and cross-operating system platforms to send freely over the network voice messages, videos, pictures and text. Network follow-up replaces traditional telephone follow-up, not only improved patient compliance, but also improved follow-up quality.

510 RELATIONSHIPS BETWEEN FINANCIAL TOXICITY AND SYMPTOM BURDEN IN CANCER SURVIVORS: A SYSTEMATIC REVIEW

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Financial toxicity (FT) is used to describe the financial distress or hardship associated with cancer and its treatment. The aim of this review was to examine the relationship between FT and symptom burden. A systematic review was done in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. We searched MEDLINE, EMBASE, and CINAHL (from 2000 to Jan 2018). Data were extracted and appraised by two reviewers. We planned to include primary quantitative, mixed-methods, and qualitative research studies. Nine studies involving a total of 11,544 cancer survivors were included. Of the nine studies, eight were of high quality. The relationships between FT and

psychological symptoms and physical symptoms were examined in eight and three studies, respectively. Six studies reported a positive relationship between FT and depression. Three studies found a positive association between FT and anxiety. Limited evidence was found on the association between FT and stress, fear of recurrence, spiritual suffering, pain, and overall symptom burden. A relatively clear association exists between FT and psychological symptoms. Clinicians should regularly screen for, assess, and manage emotional distress related to FT. Future interventional studies aimed at minimizing or preventing FT should evaluate psychological symptoms as secondary outcomes. Little is known about the relationships between FT and physical symptoms. Future research should overcome methodological limitations such as the lack of longitudinal data collection, use of mix-methods approaches, and homogeneity of samples.

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THE JACKI JACKET AFTER MASTECTOMY WITH RECONSTRUCTION: A RANDOMIZED TRIAL

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Patients who have mastectomy and reconstructive surgery often experience discomfort from not only surgical incisions, but also from drainage tubes inserted into surgical sites. The drainage tubes and receptacles often are difficult to manage when patients are discharged from the hospital and begin wearing typical clothing and returning to regular daily activities. The purpose of this trial was to compare post-discharge pain and quality of life in patients randomized to either usual practices (UC) alone or UC plus the Jacki Jacket (JJ) after mastectomy and reconstructive surgery in one or both breasts. We conducted a single-site, randomized clinical trial of adult women within 48 hours post-mastectomy with reconstructive surgery. The intervention group was given a Jacki Jacket (JJ), a soft, long-sleeved jacket with four inner drain receptacle pockets, along with instructions. The UC group was given a suggestion to wear comfortable garments. Baseline (T1) measures of pain intensity numerical scale (PINS) (0–10), clinical/demographic variables (depression, age, body mass index, surgery type, pre/intra-op anesthesia)

were collected. On day of drain(s) removal (T3), participants completed PINS (0–10) and the European Organization for Research and Treatment of Cancer (EORTC) BR23 questionnaire. Linear models were used to evaluate the association between group and T3 PINS adjusting for baseline measures and days from T1 to T3. Similarly, relationships between study group the BR23 body image functional scale were explored. 139 women were enrolled with a median age 48 (range 23–75) years. T3 questionnaires were obtained for 118 (84.9%); 116 completed the PINS and 118, the BR-23. There was no significant difference in T3 PINS by study group ($p=0.96$) adjusting for surgery type, T1 pain, depression, and number of days from T1 to T3. Adjusting for surgery type, age, marital status, depression, and obesity, participants randomized to receive the JJ+UC reported significantly better body image scores than UC (estimate=12.94, $p=0.009$). There were no adverse events. Our results suggest no significant impact of the JJ on pain intensity at the time of drain removal. The positive impact on body image however is encouraging, as women are known to be vulnerable during this post-operative period to body image changes. The JJ, a low risk intervention, may be a viable addition to post-operative discharge instructions.

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RELATIONSHIP BETWEEN PATIENT EXPERIENCE AND HEALTH RELATED QUALITY OF LIFE IN HOSPITALIZED INDIVIDUALS WITH CANCER

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Patient satisfaction with care is an important indicator of the quality of health care. It is crucial to identify factors that predict Health Related Quality of Life (HRQOL) variability post-cancer diagnosis, identify patients at risk and determine the appropriate interventions to improve the patient's HRQOL while hospitalized as well as improving patient satisfaction with care. Improving patient satisfaction with care can enhance patient provider partnerships that lead to patient compliance with treatment as well as help health care providers identify areas for

quality improvement. The purpose of this study was to identify relationship between patients' satisfaction with their hospital experience and HRQOL in individuals with cancer, as well as determine predictors of each variable. A descriptive, cross-sectional study of individuals with cancer (n=50) was conducted at two different adult acute oncology care units at an academic health sciences center in the southern United States. Patient satisfaction was measured by Hospital Consumer Assessment of Healthcare Providers and System (HCAHPS) and the HRQOL was assessed using Quality of Life Patient/Cancer Survivor Version (QOL-CS). Ordinary least squares (OLS) and correlation coefficients were used to calculate predictors of patient satisfaction and HRQOL and the relationship between HRQOL and patient satisfaction, respectively. Patients who were single ($\beta = -1.200$, $p=0.031$), diagnosed for 6-10 years ($\beta = -3.902$, $p = 0.001$) and diagnosed for 11 years or longer ($\beta = -5.813$, $p<0.001$) had significantly lower patient satisfaction scores. Patients with public insurance ($\beta = -3.047$, $p=0.019$), diagnosed 6-10 years ($\beta = -3.254$, $p = 0.015$) and diagnosed 11 years or greater ($\beta = -4.308$, $p<0.001$) had lower QOL-CS scores. Physical wellbeing scores ($r = 0.327$, $p = 0.021$) and social concerns were associated with higher HCAHPS scores ($r = 0.284$, $p = 0.005$). There was a positive relationship between patient satisfaction and physical and social functioning. Patients with long history of cancer reported lower level of satisfaction with their hospital experiences and lower level of HRQOL. Nurses should have measurable goals to provide high quality care to individuals with cancer including satisfaction during hospitalization and promotion of HRQOL. Nurses are in a unique position to improve patient satisfaction and HRQOL through patient education, symptoms management and therapeutic nurse-patient relationship.

513 EFFECTS OF ORAL SUPPLEMENTATION TO MANAGE ORAL MUCOSITIS IN CANCER PATIENTS: A META-ANALYSIS OF RANDOMIZED CLINICAL TRIALS

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Oral mucositis is a common toxic side effect in patients ongoing cancer treatment that negatively impacts the treatment outcomes and patients'

survival. The purpose was to evaluate the evidence of the effects of oral supplementation in the management of oral mucositis in cancer patients undergoing chemotherapy and/or radiation therapy. This was a systematic review. The search was performed at Cinahl, Cochrane, Lilacs, PubMed, Scopus, and Web of Science. Additional gray literature search was performed on Google Scholar, Open Grey, and ProQuest Dissertation & Theses. Only randomized clinical trials studies that evaluated oral supplementation compared to other interventions or no interventions for prevention and/or treatment of oral mucositis in cancer patients undergoing chemotherapy and/or radiation therapy were included. Eleven randomized clinical trials were included in this review. The oral supplementation used were Elental, Glutamine, and Zinc. The studies were grouped in two meta-analysis according to the interventions (Zinc or Glutamine). In the meta-analysis the zinc group presented (RR 0.76, 95% CI: 0.56-1.02, $I^2=65\%$ n=278) and the glutamine group presented (RR 1.00, 95% CI= 0.81-1.24, $I^2=0\%$ n=327). There was not strong evidence for oral supplementation in the management of oral mucositis in cancer patients undergoing chemotherapy and/or radiation therapy. However, Zinc might be a promise strategy for the management of oral mucositis.

514 A PILOT STUDY INVESTIGATING "CHEMOBRAIN" SYMPTOMS IN NEURO-ONCOLOGY PATIENTS

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"Chemobrain" is a term that patients and clinicians often use to describe a cluster of symptoms related to cognitive dysfunction in patients undergoing chemotherapy. These symptoms may include short-term memory loss, forgetfulness, and/or cognitive decline. Although this is a commonly used term, there is little research on the trajectory of onset when considering both length of diagnosis and length of chemotherapy. This pilot study was designed and initiated by the first author of this abstract who also served as the Principal Investigator (PI). The objective of the study was to test the feasibility and validity of cognitive assessments that have been used in other areas of oncology to determine the onset

and course of cognitive symptoms associated with “Chemobrain,” so that nurses can better understand how to interact with patients experiencing adverse cognitive symptoms that may arise from chemotherapy administration. This multisite, prospective, non-randomized, observational, pilot feasibility study enrolled patients who were undergoing therapy at the time of the study. Eligible patients were recruited and consented from two outpatient chemotherapy clinics in a large metropolitan area. Patients completed the General Practitioner Assessment of Cognition and Trailmaking Test A & B at baseline, four months after enrollment, and eight months after enrollment into the study. Analysis was conducted using SASv9.4. Of 55 patients enrolled, 49 were included in the data analysis (1 subject opted out after enrollment). Subjects were primarily female (55%) with a mean age of 62 years; half of the subjects were enrolled on their first or second cycle of chemotherapy (range 1–16) and 27 completed the 8-month follow-up (14 lost to follow up and 8 died). There was no association between age, nor number of chemotherapy cycles and change in cognitive scores using simple regression ($p > 0.05$). After controlling for age, the number of cycles was a predictor of lower Trailmaking B ($p = 0.006$) scores; and approached significance for GP COG ($p = 0.136$), Trailmaking A ($p = 0.113$) scores. Although not powered to detect statistical significance, this pilot study provides evidence of a real change in cognitive scores over time not entirely attributable to age. Nurses can use the Trailmaking and GPCOG to assess for cognitive changes in patients undergoing chemotherapy. Additional research is needed to better understand the trajectory and impact of “Chemobrain” on patients.

515 PERSONALIZED EDUCATION TRACKING EMPOWERS PATIENTS TO LEARN AT THEIR OWN PACE

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Technological developments may aid clinicians in teaching patients about their diagnosis. Patients with a neuro-oncology diagnosis have almost endless access to information on the internet, but this information can be contradictory and confusing. The aim of this study is to determine the impact of three different teaching methods on neuro-oncology patients’ knowledge of their cancer treatment (standard of

care generalized knowledge, paper-and-pen binder education, and online education) to better understand how to educate neuro-oncology clinic patients. This was a prospective, 3-cohort, observational pilot study of neuro-oncology patients who were receiving treatment at the enrolling clinical site. The study Principal Investigator (PI) is an Oncology clinic nurse manager. Patients were given a baseline survey of knowledge, assigned by cohort to one of three types of education: standard of care, (cohort 1); standard of care plus a customized binder and journal, (cohort 2); standard of care, binder, journal and the Cancergraph™ smartphone app (cohort 3). All participants completed the same survey at baseline and at a two-week follow-up. Data was coded and entered into SAS v.9.4; demographics and univariate analyses were conducted with parametric and non-parametric test; ANOVA was used to explore associations between the three different groups. A total of 30 participants were enrolled, 10 in each cohort group. The follow-up knowledge scores were higher in all three cohorts, but this was not statistically significant between or across cohorts and timing. Cohort 1 and 2 scores decreased from Baseline to Follow-up, although this was not statistically significant. Cohort 3 scores increased from Baseline to Follow-up, showing efficacy in application education of patients with neuro-oncology. Moreover, the face value data amongst the research and clinical team members involved in this study reported usefulness of the application tracking and education tool. Additional data, with a larger sample size, is necessary to determine predictive values of education avenues nurses can use with neuro-oncology patients.

