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PODIUM ABSTRACTS

ADVANCED PRACTICE

POST-GO-LIVE SURVEY ASSESSMENT OF REAL-TIME TRANSPLANT SEPSIS RISK MODEL DEPLOYMENT

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Sepsis is a leading cause of death in HCT recipients post-transplant. It is difficult to detect sepsis with commonly used models and tools in these patients, as sepsis presentation may be different from general patient population. A sepsis predictive model was trained and evaluated retrospectively on data for this population at City of Hope National Medical Center, which was then integrated with Epic workflows and best practice advisories (BPAs). The predictive model and BPAs were implemented for early identification of moderate and high-risk transplant populations. These workflows went through standard approval and testing processes, including Epic, nursing and clinical councils, as well as functional and user acceptance testing. Following these approvals, the BPAs were deployed alongside a real-time modeling infrastructure in June 2020. Technical measures of the system, such as frequency of BPAs and model accuracy, were tracked via Epic reporting, but additional research was necessary to understand qualitative understanding and acceptance of the system. Performance of the model and Epic workflows were evaluated via surveys distributed via RedCap. Surveys were distributed to all clinical staff that had received at least one BPA since go-live (June 2020). The survey was open for one month for response. Questions were related to recall, feedback, and comprehension of the Sepsis Risk system. Questions were on a scale of 1-5, indicating whether they strongly disagreed, disagreed, felt neutral, agreed, or strongly agreed with the prompt. 892 doctors, nurses, and researchers received at least one BPA since go-live. 92 individuals responded to the feedback survey. Of the 92 respondents, 54 recalled seeing the BPA in the last year. Responses on questions related to overall system feedback ranged from a mean of 3.04 to 3.56 (N=54). Responses on questions related to system comprehension ranged from 3.64 to 4.28 (N=54). Feedback regarding the model was generally positive and provided honest information regarding acceptance and understanding. This survey research will guide model updates going forward, including BPA lockout times, BPA targeting by role or department, BPA content and actions, and model performance. Acute care machine learning implementations are novel, and evaluation of workflows with clinical staff are crucial to optimizing user experience with these clinical applications.

USING HUMAN-CENTERED DESIGN TO CREATE A CULTURALLY TAILORED TEACHING TOOL PROTOTYPE TO IMPROVE ENGAGEMENT OF AFRICAN AMERICANS IN CLINICAL TRIALS

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African Americans (AAs) have the highest rates of morbidity and mortality in the U.S. for major diseases including cancer, yet their underrepresentation in clinical research trials (CRTs) deprive them of the benefits of relevant research findings. Historically rooted in racism and discrimination, known barriers to participation of AAs in CRTs include mistrust and lack of education. To overcome these barriers, previous study participants recommended educating the AA community on clinical trials using digital technology. The purpose of this study was to design a prototype of a culturally-tailored, web-based, clinical trials teaching tool for AAs. This qualitative exploratory study used human-centered design to develop a teaching prototype on CRTs. Using design thinking, the researchers and a graphic designer conducted interviews and focus groups with AAs to co-create graphics and content for the prototype. The interviews focused on the participants' knowledge-seeking preferences, attitudes towards CRTs, and recommendations to increase engagement in CRTs. Using an iterative process, the focus groups provided feedback on each prototype. Data were analyzed using constant comparison analysis within a design thinking context. A Community Advisory Board guided and provided feedback on tool development. Twenty three individuals completed 17 interviews and 7 focus groups.

Five themes emerged: communication with doctors, education, racism, trust/mistrust, and learning preferences. Themes formed the basis to the initial prototype. Four prototypes were created based on participants' insights regarding amount of information, color patterns, historic research events (i.e. Tuskegee), pre-clinical information, patient testimonials, post-research information, and branding. Previous interventions to increase enrollment in CRTs have had limited success due, in part, to not addressing deep cultural issues and not involving the community in solutions. The design thinking approach in this study prioritized empathy, a comprehensive understanding of what was important to participants regarding CRTs. The final outcome was a web-based teaching tool prototype co-created with AAs for their community. This study used a novel approach combining human-centered design and qualitative exploratory research. Design thinking orientation brought the community's voice to the table and built an innovative intervention to address low participation in CRTs. This prototype has the potential to be an important contribution to the improvement of health communication using health information technology, a high-priority issue by Healthy People 2030.

CANCER PREVENTION WITH TELEHEALTH CASCADE GERMLINE GENETIC TESTING: MAKING IT A FAMILY AFFAIR

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Cascade testing is the provision of germline genetic testing for an identified familial pathogenic variant to disease-free relatives to clarify risk for developing malignancy. 50% of first-degree relatives are estimated to carry a pathogenic variant. Barriers to cascade testing include cost, insurance constraints, and confidentiality laws. The burden of informing relatives about test results and their implications falls on the patient. A no-cost to patient program is an approach to implementing cascade testing. Some laboratories offer free testing to family members for 3–5 months after a pathogenic variant is detected. To purpose of this project is to describe the impact of telehealth on cascade testing utilization. A retrospective chart review comparing the number of individuals who had cascade testing in 2019 (in-person counseling) and 2021 (telehealth) in a midwestern university hereditary cancer program using descriptive statistics was completed. Constants included that all patients were instructed to notify family members of the availability of cascade testing at the time of results disclosure as well as in the letter each patient received outlining recommendations for care and how relatives could access testing. During 2019 there were a total of 606 new patients with a 32.67% increase to 804 new patients in 2021. In 2019, 96 of these new patients were for cascade testing and in 2021, there were 351 new patients for cascade testing; an increase of 265.62% over 2019 when all services were in-person. In 2019, 22 (23%) of the patients established care in the system; in 2021, 121 (34%) established care in the system. Protocols for informing patients about the availability and importance of cascade testing did not change, but telehealth did make cascade testing more accessible for patients. Although a patient may not immediately see the value of cascade testing or be willing to drive a distance or take a day of vacation for an in-person appointment, they were willing to take a call and complete the testing. It is not clear if the uptake of cascade testing would be as high if there had been charges for the pre- and post-test counseling. Future studies should evaluate this as well as downstream revenue generated by new patients who often require extensive screening and prophylactic surgery to further evaluate the value of no-cost telehealth cascade testing.