516 INCIDENCE OF AND RISK FACTORS FOR ARM LYMPHEDEMA FOLLOWING BREAST CANCER TREATMENT, A STUDY IN GHANA

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This research aims to determine the incidence and risk factors of lymphedema after breast cancer treatment at the oncology unit of a hospital in Kumasi Ghana. A descriptive, retrospective survey was used in the study. Breast cancer and lymphedema related variables were collected from the medical records of breast cancer patients. Data were analyzed using descriptive statistics and chi-square tests. Among 313 patients treated for breast cancer, 31 (9.9%) developed lymphedema after treatment. A chi-square

test showed that axillary lymph node dissection was statistically a significant risk factor of lymphedema (Chi-square test value=7.055, P value=0.008). Radiation and late stage of breast cancer diagnosis may have contributed in development of lymphedema despite having P value > 0.05. Age, BMI and hypertension were also not associated with lymphedema. This study provides evidence that the incidence of lymphedema was 9.9% with axillary lymph node dissection as a statistically significant risk factor of lymphedema. With majority of breast cancer patients presenting with late stage disease and also undergoing axillary lymph node dissection, lymphedema will continue to be a problem in Ghana. Knowing the incidence and risk factors of lymphedema not only assist in the early detection and effective management of lymphedema but also provides base-line data for further research on lymphedema in Ghana. Providing comfort and restoring function through lymphedema management is important to maximizing quality of life for patients. Lymphedema management in late stage breast cancer is particularly critical to comfort and quality of life.

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DISTRESS, DEPRESSION, AND ANXIETY: A COMPARISON BETWEEN MALE AND FEMALE DISTANCE CAREGIVERS OF PATIENTS WITH CANCER

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Research on distress, depression, and anxiety in caregivers has been well documented, but little is known about the differences between male and female distance caregivers on these domains. The purpose of this study is to describe and compare levels of distress, depression, and anxiety at baseline between male and female distance caregivers (DCGs) of patients with cancer who are enrolled in a randomized clinical trial (RCT). Subjects were DCGs enrolled in an ongoing RCT to test the effectiveness of an intervention for DCGs of patients with cancer. Descriptive demographic and psycho-emotional data were collected upon enrollment in the study. The NCCN Distress thermometer was used to assess distress at two points in time—within the past week and within the past month. Depression was measured using the PROMIS Short Form v1.0–Depression 4a, and anxiety using the PROMIS Short Form v1.0–Anxiety 4a. For all

measures, higher scores represented higher amounts of the attribute. A total of 255 DCGs have been enrolled in the study. The majority were female (71.4%), Caucasian (65.5%) and the child (122 females, 54 males) of a patient with metastatic cancer (85.6%). There were no statistically significant differences in average age (years) between female DCGs (M=46.4, SD=13.5) and male DCGs (M=44.9, SD=11.0). In addition, there were no statistically significant differences between male and female DCGs in distress (past week or month) or anxiety scores. There was a statistically significant difference in depression scores with females reporting higher levels of depression (M=50.9, SD=8.0) than their male counterparts (M=48.6, SD=7.6, $p=.036$). Our findings that female caregivers reported higher depression than males are consistent with those found in the literature examining depression in other caregiver groups. Given our findings of gender differences for distress and anxiety, we suggest that providers consistently screen caregivers (both male and female) for these untoward outcomes of caregiving. Given our results, we have no reason to believe that men and women differ in their perceptions of anxiety and distress—two outcomes associated with poor physical and psychological outcomes. Further research should focus on the underlying influences of depression in caregivers, allowing us to create tailored interventions based on gender.

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IMPACT OF GUT MICROBIOTA CHANGES DURING THE PERIOPERATIVE PERIOD AMONG COLON CANCER PATIENTS UNDERGOING BOWEL RESECTION SURGERY. A PROSPECTIVE STUDY

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Colon Cancer (CC) is the third leading cause of cancer-related fatalities in the US and was projected to cause over 50,000 deaths in 2017. Significant risk factors are diet, environmental factors, genetics and chronic inflammation, ultimately linked with the gut microbiome dysbiosis (alteration). However, it is unclear how these changes develop over time and whether they directly affect tumorigenesis or if they are an unrelated consequence of CC development. This is an emerging field and nursing, especially oncology nurses and nurse practitioners, being at forefront as educators, and providers need to understand these processes first hand in order to provide efficient care. The purpose of this study is to gain a better understanding

whether changes in the human microbiome can be correlated with changes in human health including clinical outcomes, patient reported outcomes and diet tolerance. Aim 1: To investigate the changes the microbiota goes during the perioperative period. Aim 2: To explore relationships between these changes and patient's self-reported outcomes. Aim 3: To examine the impact of these changes on surgical outcomes including post-operative infections. Aim 4: To observe the time of return of bowel function and diet tolerance during the post-surgical period. It is important to understand the changes the microbiome undergoes during the perioperative period in order to identify ongoing processes and patients at risk for adverse effects so we can identify ways to modulate microbiota in favor of patients during this critical period and improve overall care. This is a single center observational prospective study looking at microbiota analysis, pain, fatigue, infection rates, bowel function, and diet tolerance. The study will be conducted at Cancer inclusive of patients of 18–80 years of age diagnosed with colon cancer undergoing cancer removal surgery. Understanding microbiome and the effects of dysbiosis is crucial. These patients may have other adverse effects and infection processes secondary to surgery such as surgical site infections, Clostridium difficile infections, urinary tract infections, pneumonia, delay in bowel function and diet tolerance and prolonged length of stay. Other factors can be pain, fatigue, depression and anxiety. These factors affect the patients' outcomes, their quality of life, and the healthcare organizations as well and increase healthcare expenditure.

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EFFECTIVENESS OF TWO EDUCATION STRATEGIES FOR THE MANAGEMENT OF TOTALLY IMPLANTED CATHETERS

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Totally implanted catheters are widely used in oncology settings but not all nurses are trained to handle it. The proper handling of catheter can prevent several of catheter-related complications. So, this study aimed to compare the effectiveness of two education strategies for handling totally implanted catheters as an

educational intervention for professional qualification of nurses. quasi-experimental study was performed at University Hospital of Brasilia. The education strategies used were a manual of operational procedures (MOP) and a theoretical-practical lecture (TPL). First, nurses were asked to complete an instrument for assessing knowledge about totally implanted catheter and demonstrating the techniques of puncture, needle removal and catheter maintenance in a medium-fidelity catheter simulator. After, the MOP was delivered and participants can take the manual for a week to study their content. After this, participants were asked to fill in the instrument of knowledge evaluation and to demonstrate the same techniques in the simulator, as described in MOP. After each participant performed the techniques individually in the simulator, the group was assembled to TPL. At the end, each participant performed, once again, the techniques and filled in the instrument of knowledge evaluation. The sample consisted of 53 nurses. Regarding cognitive performance, the mean score obtained by nurses was 24.9 points (minimum of 2 and maximum of 37 points). We observed a statistically significant difference between the initial knowledge score ($p = 0.00$), after reading the manual ($p = 0.00$) and after the theoretical-practical lecture ($p = 0.001$); being greater the difference between the initial and after lecture, which indicates that the sum of the strategies seems to add more knowledge to the nurses. There was a statistically significant difference between the initial performance score ($p = 0.00$) of all the techniques evaluated, after reading the manual ($p = 0.00$) and after the theoretical-practical class ($p = 0.00$), which means the two teaching strategies were effective in improving the score. The MOP provided gain in knowledge and improved the practical performance of nurses in handling this catheter. However, the sum of the strategies seems to be more effective as a training strategy for totally implanted catheter handling by nurses.

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THE MISCONDUCT OF THE LAW: THE REALITY OF PATIENTS WITH MALIGNANT NEOPLASMS IN SÃO PAULO COUNTRYSIDE REGIONS

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Cancer has affected millions of people worldwide. With increasing incidence of the disease, greater investments in prevention, treatment and research were instituted in Brazil. In 2012, the National Congress enacted Law

No. 12,732, called the “Sixty-Day Law”, establishing that a cancer patient has the right to start treatment within sixty days from the pathological report diagnosing the disease. However, according to the Ministry of Health, about 45% of cancer patients have the first care at an advanced stage. The objective was to understand the experience of patients during Brazilian Unified Health System treatment (from the first assistance to the specialized assistance fulfillment of the referred law), as well as the managers and primary assistance professional’s perspective. This is a qualitative research. Twenty six patients, eleven managers and eleven health professionals were interviewed, who answered questions about the Law. The interviews were analyzed according to the methodological framework of phenomenology, and were interpreted in the light of Alfred Schutz’s theoretical reference and the aforesaid law. There were deficiencies in primary care that did not meet the population’s needs; about 94% of the patients and 90% of the professionals were unaware of the legislation. The managers stain to know the Law, but reported great difficulties with the shortage of vacancies to offer the population, mainly of exams of high complexity, such as the biopsy offer. Primary care professionals reported that it is difficult to follow the cancer patient because they do not receive a counter-referral from the tertiary sector. Brazilian Unified Health System (SUS) cannot meet the demand for the population’s examinations. Therefore, users seek for their own means of accessing specialized care using a mixed public-private system to initiate treatment. There is a great failure in the care of oncology patients by SUS, due to the lack of awareness of users and health professionals regarding the Sixty Days Law; scarcity of vacancies, especially exams of high complexity and the poor establishment of the reference and counter-referenced by the health system. On the other hand, SUS cannot meet the population’s demand for primary health care examinations, evidencing that there are gaps in the implementation of the law following the itinerary proposed by the health system.

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INVESTIGATION OF EXTERNAL BREAST PROSTHESES COGNITION AND PHYSICAL AND PSYCHOLOGICAL STATUS AMONG BREAST CANCER PATIENTS WHO WORE CONVENTIONAL BREAST PROSTHESES

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Breast loss causes negative influence on women physically, psychologically and socially. Breast prosthesis can

improve patient’s figure externally, increase self-confidence, thus improving quality of life. The objective of this project was to describe external breast prostheses cognition, quality of life and body image among breast cancer patients who wore conventional breast prostheses and to compare the differences between patients with different age and education. 30 subjects were investigated by self-designed cognition questionnaire, quality of life instruments for cancer patients-breast cancer (QLICP-BR) and Body Image Scale (BIS). 73.3% patients were willing to wear “bra type” prostheses at baseline investigation, 66.7% patients accepted prostheses with prices less than RMB1000. 56.7% patients have worn prostheses except sleeping at night, all the patients considered external prostheses could enhance self-image and 53.3% of them thought their sexual life was improved. 70% patients learnt the prostheses information from medical personnel and survivors, however, only 6.7% of them knew enough about prostheses. 86.7% patients considered it was a necessity to get information from professional medical staffs. With regard to the conventional prostheses, 96.7% patients felt it was convenient to wear, 70% patients expressed that their prostheses could fully cover their wound and 50% patients were satisfied with their prostheses. The scores of quality of life were high and satisfied, the scores of body image were relatively high. The elderly patients were tend to accept prostheses with low price and patients who were highly educated were more likely to be dissatisfied with their prostheses. The quality of life among patients who wore conventional prostheses was fair and the body image was not so good. The elderly patients didn’t accept prostheses with high prices and patients with high education degree were more likely to be dissatisfied with their prostheses. Breast cancer patients knew little about the external prostheses in China, however, they were eager to get more information from professional medical staffs. Innovative: To understand the cognition and physical and psychological status among breast cancer patients who wore conventional breast prostheses in China.

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CHAMOMILE GEL VERSUS UREA CREAM FOR THE PREVENTION OF ACUTE RADIODERMATITIS IN PATIENTS WITH HEAD AND NECK CANCER: RANDOMIZED CONTROLLED TRIAL

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Radiodermatitis is one of the most common adverse effects from the exposure to ionizing radiation in

head and neck cancer patients. There is no consensus on how to prevent it. The aim of this study was to compare the efficacy of a Chamomilla recutita (Chamomile) gel and a urea cream for the prevention of radiodermatitis in patients with head and neck cancer undergoing radiotherapy. This is a randomized controlled clinical trial, Phase II and Phase III. The dose of Chamomile gel was established in the previously conducted Phase II Clinical Trial with the objective of comparing three doses of Chamomile gel to delay the occurrence of radiodermatitis in head and neck cancer patients. The concentration of 8.35% of Chamomile gel delayed the occurrence of erythema in comparison to the concentrations 2.50%, and 5.00%, thus being the dose chosen to be used in the Clinical Trial Phase III. Sociodemographic data and clinical data were collected prior to radiotherapy. Participants were followed weekly to evaluate the development of radiodermatitis. For evaluation we used RTOG scale. From July 2015 to May 2017, 51 individuals with head and neck cancer who were initiating radiation therapy were recruited. At week 3, 3.83% ($n = 20/24$) of the patients allocated to the experimental group developed any degree of radiodermatitis compared to 92% ($n = 22/24$) of the patients in the control group ($p = 0.67$). At week 6 of evaluation, only 6% ($1/18$) of the patients in the experimental group developed radiodermatitis Grade 2 compared to 28% ($5/18$) of the control patients ($p = 0.07$). No patient developed radiodermatitis degrees 3 or 4. Patients who used Chamomile gel presented fewer complaints related to subjective evaluation data compared to patients using urea cream. From the results, we can affirm that there was a clinical benefit in the use of Chamomile gel for the prevention of radiodermatitis since there was less occurrence of radiodermatitis Grade 1 at week 3 of assessment, and Grade 2 or greater at week 6 in patients with head and neck cancer submitted to radiotherapy. The results of this study should be corroborated in a confirmatory study whose sample size and design may be based on this study.

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COMMUNITY BASED PALLIATIVE CARE NEEDS OF ADULT CANCER PATIENTS: A PILOT STUDY

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The purpose of this descriptive research pilot study is to explore and describe the palliative and supportive care issues and needs of young and middle age adults (20–59) with a potentially life limiting cancer

diagnosis. Specifically, this study examines perceived changes relating to quality of life and functional status since diagnosis. A convenience sample of 15 oncology patients completed a demographic survey and two questionnaires relating to quality of life and functional health status. In addition, they were asked seven open-ended structured survey questions relating to personal descriptions of quality of life, available resources, and personal understanding of palliative care. Quality of Life Dimensions are significantly impacted with this population including physical, psychological, and social factors. Several reoccurring themes associated with their age and diagnosis also emerged including delayed diagnosis, employment and financial issues. The majority of this population lives in rural communities and has limited access to resources. Finally, none of the participants could accurately describe palliative care and only 15% had been introduced to palliative care services while being treated for their cancer. All dimensions associated with quality of life are impacted by the diagnosis of cancer for a young and middle age adult. The majority (80%) of this population live in rural communities. They are being treated in outpatient oncology centers in an urban setting and then returning to their families and communities and health care providers with limited resources. Palliative care is a resource that could help address some of these needs. Clearly for this population, palliative care is not being well communicated or integrated in this primarily rural young cancer population. The results from this study provide valuable information and direction for planning competent palliative and supportive care to this unique cancer population.

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THE ILLNESS EXPERIENCES OF CHINESE PATIENTS LIVING WITH LYMPHOMA: A QUALITATIVE STUDY

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Lymphoma patients face many problems and challenges. There is a paucity of studies on the illness experiences of Chinese patients living with lymphoma. The objective was To explore the illness experiences of patients living with lymphoma in Mainland China and to describe the impact this disease has on those individuals' everyday lives. A descriptive qualitative design was used. Data were collected through face-to-face semi-structured interviews with 16 lymphoma

patients and analyzed using “conventional content analysis” method. Nine males and seven females participated in this study. Six themes emerged: (1) Illness acceptance is a process, (2) Altered body image, (3) Influenced interpersonal relationships, (4) Hindered career development, (5) Changed life philosophy, and (6) Achieving personal growth. This study contributes new knowledge to the understanding of the illness experiences of lymphoma patients within a Chinese social and cultural context. And it also reveals how those individuals deal with complex problems they faced. Nurses and caregivers should pay attention to lymphoma patients’ complex and challenging life, understand their intrapsychic conflicts or negative emotions caused by identity negotiation and cancer stigma. Such knowledge can be used to enrich coping strategies and provide tailored psychological care for these groups of patients.

525 **SOCIAL MEDIA AS A PLATFORM FOR INCREASING KNOWLEDGE OF LUNG CANCER SCREENING IN HIGH RISK PATIENTS**

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There has been no significant change in the rate of lung cancer screening with low-dose computed tomography in high risk patients despite the endorsement of the United States Preventive Services Task Force and insurance coverage. Many who are eligible for lung cancer screening may not know that this preventive service is available and covered by insurance. The purpose of this study is to explore using a social media site as a platform to educate patients about lung cancer screening. This study will also assess motivation to discuss lung cancer screening with healthcare providers after viewing the educational program. EBP Questions: Is there a difference in knowledge of lung cancer screening before and after viewing an educational program on a social media platform? Will those who viewed a lung cancer screening program on social media be motivated to discuss screening with their healthcare provider? Subjects ages 55-77, current smoker or quit smoking ≤ 15 years, ≥ 30 pack years smoking history will be recruited via Facebook ad. Subjects completed a demographic survey and the Lung Cancer Screening-12 (LCS-12) knowledge measure tool, then watched a short video about lung cancer screening hosted on YouTube, and then completed the LCS-12 tool (post-test). Subjects were

asked to rate their level of motivation to discuss lung cancer screening with their healthcare provider. This study used a pre-experimental, one-group pre-test-posttest design. Scores from the pre/post-test were analyzed using the paired t-test. Descriptive statistics were used to analyze subject self-report of motivation to discuss screening with their provider. The mean knowledge score of participants ($n=31$) significantly increased from 5.26 to 8.19 after viewing the video ($t= -5.956, p < 0.001$). The mean motivational level (1-5) was 3.52 with a mode of 5. Lack of knowledge regarding lung cancer screening may negatively impact high risk patient’s health. This study suggests that social media as a platform for education can be used to increase knowledge of lung cancer screening. These findings show that the use of social media has a role in improving access to health information.

526 **USING MINDFULNESS AND SELF DETERMINATION THEORY TO PROMOTE PSYCHOLOGICAL WELL-BEING AND PHYSIOLOGICAL HEALTH IN BONE MARROW TRANSPLANT PATIENTS**

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Bone Marrow Transplant (BMT) is an oncological procedure involving the killing of a diseased immune system by chemotherapy and/or radiation followed by its repletion with healthy cells. The average URMC BMT inpatient length of stay is 21 days due to slow blood-cell-count recovery and complications. Throughout admission, patients become susceptible to psychosocial stress as they face fear, anxiety, pain, and fatigue. Mindfulness is a mind-body practice which focuses on active awareness and acceptance to promote coping and decrease stress. Self-determination theory (SDT) is a psychological theory encouraging the satisfaction of basic needs for personal growth and well-being. This prospective IRB approved study aims to identify the psychological and physiological benefits of a module-based intervention program, incorporating Mindfulness and SDT, on BMT inpatients. Sample includes patients between the ages of 20 and 88 admitted URMC to receive an autologous or allogeneic BMT. Five interactive modules will be available, each providing specific mindfulness techniques while promoting choicefulness, providing education, and encouraging positive relationships. To assess psychological well-being, patients will be asked to journal after each session and with consent, entries will later be reviewed and coded. Patients will

also complete pre and post study surveys to assess coping and self-awareness, as well as degree of fear, anxiety, pain, and fatigue. To assess physiological well-being, vital signs and blood-cell-count recovery time will be followed and readmissions monitored, comparing patients who received SDT intervention versus those who have not. Variable study population will be compared to a control group consisting of previous BMT inpatients with similar demographics. Surveys will be administered to this control population at outpatient visits and with patient permission, measurable data will be gathered through hospital records. Research has shown chronic stress is related to physiological functions that promote inflammation and cell proliferation, supporting tumor development and progression. BMT inpatients who participate in this intervention will report higher levels of psychological well-being and exhibit faster blood-cell-count recovery along with decreased risk of complications and readmissions. Assuming anticipated results, this study demonstrates the significance of psychological intervention as it promotes perceived well-being and physiological healing. With healthier patients experiencing faster recovery and fewer complications, both the patient and hospital benefit as length of admission and probability of readmission significantly drops.

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PHLEBITIS: STILL A SIGNIFICANT PROBLEM IN BRAZIL

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In many developing countries around the world, cancer patients have limited access to central lines, and therefore are receiving chemotherapy by peripheral catheters. Consequently, phlebitis continues to be a problem. A National Patient Safety Program (NPSP) was instituted in Brazil in 2013 aiming in improving quality of care and patient safety. Considering that cancer patients are living longer and in order to provide evidence for nurses to start a political change in how cancer patients are being treated, avoiding damage to their peripheral veins, this review was conducted to quantify and qualify the problem. Literature review on CINAHL, PsycINFO, Pubmed, Medline and Web of Science, using the keywords “phlebitis” AND “Brasil OR Brazil” as location of the study or author affiliation filter. The inclusion criteria were: research

conducted in Brazil with human adults, that reported incidence and/or prevalence of phlebitis on patients with peripheral catheters, with no restriction of publication date, or language. Thirteen articles were selected from 87 that were identified, mostly from 2012 to 2018 (77%). Seven studies were prospective cohorts; 12 studies were conducted in hospital settings and one in ambulatory. Eight studies used the Infusion Nurses Society (INS) Phlebitis Scale. The incidence of phlebitis ranged from 0.17% to 33.3%, and in 8 studies the incidence was above 5%, the acceptable rate of phlebitis according to INS. One study was conducted with women receiving chemotherapy for breast cancer and the incidence of phlebitis in this group was 43.3%. Grade 1 and 2 were the most common types of phlebitis. No association was identified between phlebitis and caliber or type of catheter, right or left member, vein (anatomical position, visibility, mobility, trajectory), dressing, age, gender or skin color. Two out of 5 studies reported association between phlebitis and catheter placement > 72 hours; three did not find association. Two out of six studies identified association between phlebitis and the intermittent use of the catheter compared to continuous infusion. The evidence of phlebitis in Brazilian studies is recent, basically limited to hospital settings, and confirms that phlebitis is occurring in unacceptable rates. Based on the only study performed with cancer patients, we declare the need for oncology nurses to step-up and advocate for central lines, using the NPSP as support.