AN INNOVATIVE APPROACH TO LUNG CANCER SURVIVORSHIP CLINICS

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An estimated 384,000 survivors of lung cancer living in the United States. Institutions are struggling with the development of clinics to serve this population. Our goal for the development of the survivorship clinic is to deliver treatment essential to the survival and future health of patients with surgically resected lung cancer. Dedicated Thoracic Surgery Advanced Practice Providers run this clinic independently We intend to bridge the gap between the thoracic surgeon and the referring physician by serving as a patient advocate and physician liaison. The purpose of this project is to provide survivorship care in a disease specific clinic all by Advanced Practice Providers. Patients experience a one hour, face to face session to review surveillance scans and be provided with a Survivorship Care Plan by Thoracic Surgery specific APPs. Patients complete a "distress" tool prior to their clinic appointment to focus on areas of need. In order to capture the four areas of distress most common in surgically resected patients; smoking cessation, fear of recurrence, changes in respiratory function, and pain we use the Patient-Reported Outcomes Measurement Information System

(PROMIS 43) and Dyspnea Short forms, in addition to a Patient satisfaction survey at the completion of the visit. Based on the results of the surveys, referrals are placed to aid in improving and promoting health. The Lung Cancer Survivorship Clinic launched in February of 2019, since that time 189 patients have been seen. Patient satisfaction survey results indicate 99% of patients would recommend this service to other cancer survivors. In addition, patients reported feeling that their medical, emotional, spiritual, and psychosocial concerns are addressed at these APP lead visits. Our goal is to challenge the status quo; to seek a more efficient and effective way to deliver survivorship care using APPs. We are helping patients navigate the next phase of their disease -living well after cancer. With this new model we have been able to prioritize attending clinics for pre-operative, post-operative, and new patient visits, thereby improving efficiency, staffing, and decreasing wait times for new oncology patients. By having thoracic surgery specific APPs provide these specialized survivorship visit, the patients disease specific needs are met in a way they would not be in a general survivorship clinic.

CLINICAL PRACTICE

INTRODUCING ANTISEPTIC BARRIER CAP USE TO OUTPATIENT ONCOLOGY NURSING

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Oncology patients use approximately five million CL annually with a 12%–40% mortality rate. This places them at higher risk for central line associated bloodstream-associated infections (CLABSI), leading to significant morbidity and mortality. The ABC, SwabCap, is a CL maintenance bundle intervention which can prevent CLABSI by bathing the connector hub with 70% isopropyl alcohol for 7 days. The aim of the project is to enhance oncology nurse's knowledge, confidence level, and ease-of-use in applying an antiseptic barrier cap (ABC) to central lines (CL) in the outpatient oncology setting. A Doctor of Nursing Practice (DNP) student developed and implemented an education module with a SwabCap pilot utilizing the plan, do, study, and act (PDSA) quality improvement (QI) framework in a Southeast U.S. outpatient oncology center. The PDSA was combined with a pre-test/post-test design to determine the effect of educating nurses on the proper application of Swabcaps. Eligible subjects were outpatient oncology nurses who used CLs. Descriptive statistics analyzed the subject demographic data. The Wilcoxon Signed Rank Test assessed pre-test/post-test knowledge changes while the System Usability Scale (SUS) calculator examined the subject's confidence and ease-of-use for the SwabCap. A total of 20 outpatient oncology nurses with varied nursing, oncology experience and CLABSI knowledge were recruited using non-random convenience sampling. The central line infection and SwabCap knowledge levels showed a statistically significant improvement after providing the educational module (Mdn. = 90) than before the education (Mdn. = 60), $z = -2.701$, $p = 0.007$, $r = -0.60$. SUS scores ranged from 65-100 with an average of 87. These scores showed the SwabCap ease-of-use ranks as "acceptable", with an "A" for Grade and an "excellent" rating, along with 100% nursing confidence when using the cap. An educational module and a SwabCap pilot improved oncology nursing knowledge, confidence levels, and found the cap easy to use supporting its use in outpatient oncology. The caps cost $0.25/each compared to CLABSI cost of $48,000 per episode. Outpatient oncology nurses should be cognizant of best practices for infection prevention of central venous catheters. Use of Swabcaps in outpatient oncology would standardize nursing practice and increase patient safety across all care settings by reducing central line infection rates with passive disinfection of central line connector hubs.

IMPLEMENTING AN ADULT DIFFICULT VENOUS ACCESS TOOL IN AN AMBULATORY ONCOLOGY INFUSION THERAPY SETTING

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Peripheral intravenous (PIV) access is used for various chemotherapy regimens in the ambulatory setting instead of central lines. Due to the nature of some chemotherapy agents, such as vesicant or irritant status, the patient is at risk for venous events of infiltration or extravasation when these agents are given via PIV instead of a central line. Frontline nurses wanted to decrease venous events and empower their peers to advocate for central lines among patients receiving

chemotherapy with difficult venous access. A team was formed, literature searches were performed, and a project was developed. Educational sessions were given to clinical nurses on application of the Adult Difficult Venous Access (A-DIVA) tool, anatomical sites to avoid when administering PIV chemotherapy and safe administration of PIV vesicants using Oncology Nursing Society (ONS) and Infusion Nursing Society (INS) guidelines. Outcomes of the tool guided the nurse for intervention. If a score is 4–5 during an appointment for chemotherapy, the nurse would contact the provider regarding risk of difficult venous access and consideration of central line placement. This project received a formal Determination of Quality Improvement status according to University of Chicago Medicine institutional policy. As such, this initiative was deemed not human subjects research and was therefore not reviewed by the Institutional Review Board. Pre-Intervention: From February 2019 to July 2019 there was an average of 0.24 PIV chemo-related PIV venous events per 100 PIVs placed. During this time, 2 vesicant PIV venous events were reported. Post-Intervention: From July 2021 to October 2021, there was an average of 0.12 PIV chemo-related PIV venous events per 100 PIVs placed. During this time, no vesicant PIV venous events were reported. This represents a 50% reduction. Decrease of venous events occurred after implementation of this project. Next steps are to use the A-DIVA tool in the hematology oncology clinic prior to first treatment scheduling. This earlier assessment could provide an opportunity to place a central line before initial treatment and could further prevent venous events or delay of care. This project is innovative since the A-DIVA tool has not yet been applied in literature among adult oncology patients in an infusion setting paired with formal education of PIV chemotherapy administration to decrease venous events.

USE OF INDIRECT CONSULT TRACKER TO CAPTURE UNRECOGNIZED CONTRIBUTIONS OF CLINICAL NURSE SPECIALISTS

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Clinical Nurse Specialists (CNS) are one of the most versatile Advanced Practice Nurse roles. They impact patient care, nursing practice and organizational standards. Across the continuum, CNSs are a resource to patients, nurses and interdisciplinary partners. While direct patient care consultations can be captured in the medical record, indirect consults (consultations to provide clinical expertise or recommendation to staff) are not. Indirect consults are a large part of day to day CNS practice, however capturing metrics such as volume and common themes are not easily identified. Therefore, a use of "Indirect Consult" tracker was essential to capture this data. This aims to discuss importance of demonstrating value of CNSs, explain use of an indirect consult tracker and identify most common consults received by CNSs. Beginning of Quarter 2 of 2021, a team of 40 Clinical Nurse Specialists utilized an "Indirect Consult Tracker" to capture indirect consults received daily. The tool includes, date of consultation, reason for consults (with pre-defined categories), comments, name of CNS or CNS, and time spent. At the end of quarter 2, the indirect tracker was sent to the CNS manager for analysis. From April 2021 to June 2021, the team of 40 CNSs received approximately 7700 indirect consults. Over 5000 consults received by Day CNSs of those 54% (n = 2700) are from inpatient units (including peri-operative areas) and 46% (n =2300) are from outpatient (including regional sites). Over 2400 consults received by Night CNSs and 360 consults received by Weekend CNSs. The top 3 common reason for consults are (1) Policy/Practice Education or Change (2) Professional Development/Orientation, and (3) Clinical Assist. Final presentation will include review of full data analysis and themes. Tracking both indirect and direct CNS consults is helpful in demonstrating the value and impact of clinical nurse specialist within an organization. Utilizing a tool or log sheet provides a standardized process in which consults are documented and from there data can be analyzed. Data analysis should be shared with hospital or nursing leadership to highlight the value the CNS role brings to the organization.