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PHYSICAL ACTIVITY IN MEN NEWLY DIAGNOSED WITH PROSTATE CANCER: PRELIMINARY RESULTS

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Evidence-based recommendations indicate that moderate-intensity physical activity (PA), 150 minutes per week may benefit adults diagnosed with cancer, from time of diagnosis through treatment. However, there is limited evidence suggesting what PA patients with cancer may be more likely to perform and sustain over time. The purpose of this project was to 1) measure PA and functional capacity in men newly diagnosed with prostate cancer prior to treatment, 2) explore feasibility of a 2-week PA intervention during pre-treatment.

This feasibility study explores the implementation of PA preferences over a 2-week duration for a total of 15 men with newly diagnosed with prostate cancer. Baseline measures are: demographics (age, medical info, body fat measurement), functional capacity (6-minute walk test, balance, timed-up-and-go test), PA (Readiness Questionnaire, Godin Leisure Time Exercise Questionnaire, Rating of Exertion, Daily Diary), and symptom impact (EORTC QOL C30 and PR25, NCCN Distress Thermometer, Self-Efficacy Scale). The nurse discusses potential physical activities to perform to meet their individualized intervention prescription. All measures are repeated post-intervention at 2-weeks. Descriptive statistics are used for all baseline and post-intervention. Preliminary data indicate that men (n=5) awaiting treatment decisions are engaged in the PA intervention. Participant functional capacity measures have improved and symptoms remain unchanged over the 2-week interval. The most common PAs reported are walking (fast and moderate-paced), gardening, yard maintenance, and stretching. Recruitment is ongoing and updates in analyses will be presented. Participants have indicated a willingness to continue participation through treatment to determine the impact of PA on functional capacity, symptom burden and treatment-related outcomes. It is expected that engaging patients to choose preferred activities as a means to meet recommended goals will increase sustained performance. Study results will be used to design a larger PA intervention study to determine sustainability and healthcare effects during treatment and through first year post-treatment.

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CULTURAL ADAPTATION AND VALIDITY OF THE “MEMORIAL SYMPTOM ASSESSMENT SCALE 10–18” FOR PEDIATRIC ONCOLOGY IN COLOMBIA

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Children and adolescents with cancer face a series of changes in their family dynamics, social activity, they experience physical and psycho-emotional symptoms as a result of the disease and treatment. Understanding the prevalence and characteristics of symptoms in children with cancer has been hampered by the lack of validated assessment tools in this population. For nurses practice in pediatric oncology, it is crucial to recognize and manage the symptoms, as long as they have direct contact with the patients. The purpose was

to adapt culturally and validate the Memorial symptom assessment scale for children between 10–18 years of age in pediatric oncology in the Colombian context in 2018. Study of validation scale was developed in two phases; the first was the cultural adaptation of MSAS 10–18 to the Colombian context and the second phase of facial and content validation with expert in the phenomenon, healthy children and adolescents, children and adolescents with cancer between the ages described. An adapted version of the Memorial Symptom Assessment Scale 10–18 was obtained in the Colombian context for pediatric oncology. The facial and content validity process was developed with 30 healthy participants and 30 participants with cancer. There were involved 10 experts in the area of pediatric oncology. The scale was understood and was clear to the participants. Children and adolescents with cancer reported nausea, lack of energy and cough as the most frequent symptoms. The most serious symptoms were lack of energy, feeling nervous, nausea and hair loss, the symptoms that were more distressful were hair loss, being sad, nausea, vomiting and lack of energy. The compression of symptoms will allow the implementation of interventions for symptoms management by nurses in inpatient and outpatient oncology units.

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ASSESSMENT OF THE ROLE OF THE PEDIATRIC NURSE IN PATIENT EDUCATION AND FOLLOW-UP OF PEDIATRIC PATIENTS RECEIVING ORAL ANTI-CANCER TREATMENT

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Clinical nursing expertise is a fundamental piece of quality patient care. Nurses with clinical expertise are able to make critical clinical decisions while fully assessing entire clinical conditions. This abstract reflects the analysis of a data subset focusing on nurses with 1–5 years of oncology nursing experience. The Association of Pediatric Hematology and Oncology Nurses (APHON) members were invited to participate in a survey which assessed the nurses' role in the education of patients taking oral oncolytics. The original survey was developed by the Multi-National Association for Supportive Care in Nursing (MACC). Their questionnaire consisted of 16 open-ended questions and one qualitative question. Three open-ended questions were added to the questionnaire asking for nurses' suggestions to facilitate better education and follow-up of patients receiving oral anti-cancer medications. Respondents

included 20 nurses and 5 APPs reporting 1–5 years of pediatric oncology nursing experience. Findings show that almost 64% of nurses with less than 6 years of oncology experience report receiving education from their employer; however, 88% of these nurses' report education is not routinely scheduled for staff. Eighty percent are involved with patient follow up; however only 47% report they educate patients on storage of the drug and 57% do not educate on the importance of home administration of the medication such as not crushing. Qualitative data revealed that the comfort level of this population of oncology nurses is reported at much lower rates than more experienced counterparts. These nurses state they feel “rushed” or are given “insufficient time/resources” to educate their patients. They also reported increased concerns such as being unsure of the adverse event profiles (40%) as well as issues with compliance and inconsistency with education provided to patients (32%). Nursing organizations must adapt to the current rapidly changing cancer treatment practices as well as work to identify effective methods of training their nurses who are in direct contact with oncology patients. Furthermore, there is an immediate need to develop evidence-based guidelines for the management of toxicity and safety issues in this patient population. Future research should address accessibility to professional development resources for newer nurses to enhance their comfort level and clinical expertise in the care of oncology patients as well as oncology patient education.

531 RECRUITING OLDER BREAST CANCER SURVIVORS: INNOVATIVE AND EXPERIENCE-BASED STRATEGIES

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Older adults are underrepresented in clinical research despite the fact that cancer is a disease of aging. Effective recruitment strategies will shorten the time between study initiation and completion, thus allowing earlier availability of results. However, effective strategies to reach this age group are lacking.¹ For our nurse-led NIH-funded qualitative research, we needed older early-stage breast cancer survivors in the post treatment phase who either persisted or had prematurely stopped an aromatase inhibitor (AI).

Initial recruitment strategies eliminated three known barriers: transportation, interview scheduling, and insufficient community partnerships. Recruitment through flyers distributed at clinical and community settings and letters to clinicians was slow especially among non-persisters. The number and variety of recruitment sites was increased during the first year but did not yield increased enrollment. After 32 months of dedicated effort, three different IRBs, 15 revisions of recruitment flyers and letters, and 567 calls screened, analytic saturation was reached with 54 women. Ultimate success included information from purposefully asked recruitment-related questions from women already enrolled, non-eligible callers, and clinical experts. Subsequent ongoing collaborative problem-solving based on our clinical expertise led to reimagining resources, rethinking materials, and rectifying misconceptions to improve specificity in recruitment tools. Changes to the recruitment materials included ensuring the accuracy of eligibility information such as assurance that non-persisters would not be pressured to restart the AI. We learned that, compared with medical records, women identified as eligible during the initial screening were reliable historians negating the need to check records for eligibility prior to the interview and allowed a shortened screening period with less patient drop-out after initial contact. Adding cancer registries, along with personalized letters, accounted for 87% of recruitment. Ineffective strategies included the distribution of flyers at non-medical settings and utilizing oncology clinicians as they may be viewed by non-persisters as trying to motivate them to re-start the AI. Our experience showed that implications for future recruitment of older community-dwelling early-stage breast cancer survivors include inviting feedback on recruitment materials early on, frequent review, out-of-the-box thinking of recruitment strategies, and using cancer registries. We demonstrated the room for creativity and that recruitment practices are best served when the recruitment team is open to evolution as the study proceeds.

532 EVALUATION OF BURDEN AND NEEDS ASSESSMENT AMONG BLADDER CANCER CAREGIVERS

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Bladder cancer treatment and surveillance is morbid, intensive, and costly. Bladder cancer patients' care is often managed by caregivers, yet caregiving can create a physiologic and emotional burden that compromises the caregivers' own quality of life. Our objective was to determine the caregiver burden associated with bladder cancer and determine which resources were most needed among these caregivers. A multi-stakeholder research working group comprised of urologists, medical oncologists, and bladder cancer patients and caregivers convened to create a national survey based on the CarGOQoL (CareGiver Oncology Quality of Life) questionnaire. Additional questions were added to determine self-rated utility of various resources to alleviate caregiver burden. The survey was advertised using the Bladder Cancer Advocacy Network Patient Survey Network and Inspire platforms. 512 respondents self-identified as caregivers of a patient with bladder cancer. Among respondents, 83% were female, 83% were a spouse or partner, and 96% were white. The mean age was 61.4 years, ranging from 21 to 85 years. Respondents were highly educated (64% completed college). The highest stage of disease for patients associated with respondents was non-invasive in 34% (n=196), invasive in 35% (n=204), metastatic in 26% (n=151), and unsure in 4% (n=21). Caregivers reported moderate to severe problems with their physical well-being (31%), tiredness (47%), fear (66%), worry (76%) and sadness (65%) related to their role. Responses varied significantly by stage: caregivers for patients with metastatic disease had significantly greater worry ($p<0.01$) and fear ($p<0.01$) than caregivers of patients with lower stage bladder cancer. Only 35% of caregivers were aware of caregiver resources during treatment; 54% searched for such information at some point during the course of cancer treatment. The majority of respondents felt that caregiver-oriented resources would be at least somewhat helpful, and they preferred web-based information and personal stories from other caregivers. Bladder cancer caregivers report significant fatigue, fear, worry and sadness related to their role, yet are offered few caregiver-oriented resources. Future work should develop caregiver resources which provide a multi-modal approach of static information, specialized support and caregiver-to-caregiver contact and peer support.

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IMPLANTED VASCULAR ACCESS DEVICE RELATED COMPLICATIONS IN ONCOLOGY PATIENTS: A PROSPECTIVE COHORT STUDY

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Implanted vascular access devices (IVADs) have significantly improved the management of oncology patients. However, this patient group has an increased risk of deep vein thrombosis (DVT) and infections and the relationship between catheter-related thrombosis and infection has been well established. In our facility IVADs are increasingly being inserted into patients with cancer sites known to be associated with a higher rate of DVT events which may also increase the rate of infection. Our previously published rate of IVAD associated DVT was 4.5%. This prospective, observational, single cancer centre study sought to investigate the incidence of catheter related complications, DVT and infection in oncology patients when IVADs composed of an anti-thrombogenic material (Endexo®) were inserted. Between 08/2015 and 09/2016, 389 oncology patients aged 18–85 years with a life expectancy of >3 months were enrolled. The primary outcome was the incidence of catheter related DVT (CRDVT) as confirmed by ultrasound or venography. CRDVT was defined as symptomatic upper extremity (axillary vein or proximal) DVT. Catheter related blood stream infection (CRBSI) was defined as the presence of bacteremia originating from the IVAD according to the definition established by the Center for Disease Control. Demographic and clinical characteristics were captured at enrollment. Patients were followed for 12 months or until catheter removal including death. The median age of the cohort was 58.2 years; 68% (n=273) were females. Sixty-six percent had gastrointestinal cancer (including pancreatic cancer) and 68% had metastases. Eighty four percent of IVADs were right sided insertions. Ninety nine percent of catheter tip placements were distal superior vena cava (n=237), cavo-atrial junction (n=67) or atrium (n=90). No patients were lost to follow-up. There were no CRBSIs in the cohort. Five patients had symptomatic DVT. One patient developed a filling defect at the tip of the IVAD and was also included for a total of 6 CRDVT events (1.5%). Three patients had a diagnosis of colorectal cancer, 2 breast cancer and 1 pancreatic cancer. In this prospective study of IVADs with

anti-thrombogenic catheter properties there were no CRBSIs and symptomatic CRDVT was an infrequent complication in this high risk patient population.

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A SYSTEMATIC REVIEW OF BARRIERS AND FACILITATORS TO MAMMOGRAPHY IN AMERICAN INDIAN/ALASKA NATIVE WOMEN

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American Indians and Alaska Natives (AI/AN) experience cancer differently based on their history, culture, geographic location, and reliance on a government-provided health care system. Cancer is the second leading cause of death among American Indians. While AI/AN breast cancer incidence is lower than in Non-Hispanic White (NHW) women, AI women are more likely to be diagnosed with advanced cancer than NHW women. Barriers to cancer screening and accessing care have been reported; however it is not clear if the barriers faced by AI/AN women are unique to this population and if interventions that have been successful in other communities might also work for the AI/AN community. The purpose of this systematic review was to synthesize the knowledge of factors that enable or impede AI/AN women from accessing breast cancer screening. A systematic search of MEDLINE and CINAHL databases identified research studies published from 2007 to 2017. Search terms included Native American women, AI women, cancer screening, and breast cancer screening. The framework for Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) was followed in the preparation of this review. While this population can access care through the Indian Health Service, being insured did improve the odds that AI/AN women would receive a mammogram. Women who could be seen as more traditional, defining themselves as living an 'Indian way of life' were less likely to be current with screening, when compared to women who were seen as less traditional. Factors that contributed to screening specifically for AI/AN women included having a physician's recommendation and providing the screening the same day. There have been a small number of studies that addressed breast cancer screening in AI/AN women. Many of the studies that have been published lump women of different Tribes into one sample, although there is great cultural diversity among this population. While AI/

AN women appear to face many of the difficulties that other low-income minority women face in accessing preventive care, they also face unique challenges and circumstances in accessing care. There have been few studies that have addressed breast cancer screening in the AI/AN population. Findings from this study will be used to develop intervention based studies of women from specific Tribes to improve cancer outcomes in this community.

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VARIATION OF CANCER PATIENTS' SYMPTOM DISTRESS AND PURPOSE IN LIFE BEFORE AND AFTER RADIOTHERAPY

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The objective of this study was to explore the change in purpose in life (PIL) and symptom distress among cancer patients with radiotherapy. 160 patients were recruited from a medical center in Southern Taiwan. Surveys were conducted one week before and one week after the patients had radiotherapy by the questionnaire. Paired t-test was performed to analyze the data. The patients had significant changes in symptom distress and purpose in life after radiotherapy compared to before. They had low scores in purpose in life when they were at stage IV, were unable to receive surgery, had tumors in sites other than the abdominal cavity and pelvic, or had high scores in symptom distress scale. Our findings empirically demonstrated that patients had different levels of purpose as they went through therapy. It is important for oncologic nurses to understand how to look after the patients in search for purpose in life and, if possible, help them find it.

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APPLICATION OF CAREGIVER-LED PICC MAINTENANCE PROGRAM FOR ONCOLOGY PATIENTS: A PILOT STUDY

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In China, PICC outpatient department is the main choice for patients with PICC to receive catheter maintenance service. However, because of many factors including unstable physical conditions, long distance, or lack of social support etc. some patients

aren't able to get PICCs cared timely. Due to immaturely nursing home care system, caregiver-led PICC maintenance at home is demanded by them. Rarely researches focused on the application of this pattern in clinical environment. The purpose of this project was to examine the efficacy of caregivers-Led PICCs maintenance. The study was conducted in Shanghai Cancer Center of Fudan University from 2018.4-8. Portable boards and flyers were used to recruit pairs of patient-caregiver. Caregivers must receive four-stage training (basic related knowledge learning, PICC maintenance video watching, simultaneous practice and practice on patients) and pass exam before they could care PICC at home. Then researchers would follow them up at least once/week and recorded the results including punctuality and quality of catheter maintenance, and problems accounted. 29 pairs of patient-caregiver signed up the study. 15 of them completed training at three different times and only 12 completed at least once catheter care at home. For the 12 caregivers: the average age was 39.4±13.42 (range, 26 to 66), 4 males, 10 had high education level; 4 medical staffs and 4 freelancers. All PICCs were power open-ended, and the average number of home care by caregivers was 7.2±5.72 (range, 1 to 19). So far, 2 patients had already removed the catheter as chemotherapy completed. The top three caregivers' concerns for PICC home care were infection, pulling out catheter and no blood return. What they wish most was that they could contact nurses in time. When the patients need to visit hospital required by treatment, they chose nurses maintaining PICCs. Skin rash (2/12) was the second reason to interrupt home care. No other PICC complications happened so far. For those patients with special needs, although not so much nowadays, it is feasibly and safety for hospitals to offer caregiver-led PICC maintenance program. To ensure training quality, the ratio of nurse to caregiver during every practice is suggested to be more than 1 to 1. Closely follow-up is extremely important on both ensuring catheter safety and relieving caregivers nervous.

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IDENTIFICATION OF SUBGROUPS OF CHEMOTHERAPY PATIENTS WITH DISTINCT SLEEP DISTURBANCE PROFILES

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Sleep disturbance is a pervasive symptom that affects 30% to 88% of oncology patients. While chemotherapy (CTX) is a common and widely used treatment for oncology patients, limited research is available on sleep disturbance during this treatment. The purposes of this study were to identify subgroups of patients receiving CTX with distinct sleep disturbance profiles and to evaluate for differences in demographic and clinical characteristics, as well as various sleep characteristics. Outpatients with breast, gynecological, gastrointestinal, or lung cancer (n=1331), completed questionnaires at six time points over two cycles of CTX. Sleep disturbance was evaluated using the General Sleep Disturbance Scale (GSDS). Latent profile analysis (LPA) was used to identify distinct subgroups. Three latent classes were identified with distinct sleep disturbance profiles (i.e., Low (25.5%), High (50.8%), and Very High (24.0%). Compared to patients in the Low Sleep Disturbance class, patients in the High and Very High classes were significantly younger, had a lower functional status, had higher levels of comorbidity, were more likely to be female, were more likely to have childcare responsibilities, less likely to be employed, and less likely to have gastrointestinal cancer. Compared to the Low and High Sleep Disturbance classes, patients in the Very High class had a higher BMI, were less likely to be married or partnered, were more likely to live alone, and reported a lower annual household income. For all of the subscales of the GSDS, as well as for the total GSDS score, the significant differences among the three latent classes followed the expected pattern (i.e., Low class < High class < Very High class). Consistent with two previous reports, approximately 75% of our patients reported clinically meaningful sleep disturbance scores. To our knowledge, this study is the first to use LPA to identify subgroups of patients receiving CTX with distinct sleep disturbance profiles over two cycles. In addition, this study is the first to identify differences in sleep disturbance severity in patients across four different cancer diagnoses. With our findings, nurse clinicians caring for oncology patients receiving CTX can perform a more in-depth assessment of sleep disturbance to identify high-risk patients, educate patients about sleep disturbance, and provide specific interventions to improve sleep during and after treatment.

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EFFECTS OF COGNITIVE FUNCTION AS A MEDIATOR ON QUALITY OF LIFE IN

POST-OPERATIVE ELDERLY PATIENTS WITH BREAST CANCER

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Cancer therapy and age are risk factors of cognitive impairment, which negatively impacts on the quality of life (QOL) in patients. This study aimed to investigate the affected factors on the QOL in post-operative elderly patients with breast cancer by the path analysis using an indicator of the cognitive function as a mediator variable. Cross-sectional study design was used in this study. Eligible patients were followings; diagnosed with breast cancer, received operation without chemotherapy, before adjuvant therapy, aged 65 years or older and under 85 years, being without recurrence. The study participants were recruited approximately two days after an operation in the hospital, and were provided the questionnaire, which included cognitive function (the Functional Assessment of Cancer Therapy-Cognitive Function version 3 (FACT-Cog)), QOL (the Functional Assessment of Cancer Therapy-General version 4 (FACT-G)), fatigue (the Functional Assessment of Chronic Illness Therapy (FACIT-Fatigue) ver. 4) and the Cancer-Specific Geriatric Assessment (CSGA) that contained functional status, social support, etc. Higher score indicates the better cognitive function, QOL, fatigue level or function. This study has been approved by the institutional review boards of Hiroshima University. After the Pearson's correlation coefficients were calculated, the path analysis was conducted to examine the related factors to the QOL. In the path model, the subscale of the FACT-Cog was used as a mediator variable. Fifty-five patients (59.1%, Mean age=71.2±5.1) participated in this study. Perceived cognitive abilities (Cog PCA) was significantly affected by the FACIT-Fatigue (direct effect=0.468, $p<0.001$). Indirect effects of the FACIT-Fatigue to the subscales of the FACT-G (Emotional well-being: EWB, Functional well-being: FWB) and the FACT-G Total through the Cog PCA were founded (indirect effects=0.103, 0.132 and 0.125, respectively). In addition, social support significantly affected to the EWB (direct effect=0.281, $p=0.022$). The influence of the instrumental activities of daily

living (IADL) to the FWB was close to significance (direct effect=0.233, $p=0.059$). These path models explained 26.6%, 26.9%, and 30.7% of the variance of the EWB, FWB, and FACT-G Total, respectively. To mitigate a fatigue can contribute to improve the QOL through ameliorating of a cognitive function. This study suggested that oncology nurses should provide comprehensive care to post-operative elderly patients with breast cancer.