NURSING RESEARCH UNIT STANDARD OPERATING PROCEDURE TO GUIDE ADMINISTRATION OF INVESTIGATIONAL IMMUNE EFFECTOR CELL THERAPY

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Immune Effector Cell Therapy (IECT) including chimeric antigen receptor T-cell (CAR T-cell) therapy is a relatively new, advancing treatment modality. The Foundation for Accreditation of Cellular Therapy (FACT) has established international standards for cellular therapy. However, FACT guidelines do not specify

cell product administration technique, and there is limited literature available on the topic. This knowledge gap often falls on the administering nurse. There is a need for greater knowledge sharing around IECT administration to standardize this technique across institutions. A nursing unit at an accredited institution that pioneered the administrations of hundreds of investigational IECT products has demonstrated expertise in safe and effective IECT administration. This unit has developed a standard operating procedure (SOP) for IECT administration to be used in tandem with research protocols. To promote knowledge sharing around IECT administration technique based on the SOP of an institution that has been administering investigational cell products since 2010. The patient is prepped by placing an 18 to 20-G peripheral intravenous catheter in a competent vein. The frozen cell product is verified by a double-nursing check. Premedication is administered. A free-flowing macro-drip gravity line is established with a Y-spike adapter. The cell product is thawed in a 37°C water bath, then administered by gravity. A back-washing procedure is completed twice to ensure complete product delivery. Vital signs are monitored frequently. This technique is determined to be a safe and effective method to administer IECT based on the administration of hundreds of cell products using this method. This poster highlights the lack of standardization of cell product administration guidelines and prompts the need for standardization of IECT administration. In addition, the techniques detailed from this well-established SOP can empower the administering nurse in other institutions to utilize this method with confidence. IECT administration is itself innovative. Many nursing units are just beginning to administer IECT products and may have trepidation around the lack of administration technique standardization. The importance of knowledge sharing cannot be overstated such that the nurse feels empowered to administer future cell products safely, and standardization of IECT administration can be initiated.

IMPLEMENTATION OF A STEP (SUCCESSFUL TRANSITION AND EDUCATION OF PATIENTS) RN IN THE INPATIENT SETTING TO COORDINATE DISCHARGES AND DECREASE LENGTH OF STAY

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With increased staffing and capacity strains the inpatient oncology setting, it is important to increase the efficiency and communication associated with the discharge process. Successful Transition and Education of Patients (STEP) RN is a unit-based RN that coordinates with the multidisciplinary team and the patient all aspects of discharge to identify barriers to discharge and address them early in the patients care journey. The purpose of this QI project was to standardize/ formalize an existing STEP RN role and bridge the communication gap between the multidisciplinary team and the patient as they work towards discharge. Also, to decrease average length of stay (ALOS) for patients, correct inaccuracies on discharge paperwork and improve the patient discharge education process. Over a 6-week pilot and 4-month implementation period, the collaborative STEP role was integrated into the Multidisciplinary Rounds (health care providers, nurses, case management and pharmacy), the Clinical Leadership Team and the facility Capacity Management team. Pharmacy created workflows related to discharge medications and prior authorizations, thus decreasing time patients wait for discharge medications. The medical director coordinated with the outpatient areas to increase follow up appointments for at-risk populations. Four months post STEP RN implementation, the inpatient oncology unit's ALOS decreased in the mixed patient population 6.7 hours. Medical Oncology patients ALOS decreased by 0.62 days or 14.88 hours per patient. Gynecologic Oncology patient population ALOS decreased by 0.74 or 17.8 hours. In addition, STEP RNs corrected medication or instructional mistakes in 23% of discharged patients paperwork prior to reviewing with patients. Over 75 hours were logged for discharge education with 206 patients. Through collaboration with the capacity management team and support from the multidisciplinary team, the potential for decreasing ALOS can occur. Post implementation and standardization with every medical surgical unit and a new STEP RN Council was formed to share workflows, identify, and improve gaps in the overall discharge process. This role has implications for every discipline as seen by the outcomes. Innovation is critical to an organization's success. This innovative and collaborative effort assisted in improving the capacity issues and efficiencies of the patient discharge process. By improving these process there is a potential to improve the patient's experience.

LEADERSHIP/MANAGEMENT/EDUCATION

A 4-DAY WORK WEEK FOR NURSING LEADERS: MAKING IT A REALITY AT A NCI COMPREHENSIVE CANCER CENTER

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Nursing leaders assume a traditional five-day work week, working well over eight-hours per day with 24/7 accountability. Most often than not, nurse leaders are frequently checking email from home, attending virtual meetings while off-site, and are making themselves available to staff during non-work hours. As nurse leaders retire or leave the profession, the younger generation of staff nurses may find the role to be increasingly demanding and less appealing due to the lack of flexibility that staff nursing roles provide putting organizations at risk to recruit and retain the best and brightest in leadership roles. Not only does nurse leader job satisfaction impact the leader's desire to stay in their position and their job performance, it also affects team performance which impact patient care and outcomes. The Chief Nursing Officer at a NCI Comprehensive Cancer Center advocated for the work-life balance of nursing leaders at the organization. Nurse leaders were granted the option to work four days a week with the following expectations: all due work will be completed, adequate coverage is arranged, and staff continue to feel supported. The purpose of this flexible work schedule is to improve nurse leader's role satisfaction, decrease workplace burnout, and provide work-life balance in an innovative. A pre-intervention survey established the following baseline: 67% very/extremely satisfied with level of job satisfaction, 28% satisfied with work-life balance, 66% with 10+ hours worked each day, 78% agree/strongly agree having some level of guilt associated with time off, and 67% very/extremely confident in the ability for their units to run efficiently in their absence. Positive communication from leadership teams to staff was imperative, as staff buy-in is critical for the nurse leader to feel comfortable taking a day off when they would usually be on site. Staff were made aware there would always be a member of the leadership team on site they could contact directly. Leaders will be surveyed again at three and six months post 4-day work week implementation to determine if the shorter work week contributes to an increase in job satisfaction, work life balance, and a desire to remain in their current role.

OUTCOMES OF A NCI SUPPORTED TRAINING COURSE IN PALLIATIVE CARE FOR ONCOLOGY APRNS

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Providing palliative care to patients across the spectrum of cancer is a key role of Oncology Advanced Practice Registered Nurses (APRNs). There is strong consensus (National Consensus Project (NCP) for Quality Palliative Care, 2018) that delivering this care requires APRNs as primary care providers to incorporate this care into their role and collaborate with palliative care specialists in clinical settings. The purpose of this NCI Funded R25 training grant was to prepare oncology APRNs through 5 national training courses to improve palliative care in their settings and incorporate this care in their role. Training courses were held from 2018–2021. The 3 day course content was based on the 9 domains of palliative care addressing topics such as pain and symptom management, structures and processes of care, cultural considerations, grief and bereavement care, spiritual care and self care. The course included adult and pediatric focused APRNs. The course content was supplemented by monthly webinars for one year and by structured collaboration with the palliative care team in the APRN's institution. A total of 430 APRNs from 46 states attended the training with 20% from minority populations. Evaluation was done pre course, post course and at 6 and 12 month follow up. Data demonstrated high ratings for usefulness of the course content (rated 4.91 on a 0–5 scale). Participants developed goals prior to attending the course for their implementation and 12 month follow up data demonstrated significant increases in the APRNs involvement in conducting family meetings, communication with patients, referrals to palliative care, offering bereavement support and training their nursing colleagues in palliative care. This training course has documented the vital role that oncology APRNs can play in serving as change agents to implement improved palliative care and in the delivery of this care through their own clinical practice. The training program is innovative in providing a goal directed training program, fostering APRN and PC team collaboration, and providing

outcome data regarding the impact of training APRNs to improve the quality of palliative care in oncology.

DEVELOPING EDUCATIONAL MATERIALS ABOUT BIOSIMILARS FOR CANCER PATIENTS AND CAREGIVERS

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The first anti-cancer biosimilars became available in the Unites States market in 2019. As more patients are either recommended by their provider or financially incentivized by their insurance to use a biosimilar, patients will likely have many questions and confusion about this new class of biologic therapies. It is increasingly important that patients become aware of biosimilars and understand that these drugs are safe and effective. The Frankly Speaking About Cancer (FSAC): Biosimilars program focuses on building awareness among patients and caregivers about biosimilars and their safety and efficacy as well as potential policy impacts. The objective of this project was to inform the development of educational materials and resources aimed at educating cancer patients and their caregivers about biosimilar drugs. Between 2019 and 2021, Cancer Support Community (CSC) facilitated a series of iterative focus groups and online discussion board testing of biosimilar patient education with a mix of cancer survivors (N=31) and caregivers (N=4). Findings assisted in the development of a booklet, infographic, and two videos. Participants were asked to review and provide feedback on the clarity of definitions and concepts, such as: What is a biosimilar drug? How are biosimilar drugs made? Are biosimilar drugs safe? Why am I getting a biosimilar? Results were derived via qualitative analysis of group and discussion board responses. Qualitative analysis of discussion board and focus group responses revealed that while participants judged the materials and most of the concepts to be clear and informative, patients and caregivers desired more clear information about the following: (a) Differences between biosimilar, biologic, and generic drugs, (b) safety and efficacy of biosimilar drugs, (c) composition of biosimilars, and if they are made from chemicals or living cells/tissue, and (d) whom they should talk with about biosimilars. Following feedback, the materials were revised to reflect participants' input. CSC's qualitative research indicates that understanding safety and efficacy of biosimilar drugs are top of mind for patients. By addressing those concerns, patients are able to consider biosimilars equally with other treatment options. This underscores the importance of developing resources to help patients and caregivers understand biosimilar drugs and foster an open dialogue with health care providers about treatment decisions. These materials are available through CSC and Gilda's Club affiliates, program partners, and CancerSupportCommunity.org.

ONCOLOGY EXTERNSHIP FOR ACUTE CARE NURSE PRACTITIONER STUDENTS; PREPARING STUDENTS FOR ADVANCED ONCOLOGY PRACTICE

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The college curriculum prepares the Advanced Practice Provider (APP) for general practice in generalized practice specializing in acute or primary care. New graduates from these APP programs are preparing to enter a healthcare environment that is highly specialized. The Oncology Externship was created to provide select Acute Care Nurse Practitioner Students (ACNP) the opportunity to be exposed to all areas of oncology care. Clinical based experiences and education go beyond the primary oncology care taught in school. The purpose of this project was to describe a three-semester program focused on oncology and oncologic education for ACNP students. The Oncology Externship was created to provide specific oncology clinical education and experience as part of graduate education. The innovative program provides APP students with direct clinical experience in areas of oncology, hematology, surgical oncology, radiation oncology, survivorship, emergency oncology care and palliative oncology. The Externship also provides supplemental education around oncology care in the form of didactic, observation experiences, and oncology conferences. Participants rotate through five clinical areas over the course of three semesters, 600 clinical hours. During the externship, the students gain an elevated oncology exposure that enables them to enter the workforce with enhanced knowledge for practice. This program was created in 2020, in its initial year four students were accepted, three students completed the externship. All three of these students then applied to an oncology specific fellowship program and were accepted. Due to their experience from

the externship, their future employer appreciated the dedication and passion that was sought to focus on oncology education and patient and therefore they were some of the top candidates for future nurse practitioner jobs in a transition to practice program. The 2021 cohort has increased to five students. There is increased pressure for students entering the workforce to have an educational background to set them apart from their cohorts. As oncology care is becoming more complex, there is increased need for new APPs to have a more thorough educational and clinical experience. The Oncology Externship was created to provide this specialty education and all participants in this program have gone on to graduate and obtain jobs in the oncology field. The program provides APP students with direct clinical experience in oncology to prepare them for transition to practice.