539 MEASURING QUALITY OF LIFE ACROSS THE CANCER CARE TRAJECTORY

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Since cancer survivorship begins at the time of diagnosis, there is a need for quality of life instruments which can be used across the cancer trajectory. The Long Term Quality of Life (LTQL) instrument was previously developed and tested with breast cancer survivors who had completed active treatment. Whereas, women with advanced breast cancer who are undergoing treatment may have different quality of life needs than breast cancer survivors. Therefore, this study investigated psychometric properties of the LTQL instrument in women with advanced breast cancer undergoing treatment. A secondary data analysis was performed using baseline data from a reflexology intervention trial ($n=385$). Participants were recruited from 14 oncology settings in the Midwest and were 21 years or older and diagnosed with stage III or IV breast cancer, metastasis, or recurrence. Data on demographic and disease characteristics, along with the 34-item LTQL instrument were obtained via telephone interviews. The original unique LTQL subscales are: somatic concerns, spiritual/philosophical views of life, fitness, and social support. Content experts identified four items in the LTQL which were not applicable to the advanced breast cancer sample, therefore these items were removed and an exploratory factor analysis (EFA) was performed on the remaining 30 items. Root mean square error of approximation (RMSEA) and comparative fit index (CFI) were used to assess

goodness of fit. Participants had a mean age of 55.7 years (SD = 11.1), were primarily Caucasian (n=321, 84.3%), and married (64%), and retired (28%). The RMSEA for the 4-factor model was 0.059, with a 90% confidence interval of 0.053 to 0.064. The CFI was 0.955. Four of the retained items demonstrated cross-loadings between the spirituality and social support subscales. Providing care to enhance quality of life among advanced cancer patients requires the use of comprehensive and psychometrically sound assessments. The four-factor model revealed in this EFA provides a reasonable fit in this population of women with advanced breast cancer undergoing treatment. It also offers an alternative for measuring QOL among this new population, while tapping the unique area of participants' philosophical view on life. The cross-loading items between spirituality and social support subscales may indicate a conceptual overlap between spirituality and social well-being.

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PATIENT OUTCOMES OF A SELF-CARE MANAGEMENT APPROACH TO CANCER SYMPTOMS: A RANDOMIZED CLINICAL TRIAL

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Cancer patients endure an average of seven to 14 physical and emotional symptoms that can lead to depression, anxiety, and reduced quality of life. Improving their ability to self-manage symptoms can diminish suffering, improve quality of life and decrease emergency room visits. This randomized clinical trial tested the efficacy of the COPE (Creativity, Optimism, Planning, and Expert Advise) intervention with patients who reported moderate to severe symptoms while receiving treatment for cancer. 534 outpatients in active treatment for any stage of cancer were randomized into three groups: 1) control group receiving usual care, 2) the supportive care control group who received three supportive nursing visits with the interventionists; and 3) the COPE intervention group who received three individual intervention sessions. Patient self-reported data about symptoms (intensity, frequency, interference, appraisal of distress), self-efficacy, and barriers to

self-management were collected weekly for 10 weeks. The primary outcomes of quality of life, anxiety and depression were assessed at baseline and weeks 4, 8, and 10 and health services utilization was assessed at baseline and week 13. Symptom intensity, distress, self-efficacy, and symptom barriers were examined as intermediate outcomes. Data were analyzed using random effects models and analysis of variance. The sample of 534 patients (Group 1 n=178; Group 2 n=184; Group 3 n=172) were predominantly white and had a variety of cancers. COPE showed no significant improvements in primary outcome variables of quality of life, anxiety or depression, compared with the usual care and supportive care control groups. A decrease in an intermediate outcome (symptom intensity) over time was significantly greater in the COPE group compared with the usual care control group. Although COPE had little beneficial effect on the primary outcomes of quality of life, anxiety and depression, the COPE intervention significantly improved symptom intensity. The primary outcome results may have occurred because patients were too overwhelmed to be able to focus on what was being taught about self-management. In addition, our intervention was considerably shorter (three sessions) than previous interventions that have demonstrated positive effects on similar variables with cancer patients. The briefer format may have delivered an insufficient dose of the intervention to improve quality of life and emotional outlook.

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PATIENTS' AND NURSES' PERCEPTIONS OF THE EFFECTIVENESS OF ORAL ANTITUMOR AGENTS EDUCATION PROCESS: A MIXED METHOD STUDY

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The increase in the use of oral-antitumor drugs implies nurses take on new roles for promoting therapeutic adherence. Therapeutic education is an essential element to promote patient safety, implement self-care

interventions and thereby determining optimal outcomes and quality care. As a result of its complexity, however, the phenomenon needs to be further investigated. The purpose of this study is to describe patients' perceptions and nurses' points of view on the effectiveness of the educational process in oral-antitumor treatment. This is a mixed-method, with convergent design. A questionnaire, structured according to MOAT guidelines was used for quantitative data collection. Semi-structured interviews with cancer patients and focus groups with nurses were used for qualitative data collection. Quantitative data were analysed with SPSS 22.0. Qualitative data were analysed using the semantic analysis. 142 questionnaires were analysed. Patients were usually informed by doctors and nurses (81%), alone (33%) or in the presence of the caregiver (29.6%). Language comprehension was high in the overall population, with a significant difference between the population ≥ 70 years ($p=0.04$) and that of <70 years. From the interviews ($N=16$) three themes emerged: emotions in the communicative moments, feeling reassured by the presence of the relatives and nurses, feeling welcomed and an active part of the educational process. From the focus groups ($N=4$) three themes emerged: prerequisites for an effective therapeutic education, nursing skills in the educational action and barriers/obstacles to the educational process. Overall, patients are satisfied with the education received. They see the nurse as a reference figure who helps them to understand the information received and to manage their therapy and the side effects. However, some critical issues have emerged related to both organisational aspects and the educational approach. Interventions on several levels are necessary to improve their role in this activity. Based on our best knowledge, this is one of the few studies that used a mixed method approach on this topic. This helped the authors to understand in deep the main positive aspects and barriers for an effective educational process, in oral antitumor treatment, involving all the main stakeholders. The study provides many elements of reflection on clinical practice. Nurses' role in therapeutic education is a complex one, which requires specific skills and abilities.

542 USER-CENTERED DESIGN FEEDBACK ON A WEB-BASED INTERVENTION FOR SURVIVORS OF HODGKIN'S DISEASE (HODGKIN LYMPHOMA)

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Most patients diagnosed with Hodgkin's Disease (Hodgkin Lymphoma) will survive the illness and treatment, and will live with long-term and late effects. The Dana-Farber Cancer Institute developed a web-based intervention that was found to feasibly reach survivors to provide education and resources about the late effects and long-term consequences from Hodgkin's Disease. Further development of the intervention occurred using a user-centered design framework based on focus group data and the website was revised to have increased focus on psychosocial needs that was tailored to the priorities of the patient. The purpose of this project was to describe the usability of a web-based psychoeducational tool for survivors of Hodgkin's Disease. Eligible participants were English speaking adults who had been diagnosed and treated for Hodgkin's Disease greater than 2 years prior to study enrollment. Participants were recruited to complete in person "think aloud" cognitive interviews to identify website usability. A semi-structured interview guide was utilized. Interviews were audio-recorded and transcribed for content analysis in Nvivo 11. Six cognitive interviews were completed with 4 female and 2 male participants, ages 29–68 who were survivors for a median of 13 years (range 5–24 years). Participants overall were grateful for the website and valued the content provided. Critical feedback was elicited related to both content and process. Participants expressed the importance of having a descriptive "landing page" with clear user expectations. Concerns were voiced over having a "login" and barriers to accessing information or sharing it with others if it is password protected. Some content was identified as complex or confusing, and some participants were unable to interpret how to interact with website functionality. A request was made to incorporate this information into the usual clinical documentation and workflow. Functionality differences were noted between web and mobile devices which have implications for content and layout. The ability to summarize all web content and share with others was valued throughout each interview. The iterative user-centered design process uncovered valuable content that will impact the final version of the website. Future work should incorporate the needs of all levels of web users and be functional in both web and mobile format.

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HOPE, DEPRESSION AND SYMPTOM INTERFERENCE PREDICTING QUALITY OF LIFE IN PATIENTS WITH ADVANCED COLORECTAL CANCER UNDERGOING CHEMOTHERAPY

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In 2012, globally, colorectal cancer (CRC) is with the second and third leading cancer incidence in the female and male, respectively. The world health organization (WHO) estimates that 746,000 men and 614,000 women will be newly diagnosed with CRC in 2012. The QOL is important in cancer care and being the goal of cancer treatment because of its prognostic value. Therefore, the study purpose was to examine candidate predictors of quality of life in patients with advanced colorectal cancer undergoing chemotherapy. This was a descriptive, correlational research with a cross-sectional design. Participants aged over 20 years without diabetes were recruited from a medical center located in northern Taiwan between January 2016 and December 2017. A purposive sampling recruited patients with stage III or IV colorectal cancer. The quality of life predictors that proposed by a literature review result utilizing World Health Organization International Classification of Functioning, Disability and Health (WHO ICF) model were tested. A total of 75 patients with a mean age of 59.5 years participated in this study. Participants who were living with family ($\chi^2=4.415$, $p=.036$) and with comorbidity ($\chi^2=5.246$, $p=.022$) had a significantly good quality of life. This study identified hope ($B=.228$, $P=.008$), no depression ($OR=4.933$, $p=.022$), and no symptom interference ($OR=8.668$, $p=.002$) significantly predicted a good quality of life ($-2LL=65.485$, $\chi^2=36.222$, $p<.001$). In terms of body structures and functions, activities, and health condition in the WHO ICF model significantly predicted quality of life. Our results suggested that hope, depression, and symptom interference significantly predicted quality of life in patients with advanced colorectal cancer. However, this study results only partially matched the proposed study framework.

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IDENTIFYING UNMET PERIOPERATIVE SUPPORT NEEDS OF PATIENTS WITH

ESOPHAGEAL CANCER: AN EXPLORATORY STUDY

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Esophageal cancer is a leading cause of cancer-related death worldwide due to its poor prognosis. Much of the literature in esophageal cancer patients has been clinician-driven, focused on the physical symptomatology at the time of diagnosis and throughout treatment including neoadjuvant chemotherapy followed by esophagectomy. The purpose of this study was to discover unidentified or unmet support needs of patients with esophageal cancer in the perioperative setting. Just as psychological distress had previously been overlooked by clinicians, patients identified additional needs that have been historically neglected. Twelve patients were recruited by convenience sampling. Semi-structured interviews were conducted to explore experiences in a patient-centered setting. The recorded interviews were transcribed, de-identified, and analyzed according to qualitative content analysis. The way in which information is shared, including communicating in a timely manner, the provider's projection of confidence, as well as ensuring patient comprehension, was a notable support need in every interview. Patient information also yielded the need for individualization and the inclusion of both physical and emotional aspects of the patient, or holism. Patients recognized the clear need for anticipatory guidance as well as goal setting during the course of treatment and recovery. Aid in navigating the healthcare system, nursing care in the home, caregiver and peer support, and additional resources were also major themes recognized in the interviews. Truly understanding the support needs of esophageal cancer patients allows clinicians to address their concerns, improve care pathways, and provides a foundation for future study and interventions. Addressing unmet support needs creates opportunities to optimize care coordination in the perioperative algorithm and enhance comprehensive patient-centered care, patient satisfaction, and ultimately patient health outcomes. Limited studies examined patient experiences, quality of life, and psychosocial needs during diagnosis and treatment, and no study to date has been conducted in the United States to elicit unmet support needs from the patient perspective, leaving a gap in the literature.

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SYMPTOM CLUSTERS AND THEIR EFFECT ON QUALITY OF LIFE IN WOMEN

PARTICIPATING IN A BREAST CANCER SCREENING PROGRAM

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A 30% reduction in cancer mortality in Taiwan was due to the introduction of breast cancer screening program. Yet, women participating in the screening program were at increased risk for false positive results, overdiagnosis, anxiety, psychological harms, pain during process and radiation exposure. However, little research has been conducted on any other potential symptoms experienced by women during breast cancer screening. The purpose of this study was to identify the symptom cluster and to explore its effect on quality of life in women participating in breast cancer screening program. The study was a cross-sectional design with a purposive sample of 120 women aged over 45 years old, participated in a breast cancer screening program. Participants completed a structured questionnaire including demographic information, Hospital Anxiety and Depression Scale, Pittsburgh Sleep Quality Index, and Functional Assessment of Cancer Therapy-General and Fatigue. Analytic methods included correlation, cluster analysis and analysis of covariance. Two symptom clusters were identified in this study: Emotional fatigue cluster (EFC) and physical fatigue cluster (PFC). The quality of the EFC and PFC were good (0.5/1.0) and excellent (0.7/1.0), respectively. An additional cluster analysis grouped participants into either low or high symptom cluster subgroups. The effect of symptom clusters of EFC and PFC on quality of life was established after controlling the variable of with or without benign tumor ($F=34.94$, $R^2=.374$, $p<.001$; $F=24.08$, $R^2=.292$, $p<.001$, respectively). This study results are preliminary, clinical staff may provide interventions improve women's comfort while participating in a breast cancer screening program as well as being aware that various symptoms lead to the decline of QOL in this population.

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EXPLORE CHANGES IN EMOTIONAL STATUS, SYMPTOM DISTRESS, CARE NEEDS IN TAIWANESE PATIENTS NEWLY DIAGNOSED WITH LYMPHOMA BEFORE AND AFTER THE FIRST CHEMOTHERAPY

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Unmet care needs were reported by 40% to 90% with newly diagnosed cancer patients during their first chemotherapy. The majority of newly diagnosed cancer patients were with anxious, and depressive symptoms. Chemotherapy is the standard treatment for patients with lymphoma, yet induces symptom distress. Therefore, the purpose of this study was to explore changes in symptom, and care needs in patients with lymphoma before and after their first chemotherapy. This was a correlational study with pre-post design. Inclusion criteria were hospitalized patients being older than 20 years, having pathologic report of newly diagnosed diffuse large B cell Lymphoma, planned to receive chemotherapy, and being able to speak Mandarin Chinese or Taiwanese. Data were collected at two points: before first chemotherapy (T1) and before second chemotherapy (T2). Instrument included demographic and clinical characteristics information, Functional Assessment of Cancer Therapy-Lymphoma subscale (FACT-LymS), Hospital Anxiety and Depression Scale (HADS), Chinese version of supportive case needs survey-short form 34 (SCNS-SF34), including five domains: psychological, health system and information, physical and daily living, patient care and support, sexuality. Descriptive statistics was used to analyze demographic and clinical characteristics. Overall changes in emotional status, symptom distress, and care needs from T1 to T2 were utilized paired t test. A total of 16 patients with an average age of 63.13 years ($SD=15.17$), with a range of 26 to 85 years, junior high school graduated (50%), married (56.2%), with stage IV disease (37.5%), commonly regime was R-CHOP (43.8%). Significant differences were detected in emotional status, in terms of anxiety ($t = 3.284$, $p = 0.005$), and depression ($t = 2.381$, $p = 0.031$); plus symptom distress ($t = 2.257$, $p = 0.039$), and overall unmet care needs and its psychological domain ($t = 2.495 \sim 2.936$, $p = 0.01 \sim 0.025$) between T1 and T2. This study found patients' unmet needs were not satisfied at domains including healthcare system and information, physical and daily living, patient care and support, and sexuality. Therefore, oncology nurses should be more aware on patients' needs regarding the aforementioned domains in patients newly diagnosed with lymphoma. By doing so, these patients' emotional status, symptom distress, and unmet needs may be improved.

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EXPLORING CHANGES IN SYMPTOM CLUSTERS IN PATIENTS NEWLY DIAGNOSED WITH LYMPHOMA DURING CHEMOTHERAPY: A PRELIMINARY RESULT

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The incidence of lymphoma is increasing yearly; moreover, the mortality rate was ninth among all cancers in 2017 in Taiwan. However, due to improved cancer treatment, the survival rate of lymphoma was as high as 70%. The literature has shown that patients experience multiple symptoms when undergoing chemotherapy (CT). However, few studies have explored symptom clusters and their changes in patients with lymphoma during CT. The purpose of this study was to explore the changes in symptom clusters during CT among patients with lymphoma. This research used a prospective study design. Data were collected from a medical center in northern Taiwan. Inclusion criteria were patients newly diagnosed with lymphoma who were planning to undergo CT and who were older than 18 years old. Exclusion criteria were those who had cancer recurrence, other cancers, or cognitive impairment. Research instruments included demographic information and the M.D. Anderson Symptom Inventory. The measurement was conducted at six time points: 1 day prior to CT (baseline) (T1), and at the third week (T2), sixth week (T3), ninth week (T4), 12th week (T5), and 15th week (T6) after the commencement of CT. Factor analysis was used to describe the changes of different time points in the symptom cluster. A total of 10 participants were included in this preliminary study with an average age \pm standard deviation of 51.60 ± 16.51 years. The four serious symptoms across all six time points were xerostomia, fatigue, neuropathy, and amnesia. Four symptom clusters were identified at T1 and T2; three clusters at T3, T4, and T6; and two clusters at T5. The dominant symptom cluster across T1 to T6 was "psychological clusters." The change of symptom clusters indicated the interrelated correlation of symptoms undergoing treatment. The results of this study can be used as the basis for further research focusing on symptom clusters of patients with lymphoma undergoing CT. The psychological clusters were the dominant overtime in this preliminary result. More studies are recommended to validate this result. Nurses may prevent these patients' psychological issues through early detection and periodical assessment of symptom clusters during CT.

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MANAGING SYMPTOMS VIA HOME-BASED CAREGIVER-DELIVERED REFLEXOLOGY: SYMPTOM RESPONSE ANALYSIS OF A RANDOMIZED CONTROLLED TRIAL

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The involvement of friend or family caregivers in the home may be a significant avenue for the delivery of supportive care. This trial tested the effects of caregiver-delivered reflexology on multiple symptoms experienced by women undergoing chemotherapy, targeted or hormonal therapy for advanced breast cancer. We present the results from an analysis that treats multiple symptoms as nested within patients and overcomes the drawbacks of lumping multiple symptoms into an index. This trial enrolled 256 patient-caregiver dyads that were randomized to either 4 weeks of reflexology or attention control. Caregivers were trained by reflexology providers to deliver weekly 30-minute sessions to patients. Thirteen symptoms were assessed for all patients at baseline, weekly over 4 weeks, and at week 5 using the M.D. Anderson Symptom Inventory. Each symptom was categorized as mild, moderate, or severe using established interference-based cut-points, and symptom response was defined as an improvement by at least one category. Symptom responses were treated as multiple events within patients and analyzed using generalized estimating equations technique. Reflexology was more successful than attention control in producing responses for fatigue [odds ratio (OR) 1.76, 95% confidence interval (CI) (1.01, 3.09), $p=.05$] and pain [OR=1.84, 95% CI (1.05, 3.21), $p=.03$], with no significant difference for other symptoms. In the reflexology group, 56% of patients were responders on fatigue and had on average fewer comorbid conditions than non-responders, difference of 1.86 [95% CI (0.72, 3.00), $p<.01$]. Responders on pain (76%) had lower average Center for Epidemiologic Studies-Depression score compared to non-responders, difference of 7.08 [95% CI (2.21, 11.21), $p<.01$]. Home-based caregiver-delivered reflexology is helpful in producing responses on physical symptoms of fatigue and pain. Comorbid conditions and depression are potentially important tailoring factors for future research and can be used to identify patients who

may benefit from reflexology. Tailored care for cancer patients in treatment can be achieved through brief weekly symptom assessments and consideration of comorbid conditions.

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SYMPTOM EVALUATION AND MANAGEMENT OF CHILDHOOD CANCER SURVIVORS: TARGETING VINCRISTINE-INDUCED PERIPHERAL NEUROPATHY

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Acute lymphocytic leukemia (ALL) is the most common pediatric cancer accounting for approximately 30% of childhood malignancies. Due to advances in care, the 5 year survival rate now exceeds 85%. Unfortunately, nearly all children who receive vincristine during treatment develop vincristine-induced peripheral neuropathy (VIPN). Severe symptoms such as painful numbness and tingling in the hands and feet may require reduction or discontinuation of vincristine. VIPN manifests as impaired gait, balance, and physical function, thus negatively impacting health-related quality of life. The VIPN trajectory during year two of treatment among children has been insufficiently investigated. The purpose of this study is to characterize VIPN prevalence, severity, and temporal patterns during the second year of ALL treatment to elucidate timepoints for future intervention research and identify children at the highest risk for dysfunction. New questions were asked of an existing data set, using de-identified data from a recently completed observational, longitudinal multi-center pharmacogenetic study (NCI R01 PAR-08-248-0132428). The data set includes demographics, vincristine dosing information, and Total Neuropathy Score-Pediatric Vincristine (TNS®-PV) scores obtained monthly for 12 months and every three months during year two of therapy. The study population is a sub-group from the parent study and include children/adolescents (ages 5–18) that were undergoing ALL treatment (n=86). The TNS®-PV instrument evaluates the sensory, sensory/motor, motor, and autonomic nerve pathways. Statistical analysis, including repeated measures analysis of variance (RMANOVA), repeated measures analysis of covariance (RMANCOVA), repeated measures multivariate analysis of variance (RMMANOVA), and repeated measure multivariate analysis of covariance

(RMMANCOVA), were used to determine significant changes in VIPN scores with respect to time, patient demographics, and nerve pathway affected. VIPN prevalence, severity, and temporal patterns during the second year demonstrate sensory and motor neuropathy which does not improve despite decreases in vincristine dosing. Predictors of severe VIPN include older childhood age and Caucasian race. This study builds on the first-year findings from the parent study to adequately characterize the severity and occurrence of VIPN between 12 and 24 months. This retrospective, descriptive longitudinal data analysis informs nursing practice regarding when to assess VIPN and which patients may be at increased risk for dysfunction so that symptom management and risk-prevention interventions can be developed and targeted to the right patients at the right time.

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EVALUATING THE FEAR OF CANCER RECURRENCE AND ITS INFLUENCING FACTORS AMONG CANCER SURVIVORS

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The purpose of this project was to investigate the fear of cancer recurrence (FCR) and its influencing factors among cancer survivors and determine their need for targeted care. Although advancements in medicine have resulted in an increased number of cancer survivors, psychological problems caused by FCR persist during recovery in approximately 70% of cancer survivors. Some patients avoid follow-up and screening, which may be risky in cases of late recurrence, resulting in a shortened life expectancy, whereas others choose frequent screening and doctor consultations, which affect their emotional state, social relations and quality of life. FCR, particularly cancer progression, metastasis, or recurrence at the primary site, is common among cancer survivors. Its clinical characteristics include sustained attention to cancer recurrence or progression, helpless coping behavior, daily dysfunction, significant clinical implications, and limited capacity to develop future plans. The convenience sampling method was used to enroll 320 cancer survivors between February 2018 and June 2018. The Chinese version of the Fear of Cancer Recurrence Inventory (FCRI) was used to assess FCR severity. A total of 320 questionnaires were distributed, of which 272 were collected. The total FCRI score was 66.10 ± 8.68 points. The occurrence of FCR among cancer survivors was significantly high.