QUALITY IMPROVEMENT

CANCER DIAGNOSTIC CLINIC E-COMMUNICATION INITIATIVE: REDUCTION OF TIME TO DIAGNOSIS AND TREATMENT

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Patients presenting with symptoms concerning for a new malignancy present unique diagnostic and referral challenges to primary care and emergency medicine clinicians. Absence of standard referral pathways leads to delayed diagnosis and treatment, incorrect specialty referrals, unplanned emergency department (ED) visits and subsequent admissions with extensive workups. These delays can increase costs and harm patient outcomes. E-Communications, or E-Consults, are asynchronous telehealth advice requests ordered in the electronic medical record (EMR) to facilitate specialist case reviews on behalf of another provider to advise patient care. The purpose of this project was to institute a Cancer Diagnostic Clinic E-Communication for primary care (PCP) and emergency department providers managing patients with a concern of malignancy of unknown primary. Goals include: expedite time to diagnosis and treatment, reduce emergency department visits and unnecessary admissions, improve health equity, and improve provider satisfaction. After reviewing E-Communications' efficacy used by other services lines in the health system, the site-specific Advance Practice Provider (APP)-led Cancer Diagnostic Clinic E-Communication was developed in collaboration with leaders from primary care, emergency department, and information technology for six areas of clinical concern: lymphadenopathy, carcinomatosis, abdominal lesion, thoracic lesion, pelvic mass and renal mass. E-Communication services are completed within 24–48 hours resulting in same-day or next day visit, care coordination of diagnosis, and expedited referral for treatment. Since pilot implementation (March 8, 2021), over 230 E-Communications have been completed; 18.8% from ED and 81.2% from PCPs. Turnaround time averaged 6.24 hours. For patients needing oncology care, median lead time to first appointment was 9 days (range 0–106 days), mode 1 day; pre-pandemic baseline median 8.1 days. E-Communication expanded to our community-based hospital and low-income outpatient clinic in May and September 2021, respectively; preliminary outcomes pending. E-Communications improves care coordination between referring providers and oncology specialists, expedites oncology workup, and may reduce time to diagnosis. Health equity in oncology care is improved by partnership with our community clinic. Increased satisfaction is reported by APPs participating in the Cancer Diagnostic Clinic and by participating ED and Primary Care providers. This E-Communication is limited to internal providers, but an external second opinion platform is being implemented to fill this need.

NURSE-PHYSICIAN COLLABORATION LED TO NEW BLADDER CANCER TREATMENT PROTOCOL

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Non-muscle invasive bladder cancer (NMIBC) consists of 75% of new bladder cancer diagnosis. Treatment involves complete transurethral resection of bladder tumors followed by adjuvant intravesical therapy with Bacillus Calmette-Guerin (BCG) for

intermediate and high-risk tumors. Unfortunately, patients undergoing BCG therapy have a 40% failure rate. When high-risk patients fail BCG therapy, per EAU and AUA guidelines, cystectomy is recommended. There are patients, however, who are not cystectomy candidates or prefer not to undergo cystectomy. In these cases, alternate intravesical salvage therapy can be offered. At our institution, intravesical Gemcitabine and Docetaxel (Gem/Doce) is used as a salvage option after BCG failure. Salvage Gem/Doce requires a 90-minute Gemcitabine dwell time which can be challenging for a significant number of patients; potentially impacting the efficacy of the therapy. Interventions in catheter management, use of bladder medications (Mybetriq and Ditropan) and patient position changes have been mostly unsuccessful. It has been reported that alkalinizing the urine reduces irritation of the acidic Gemcitabine. In collaboration with the treating urologist, we instituted Sodium Bicarbonate tablets (1300 mg) the night before and morning of treatment. With this intervention, our initial eight patients were able to successfully hold the Gemcitabine dwell for 90-minutes. Because of this, the nurse and physician collaborative led to a successful practice change. Patient education is crucial to the success of this intervention. Each patient has a 1:1 education session with the clinical nurse prior to the initiation of induction or monthly maintenance Gem/Doce therapy. Patients are instructed on the benefit of urine alkalization to optimize their dwell times. Through their education session, patients were able to engage in their care therefore improving patients' outcomes as they are now active participants of their care team. Since August 2021, eight patients successfully tolerated the full 90-minute dwell time of Gemcitabine because of Sodium Bicarb administration. Surveillance cystoscopy with bladder cytology is performed at 3-month intervals to track disease progression. Since this protocol is fairly new, we will continue to track data of each patient (diagnosis, Sodium Bicarb, and dwell times). We would like to share this protocol with other urologic oncology teams so their patients will also benefit from the full treatment of intravesical chemotherapy for treatment of NMIBC without cystectomy.

CREATING AN EFFECTIVE PROCESS TO UTILIZE A TRANSPORTATION GRANT AND REDUCE TREATMENT BARRIERS FOR CANCER PATIENTS DURING THE COVID-19 PANDEMIC

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According to the Health Research & Educational Trust 2017, transportation challenges prevent 3.6 million Americans from receiving medical care each year and are the third leading cause of missed medical appointments for seniors. During the COVID-19 pandemic, an increased number of patients were having transportation challenges due to lost wages and unemployment. Due to the pandemic, the transportation services that oncology team typically relied on were discontinued in March 2020 during the pandemic. The American Cancer Society approached Memorial Hermann with a transportation grant opportunity. The Oncology Team was tasked with developing a transportation assistance program to identify transportation barriers and utilize grant funds to best serve our patients with transportation needs. The purpose of this project was to develop a process to assess cancer patients for transportation barriers and connect with appropriate transportation assistance. Increase the number of rides provided to cancer patients to ensure they continue to receive treatments in a timely manner. An initial grant of $7500 was used to provide gas cards for patients. On completion of the first grant, an additional $40,000 grant was received for use in FY21. Since gaps were still present as not all patients had access to cars, additional transportation options were identified and utilized with the funds. The oncology team assessed all patients they interacted with to identify transportation barriers. Once patients' needs were identified, the oncology nurse navigation team checked insurance and existing community resources for available transportation assistance. If none available, the ONN would follow the approval process for utilizing ACS grant funds to provide a gas card or a ride. The Oncology Team successfully developed a standardized process to identify transportation barriers and connect patients with the appropriate transportation assistance. The number of rides provided to cancer patients was increased over previous years, thus reducing transportation barriers to cancer care during the COVID-19 pandemic. Strategies implemented were effective in reducing transportation barriers. In 2020, the transportation program provided rides for 3903 treatments, including 896 for chemotherapy, 2854 for radiation therapy, and 99

clinic visits. Monthly data provided an opportunity to identify areas for further improvement. Plan to apply for future grants and tracking no show rates and timeliness to care in relation to transportation barriers.

IDENTIFYING AND ADDRESSING TECHNOLOGY BARRIERS TO CARE IN ONCOLOGY PATIENTS

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Technology's role in enabling virtual care as a replacement for in person appointments was generally seen as a positive development during COVID-19. However, the impact on patients and their outcomes has yet to be fully understood. Technology can be stressful especially within vulnerable populations. Similarly, patients from diverse, educational, cultural, and linguistic backgrounds may also have problems utilizing these technologies. Addressing limitations with technology early on can decrease barriers allowing for increased access to care. The purpose of this project was to identify and address barriers in accessing virtual visits for all new oncology patients through the Navigation Department. From June to December 2021, the Navigation Department added a new section to the intake form within the electronic medical record for all new oncology patients to collect information on barriers to accessing a virtual (telemedicine) visit. If a patient had a scheduled telehealth appointment, the Nurse Navigator (NN) would assess if the patient was able to appropriately navigate the technology needed for that visit to occur. If the patient could not access the virtual visit, the NN would provide education and support in setting up their visit. Lastly, if the NN assessed the patient did not have the appropriate technology or was still unable to access the visit after education was provided, the visit would be converted to an in-person visit. From June-December 2021 a total of 789 telehealth visits were scheduled, making up 6% of all new patient visits. Most patients were 50–79 years old. The malignant hematology patients utilized telehealth the most at 40%. A total of 31 barriers to telehealth were identified (3%) and 11 visits were converted to in person (1%). Additionally, NN reported they identified a need for a physical assessment leading to the conversion of some appointments to in person visits. NNs have a critical role in identifying barriers to care. Although many are eager to adopt new technology, there is often lack of access to devices and support. Assessment of patients' knowledge of the technology needed and how to access care via a mobile device or computer is important to assist with maximizing the potential of technology to facilitate access to care.

EMOJI MEDICATION SIDE EFFECT CARDS IMPROVE EDUCATION FOR ONCOLOGY PATIENTS

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Oncology patients receive many medications, including complex drugs causing side effects requiring additional medications for symptom control. It is essential that patients understand medication purpose and side effects. Nurses teach to multiple educational levels and lack of understanding may not be easily identified. Consequences of inadequate understanding include potential adverse drug events, inadequate therapeutic effect, inadequate symptom relief and even ED visits. The purpose of this project was to improve nurse-patient education and patient understanding related to communication about medications, their purpose and side effects through an easy to read card that can be used for all education levels and language barriers. Nurses collaborated with pharmacists to identify the most commonly administered medications and side effects. Nurses then designed emoji cards that represented the side effects; nurses were educated; the cards were printed and piloted on one inpatient unit and Radiation Oncology. Patients responded well to the cards and nurses liked the visual tool. The emoji cards were quickly implemented on all inpatient units and each unit defined a process for access. Nurses requested additional med cards and they were added. Nurses were encouraged to use them not only for new meds but existing ones if assessed as needed. Months later, infusion nurses requested chemotherapy med cards and 30 additional cards were developed. Over 100 educational cards are in use. Currently nurses are working on additional infusion meds and development of oral agent chemotherapy cards. For the inpatient HCAHPS question

"Tell you what the new medicine is for" scores increased, resulting in outperformance of National Cancer Institute peer group for 6 of 7 quarters. For "Staff describe medication side effects" outperformance is 7 of 7 quarters. Outpatient oncology mean score for "Information Provided about Medications" has risen for the recent two quarters. Emoji cards for medications are valuable tools to improve patient education in the inpatient and outpatient settings. They are easy to design, easy to use, and inexpensive. Emoji cards that are specific to oncology medications, as well as general medications, provided a new strategy to help patients with understanding their medications. When Covid vaccine clinic was initiated, instead of printed handouts, a vaccine emoji card was quickly developed and distributed to patients, enabling an easy to understand visual summary of side effects.

RESEARCH

SCREENING FOR GENETICALLY TRANSMISSIBLE CANCERS: PATIENT PERSPECTIVES AND IMPLICATIONS FOR CANCER CARE

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Approximately 5–10% of cancers are genetically inherited. Identifying patients with genetic mutations can lead to strategies that can prevent cancer or detect them at an earlier stage, leading to dramatic improvements in morbidity and mortality. Unfortunately, very few individuals have been tested for genetic mutations. Most often, testing occurs at the time a patient presents with a potential genetically transmissible malignancy, thus prompting individual and family testing. Wide-spread implementation of routine cancer risk assessment and screening is lacking. The EDGE (Early Detection of Genetic Risk) study is a randomized-cluster study that compares two methods, direct contact versus a mailed approach, for identifying individuals who have a family/personal history of cancer and encourages these high-risk individuals to obtain testing for germline mutations. The sample includes individuals 25 and older from 12 primary care clinics in the northwest US. Here we share preliminary numbers of risk assessment participation, preliminary prevalence rates of genetic mutations, and individual perspectives regarding testing. Nine months of testing have yielded 8,170 risk assessment screenings. 46.21% of individuals approached agreed to take the risk assessment; 53.79% declined. Most individuals shared positive perceptions about the risk assessment and free screening. The top three reasons for not participating include 'Not interested', 'Already approached at and/or completed screening at previous visit', and 'No relevant family history of cancer'. Once at-risk patients were identified, each was contacted by their primary care provider who shared the positive results and referred them to a genetic counselor. Of the 655 tested, 47 (7.18%) have had a genetic mutation. An individualized previvor plan that outlines NCCN patient surveillance and follow-up guidelines is provided to each high-risk individual. As more individuals with genetic mutations are identified, significant implications exist for cancer centers and oncology nurses. As individuals discover their genetic risk, they will seek information and education from cancer care professionals regarding options for risk reduction and health promotion strategies. To address this increasing volume, some cancer centers have opened high-risk clinics to provide consultation and education for high-risk patients. Overall, oncology nurses have opportunity to promote innovative primary care risk assessment and screening programs like EDGE, to identify family clusters within the population and aid in the prevention and early detection of genetically transmissible malignancies.

TRYPTOPHAN AND KYNURENINE PATHWAY METABOLITES AND PSYCHONEUROLOGICAL SYMPTOMS AMONG BREAST CANCER SURVIVORS

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Pain, fatigue, depression, anxiety, and sleep disturbance are the most common and distressing psychoneurological (PN) symptoms that cluster together among breast cancer survivors. Inflammation-induced activation of the kynurenine (Kyn) metabolic pathway of tryptophan (Trp) degradation may play an important role in PN symptoms and warrants further investigation in cancer population. The purpose of this study is to investigate the relationship between Trp-Kyn pathway metabolites and PN symptoms

among breast cancer survivors. This is a cross-sectional study. Symptoms and fasting blood were collected among breast cancer survivors (N=78) who finished major cancer treatments. PN symptoms were assessed by PROMIS short form. We semi-quantified 250 common metabolites, including four major components of the Trp-Kyn pathway (Trp, Kyn, kynurenic acid and quinolinic acid) in relative units corresponding to chromatographic peak areas using Comprehensive Hydrophilic Metabolites Panel liquid chromatography mass spectrometry. Latent class analysis was used to identify subgroups of women based on the severity of pain, fatigue, sleep disturbance, depression, and anxiety. Mann-Whitney U tests and multivariable logistic regression were used to compare targeted metabolites between subgroups. Two distinct symptom cluster subgroups (81% in low and 19% in high) were identified based on the severity of pain, fatigue, sleep disturbance, depression, and anxiety. The high PN symptom subgroup had lower Trp levels than the low PN symptom subgroup (p=0.029). In the multivariate analysis, advanced cancer stage (beta=0.84, p=0.052), lower education level (beta=–0.97, p=0.017), higher body mass index (BMI) (beta=0.26, p=0.003), currently taking anti-depressants (beta=3.02, p = 0.007) and lower Trp levels (beta=–0.002, p = 0.004) were associated with increased risk of being in the high PN symptom cluster subgroup. Higher Kyn/Trp ratio (beta=69.56, p = 0.028) was associated with increased risk of being in the high PN symptom cluster subgroup after adjusting BMI and anti-depressant status. This study suggests that Trp-Kyn pathway and impaired Trp availability greatly contribute to the development of PN symptoms. Results of study helps us better understand biological mechanisms associated with the severity of PN symptoms among breast cancer survivors. Interventions targeting Trp metabolism can be developed to reduce PN symptoms. This was the first study to investigate the relationship between Trp-Kyn pathway metabolites and the PN symptom cluster among breast cancer survivors after major cancer treatments.