Multiple regression analysis revealed that age, sex, family income, disease staging, recurrence rate, and curative effect evaluation were the influencing factors ($P < 0.05$). FCR was prevalent in 92% of patients when they undergo medical examination. Moreover, 82% believe that they are at risk of cancer recurrence and feel distressed. Approximately 66% of patients have an insight about the possible recurrence of cancer, and 89% say “I go to the hospital or clinic for an examination.” Meanwhile, 73% of patients believe that FCR can affect their future plans or life goals; 98% of patients use strategies to reassure themselves, but 69% rarely feel reassured when they use these strategies. FCRI helps nurse identify high-risk populations and be aware of patient needs. Nurses should provide support through extended care outside the hospital and improve the patient’s coping ability so as to reduce FCR to a reasonable level.

551 **SCHOOL LIFE EXPERIENCE OF PEDIATRIC PATIENTS WITH CANCER IN JAPAN: A PRELIMINARY STUDY**

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The purpose of this study was to clarify how childhood cancer survivors cope with life events, and apart from family and medical personnel, their acceptance of “living with cancer” in terms of relationships with significant others who they meet in social life, such as during school. This study included childhood cancer survivors who were aged 16 years or more and were on periodic consultation at the Pediatric Oncology Department. Data collection was using a semi-structured interview procedure, and a qualitative analysis that used an inductive approach was performed. The approval to conduct this study was obtained from the study ethics committee. The responses that were extracted from the statements of the childhood cancer survivors included, “I became less anxious about returning to school after making regular contacts with my friends,” “my school teachers asked about me out of concern for me,” “my parents and my school teachers collaborated to make various adjustments for me,” “while in school, my school mates treat me just as I was before I became ill,” and “there was in-hospital schooling, so I could study; however, my rank had to be lowered when taking the high school entrance exam.” In our current society where SNS is developed, childhood cancer survivors could always remain in touch with friends, and none of them felt isolated or anxious in relationships with their friends. In Japan,

students commonly take an entrance exam to enter high school. However, with in-hospital schooling, even when the learning environment is well setup, compared to healthy children, these patients learn while experiencing treatment symptoms. For this reason, it is important to have a learning environment that is well setup. The good physical and mental state management of childhood cancer survivors was also found to be important. In addition, we found that parents and teachers provide support that enables childhood cancer survivors to adjust to school life. A learning environment that is setup to prevent medical treatment from hampering the future of childhood cancer survivors and the provision of support for their physical growth and development are important. Planning the three-way cooperation of home-school-hospital and maintaining an environment and system that supports the growth and development of childhood cancer survivors are important.

552 **ONCOLOGY NURSES’ KNOWLEDGE AND ATTITUDES REGARDING CANCER PAIN IN CHINA**

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Cancer pain negatively affects patients’ physiological, psychological and social function. Nurses have a vital role in pain management. Adequate knowledge and attitudes toward pain contribute to effective pain management. However, it is unclear for knowledge and attitudes toward pain of Chinese oncology nurses. In the study, we try to understand the topic, thus providing practical guidance for improving oncology nurses’ knowledge and attitudes and pain management. The aim of this study is to describe knowledge and attitudes about cancer pain of Chinese oncology nurses and explore factors contributing to cancer pain

management. A convenience sample of 280 oncology registered nurses was recruited from 140 hospitals in 21 provinces, 4 municipalities, and 4 autonomous regions in China, between April and June 2018. The nurses completed the self-designed socio-demographic questionnaire and the Knowledge and Attitudes Survey Regarding Pain, Version 2014. The data was described using mean, standard deviation, frequencies, and percentages. The Pearson correlation, independent-sample T test, one-way ANOVA, and multiple linear regression were performed to explore factors associated with the knowledge and attitudes toward pain. Of the 291 questionnaires returned, 11 responses were excluded due to low completeness. Thus, 280 responses were analyzed (96.22% effective response rate). The accuracy of the KASRP was (59.4%±11.0%) with the range from 31.7% to 85.4%. The accuracy of ten questions were less than 40%. Four of these questions were related to pharmacological Intervention, 3 concerned side effect of the analgesic, 2 concerned pain assessment and 1 was linked to the attitude. The oncology nurses' cancer pain knowledge and attitudes were correlated with age, gender, region, oncology nursing experience, experience of pain-related education, clinical practice of pain management, and experience of caring for patients with cancer pain per month (all $p < 0.05$). Chinese oncology nurse had a poor level knowledge and attitudes. Pain-related education and clinical practice of pain management may improve nurses' knowledge and attitudes level about pain management. Further researches are needed to explore the more factors, interventions and their effects.

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SYMPTOM EXPERIENCES IN COLORECTAL CANCER SURVIVORS: A QUALITATIVE METASYNTHESIS

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Colorectal cancer (CRC) is the third most commonly diagnosed cancer among both men and women in the U.S. Growing number of CRC survivors live with long-term cancer treatment and treatment side effects. But, there is the limited research about the symptom experiences and the lack of effective symptom management guidelines or interventions in CRC survivors. The purpose of this project was to review and interpret existing qualitative literature on the experiences of symptoms in CRC survivors. A metasynthesis was carried out

which included a systematic search of seven databases between 2008 and 2018. The meta-synthesis was conducted using methodological 4 stages (1. literature search; 2. quality appraisal; 3. analysis; 4. synthesis) developed by Sandelowski and Barroso¹ to synthesize qualitative study findings and inform overarching interpretations. The final analysis was based on 10 qualitative articles for the meta-synthesis. In a meta-synthesis, we grouped emergent themes into three major concepts of symptom experiences (symptom experiences, predictors, and outcomes). The most commonly described symptoms were gastrointestinal (GI) symptoms, followed by psychological distress (e.g., ostomy-related stigma and shame, depression, anxiety, feeling stressed, and fatigue) across the 10 qualitative studies. Patients' personal symptom appraisal predicted different responses to symptoms. The lack of knowledge in symptoms and family and social support were associated with adverse symptom experiences. Various symptom experiences in CRC survivors impacted on poor quality of life, low physical activity, daily life interferences, sexual problems, financial concerns, and body image distress. CRC survivors experienced their own unique symptoms such as severe and frequent GI symptoms, ostomy-related physical and psychological symptoms, sexual problems and body image distress. It is important to acknowledge that patients' symptom experiences do not happen in isolation and should be addressed holistically within the context of patients' lives. Understanding factors in relation to symptom experiences in CRC survivors may improve symptom assessment and self-management of symptoms; and may inform tailored-interventions to meet individuals' needs and improve health outcomes. This study is the first time to review comprehensive symptom experiences in CRC survivors. This meta-synthesis develops a new, integrated, and more complete interpretation of findings on the symptom experiences of CRC survivors, and offers the clinician a greater understanding in depth and breadth than the findings from individual studies on symptom experiences.

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EXPLORING THE ASSOCIATION BETWEEN CHEMOTHERAPY-INDUCED PERIPHERAL NEUROPATHY AND QUALITY OF LIFE IN ADVANCED CANCER SURVIVORS

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There were 35073 new advanced cancer cases in Taiwan during 2015, 62% of them had received

chemotherapy in a year since been diagnosed. Chemotherapy is the main treatment for advanced cancer survivors. However, it could cause adverse effects to survivors like chemotherapy-induced peripheral neuropathy (CIPN), and made survivors feel numbness and tingling with a stocking-and glove distribution, weakness of hands and feet, and even lower tendon reflexes. Those symptoms could impact on not only survivors' daily functional activities but also their quality of life (QOL). Nevertheless, the association between CIPN and QOL in advanced cancer survivors is few in current literature. The study purposes were to evaluate subjective and objective CIPN in advanced cancer survivors and to explore the association between CIPN and QOL in advanced cancer survivors. It's a descriptive correlation study based on secondary data analysis. Advanced cancer survivors receiving/received chemotherapy were enrolled in two medical centers and one teaching hospital in Taiwan. The Functional Assessment of Cancer Therapy-Taxane (FACT-Tax) subscale and Total Neuropathy Score clinical version (TNSc) assessed CIPN, and The Functional Assessment of Cancer Therapy-General (FACT-G) assessed QOL. The association between CIPN and QOL was evaluated using Pearson correlation coefficient and Linear Regression. A total of 141 advanced cancer survivors were analyzed. Eighty two (58.2%) and 59 (41.8%) of participants were diagnosed with stage III and IV disease, respectively. The majority were female (n=105, 74.5%) with the mean age of 55.39 (SD= 10.93) years old. The incident rates of subjective CIPN and objective CIPN were 74.5% and 84.4%, respectively. Both subjective and objective CIPN weakly correlated with QOL ($r=0.38$ and -0.19 , respectively). Furthermore, the subjective CIPN significantly predicted QOL in this study ($B=0.67$, $SE=0.16$, $\beta=0.36$, $p<0.001$). Literature suggested that the CIPN may impair QOL, though our study results indicated that only a weak correlation between the CIPN and QOL. Additionally, the subjective CIPN was the only predictor of QOL in advanced cancer survivors. More research with subjective and objective CIPN measurement and exploring the association with QOL in this population is recommended.

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EXPLORING THE RELATIONSHIP BETWEEN PATIENT-CENTERED COMMUNICATION AND MENTAL HEALTH STATUS AMONG NON-HODGKIN LYMPHOMA SURVIVORS

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Initiatives have been instituted across cancer populations to establish a more patient-centered approach that positions patients as partners with their health care clinicians. This perspective facilitates a holistic approach to care (e.g., physical, emotional, functional, and social well-being); however, the exploration of patient-centered communication (PCC) between survivors of hematological malignancies and clinicians is limited. This is particularly salient to survivors of non-Hodgkin lymphoma (NHL) who may have long-term mental health needs related to symptoms such as depression, anxiety, and post-traumatic stress. While social support is widely recognized as having a direct effect on psychological adjustment following cancer, examining how it may be related to PCC and mental health outcomes could inform survivorship care. Therefore, the purpose of this study is to address the gap in knowledge of how PCC may mediate the relationship between social support and mental health status among NHL survivors. This is a secondary analysis of a NHL cohort data set from a study conducted at Duke University and the University of North Carolina at Chapel Hill in 2010. This data set contains 566 survivors among the 682 who were assumed living and completed a baseline 2005 survey (83% response rate). Social support was measured with the Medical Outcomes Study Social Support Survey, PCC with the PCC Scale, and mental health status with the SF-36 Mental Component Summary Score (MCS). Baron and Kenny Mediation Analysis and the Sobel test were used to examine whether PCC mediates the relationship between social support and MCS. NHL survivors (N=566) were a median of 12.9 years since diagnosis, 52% female, and 87% white. The relationship between social support and MCS was partially mediated by PCC. The standardized regression coefficient between social support and PCC was statistically significant, as was the standardized regression coefficient between PCC and MCS, and the Sobel test (all $p<.001$). The standardized indirect effect was $(.29)(.27) = .08$. This secondary analysis found that the relationship between social support and mental health status was partially mediated by PCC among a sample of NHL survivors. The development and testing of interventions targeting PCC are encouraged as they may lead to improved health outcomes in cancer.