PATTERNS OF HEALTH-PROMOTING BEHAVIORS AND ASSOCIATED FACTORS IN FAMILY CAREGIVERS OF PEOPLE WITH CANCER: A LATENT PROFILE ANALYSIS

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Practicing health-promoting behaviors is important for family caregivers to protect themselves from stress-related diseases. Caregivers tend to prioritize the needs of their patients and neglect their own. As patterns of health-promoting behaviors can vary among caregivers, classifying health-promoting behaviors and identifying factors associated with the classification would be beneficial in developing tailored interventions. However, previous studies often averaged each health-promoting behavior into a single linear measure. The purpose of this study was: (1) to determine whether classes of health-promoting behaviors can be identified in cancer caregivers; and (2) to investigate whether caregiver characteristics, perceived stress, caregiving burden, self-efficacy, and psychological factors can predict those classes. A secondary cross-sectional data analysis was conducted using the datasets of two independent studies examining health-promoting behaviors in family caregivers of patients who received cancer treatment at a national research hospital: a longitudinal survey study (N=129) and a randomized controlled trial (N=50). Latent profile analysis was performed to identify classes of health-promoting behaviors using the Health-Promoting Lifestyle Profile II. After identifying the classes of health-promoting behaviors, multinomial logistic regression analysis was conducted to determine factors predicting those classes. Caregiver characteristics, perceived stress, caregiving burden, self-efficacy, and psychological factors (loneliness, depression, anxiety) were included as potential predictors in the analysis. Caregivers (N=179) were primarily female (n=129, 72%), white (n=133, 74%), and with the mean age of 47.6±12.88 years. About half were spouse/partner of the patient (n=87, 49%). Three distinct latent classes of health-promoting behaviors were identified: Low overall level (n=35, 21%); Moderate overall level (n=99, 56%); and High overall level (n=40, 23%). Controlling for age, sex, body mass index, and annual income, higher perceived stress, higher caregiving burden (lack of family support), and lower self-efficacy were risk factors for poorer levels of health-promoting behaviors. This study demonstrated that health-promoting behaviors of family caregivers of cancer patients are clustered into distinct classes, suggesting the importance of developing tailored interventions

for each class. In addition, the findings provide further evidence for caregivers at high risk of practicing poor health-promoting behaviors, which may lead to the development of targeted interventions, for example, health education and/or support programs to decrease stress and caregiving burden and increase self-efficacy. Further studies with larger samples and longitudinal designs are needed to validate the findings.

SYMPTOM CLUSTERS IN COLORECTAL CANCER SURVIVORS WITH AND WITHOUT COMORBID DIABETES

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Diabetes (type 2) is a common comorbidity among colorectal cancer survivors (CRCS). A concurrent diagnosis of diabetes and cancer may exacerbate symptom clusters across the treatment trajectory. Few studies have compared the symptom clusters of CRCS with/without diabetes. The purpose of this study was to examine the symptom clusters of CRCS with/without diabetes at three key timeframes over the cancer trajectory 0–6 months (T1); 12–18 months (T2); 24–30 months (T3). These timeframes represent the span of time from the acute treatment period to early cessation of treatment, through early survivorship. This was a descriptive cohort study. CRCS diagnosed between January 2007–December 2017 were included. Using natural language processing, eight pre-selected symptoms (fatigue, peripheral neuropathy (PN), gastrointestinal issues (GI), cognitive issues, sleep disturbance, physical function, depression, and anxiety) were obtained from the clinical notes of electronic health records. Exploratory factor analysis was used to identify the clusters among eight symptoms during the three timeframes. Two or more factor loadings of ≥0.4 were considered meaningful. Symptom clusters were assessed for patterns and clinical relevance. 2433 CRCS were included, of which 26.3% had a diagnosis of diabetes. Symptom clusters over time differed among CRCS with/without diabetes. At T1 and T2 CRCS with and without diabetes each had two symptom clusters, however, the clusters in the CRCS with diabetes comprised of more individual symptoms than CRCS without diabetes. At T3, CRCS with diabetes had more symptom clusters (3 vs 1) than CRCS without diabetes. PN, GI, fatigue, and anxiety were identified in the symptom clusters across all three timeframes among CRCS with diabetes. GI, PN, and fatigue were the only symptoms noted to crossload in the symptom clusters, whereas among CRCS without diabetes depression was the only symptom that crossloaded on a symptom cluster. These findings indicate that CRCS with diabetes may experience more profound symptom clusters and long-term effects from cancer treatment than CRCS without diabetes. Strategies to facilitate CRCS to manage comorbid diabetes through the treatment trajectory is an important component of cancer care and may mitigate symptom clusters. CRCS are living longer post diagnosis, and the prevalence of diabetes is increasing. Survivorship models that include multispecialty practitioners and guidelines for the management of diabetes are warranted to improve symptoms/symptom clusters.

POSTER ABSTRACTS

CLINICAL PRACTICE

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A QUALITATIVE STUDY ON STRESS, COPING AND PERCEIVED MUSIC INTERVENTION AMONG WOMEN WITH CANCER RECEIVING CHEMOTHERAPY DURING COVID-19 PANDEMIC IN VIETNAM

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Breast and gynaecological cancer patients receiving chemotherapy is anticipated to experience more stress during the COVID-19 pandemic. Nurse-led music intervention has been an effective and safe approach to alleviate the stress for the patients. However, most hospitals have not used music as an intervention in Vietnam. This study aims to explore stressors, coping strategies and perceived music intervention among breast and gynaecological cancer patients in Vietnam. The findings of this study would provide evidence for nursing practice to adapt Vietnamese culture in music intervention. An exploratory qualitative study design with individual face-to-face

semi-structured interviews was adopted. The sample size was determined by the data saturation principle. Twenty patients with breast and gynaecological cancer receiving chemotherapy were recruited using convenience sampling from an oncology centre of a public hospital. Open-ended questions were developed based on the Transactional Model of Stress and Coping and a guideline for music therapy practice. Field notes and interview transcriptions were analysed following a qualitative content analysis approach. Although all patients experience the same chemotherapy situation, the situation that causes stress is different in each patient throughout cancer treatment. Stressor themes included two categories: undesirable experiences during treatment and unable to fulfil their own roles and responsibilities. Among the stressors, COVID-19 caused difficulty for patients to access medical services and adhere to chemotherapy plans. Compared to the Transactional Model of Stress and Coping, self-realisation of responsibilities for the family was found to be a new coping strategy. Three categories of perceived music intervention consisted in perceived beneficial effects, acceptance of music intervention and the music choice for stress reduction. Religious music, soft melody music, revolutionary music were the preferred music of the participants. COVID-19 pandemic causes more stress for breast and gynaecological cancer patients during chemotherapy. Self-realisation of responsibilities for the family as a new emotion-focused coping was used by the breast and gynaecological cancer patients in this study. We suggest that patients' preferred music genre may be a potential tool to cope with stress for women with breast and gynaecological cancer.

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REDUCING CLINICALLY INSIGNIFICANT INFUSION PUMP AIR-IN-LINE ALARMS DURING SODIUM BICARBONATE INFUSION WITH ANTI-SIPHON VALVE

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Nurses on our inpatient unit reported frequent episodes of air-in-line (AIL) infusion pump alarms in patients receiving sodium bicarbonate. Pre-data revealed 138 AIL alarms in nine patients during bicarbonate infusions over 24 days. Safe administration of high-dose methotrexate (HDMTX) to treat patients with hematologic malignancies at this institution requires urine alkalinization with intravenous (IV) sodium bicarbonate for urine pH goal of 7 or higher. This is to prevent intratubular MTX crystallization and associated acute kidney injury. Sodium bicarbonate infusions cause AIL alarms. To reduce AIL alarms, the Association for the Advancement of Medical Instrumentation (AAMI) Foundation's National Coalition for Infusion Therapy Safety recommends adding an anti-siphon valve (ASV) at the end of IV tubing to slightly increase the internal pressure in the IV line. This pilot study seeks to reduce the number of clinically insignificant AIL alarms during administration of sodium bicarbonate via infusion pump with an ASV. AIL alarms can interrupt patient's sleep, delay infusion time, increase nursing workflow, and cause alarm fatigue. Review of evidence on alarm reduction strategies revealed that an ASV significantly decreased clinically insignificant AIL alarms in patients receiving 24-hour infusion of doxorubicin-etoposide-vincristine combination chemotherapy regimen. Following education on use of an ASV by the Clinical Nurse Specialist and Clinical Educator, nurses trialing this infusion device huddled to discuss its implementation. A bicarbonate IV fluid pump alarm log was created for data collection. Between October 14, 2020 and December 30, 2020, an ASV was used in hematology patients ordered a sodium bicarbonate infusion. The ASV was attached at the end of the primary IV line tubing containing bicarbonate. Sixty-seven alarms were triggered during sodium bicarbonate infusions in 12 patients when comparing 24 days of pump data pre-and post-implementation of ASV. An ASV reduced the number of AIL alarms by 51.4%. An ASV for sodium bicarbonate before and after HDMTX administration improves patient safety. Oncology nurses play a pivotal role in reducing clinically insignificant infusion pump AIL alarms through innovative interventions, such as ASV. Based on the success of ASV in sodium bicarbonate infusions, this device can be implemented at other institutions to provide further evidence supporting use in these infusions and drive evidence-based practice. This is the first study using an ASV for sodium bicarbonate infusions.

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EVIDENCE-BASED STRATEGIES TO MITIGATE THE EFFECTS OF COMPASSION FATIGUE AMONG ONCOLOGY NURSES

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Oncology nurses are at a higher risk of suffering from compassion fatigue (CF) compared to other nursing

specialties. The purpose of this evidence-based paper is to provide evidence-based knowledge and recommendations to minimize oncology nurses' vulnerability experiencing CF. Five studies, consisting of a mixed methods study, three cross-sectional studies, and a randomized controlled trial, were reviewed to better understand the impact of CF on oncology nurses. The evidence revealed that work-related stress, ethical dilemmas, and psychological factors play a major role causing CF, which negatively impacts nurses physiologically and psychologically, affecting their ability to provide quality care to patients and families. The evidence suggested that CF can be reduced and prevented via knowledge acquisition on self-care, coping strategies, and stress relieving techniques. To best mitigate CF, oncology nurses must become educated on approaches aimed at reducing its effects to provide quality and safe patient care.

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IMPLEMENTING THE KANGAROO™ INTEGRATED REAL-TIME IMAGING SYSTEM (IRIS) TECHNOLOGY FOR DOBHOFF PLACEMENT IN ADULT ALLOGENEIC HEMATOPOIETIC STEM CELL TRANSPLANT PATIENTS

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Undergoing a hematopoietic stem cell transplant (HSCT) comes with risk of malnutrition due to the side effects from chemotherapy and total body irradiation that can greatly impair oral intake. Side effects include mucositis, nausea, vomiting, diarrhea, and anorexia. The 2017 guidelines from the European Society for Clinical Nutrition and Metabolism (ESPEN) recommend enteral nutrition (EN) over parenteral nutrition unless contraindicated. Historically, fluoroscopy has assisted with the placement of post-pyloric Dobhoff tubes (DHTs) when blind placements at the bedside were difficult or unsuccessful. Due to barriers scheduling with fluoroscopy, initiation of EN was delayed in these high-risk HSCT patients. New technology has become available to nurses to aide in DHT placement. The purpose of this project was to evaluate implementation of the Kangaroo™ IRIS technology to improve time to place DHTs at bedside, reduce required x-ray images and decrease the time to initiate EN in allogeneic HSCT patients. In April 2021, the use of the Kangaroo™ DHT per IRIS was initiated. This process consisted of inserting a tube with camera capabilities to allow for direct visualization of real-time anatomy. This technology was utilized on 75% of allogeneic HSCT patients from April to June 2021 who met malnutrition criteria determined by the American Society of Parenteral and Enteral Nutrition (ASPEN) or a conditioning regimen including 12 Gray radiation. Data analysis compared the time to place Dobhoff's and the time to initiate EN pre-IRIS (January to March 2021) and post-IRIS (April to June 2021). Pre-IRIS, the average time for tube placement with fluoroscopy was 19.39 hours and 22.54 hours to initiate EN. Post-IRIS, the time for tube placement decreased to 1.39 hours and 9.94 hours to initiate EN. Pre-IRIS, valuable feeding time was lost as we coordinated tube placement with fluoroscopy. The implementation of IRIS technology revealed benefit for the allogeneic HSCT patients with the ability to decrease time delays to initiate EN. Additionally, this bypassed the need for fluoroscopy assistance post the IRIS rollout. This innovative technology and training allowed the ability to utilize this route of nutrition to help meet their nutritional needs and potentially decrease malnutrition rate. It also assisted in quicker confirmation of tube placement which is of critical importance.

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COMBINING A CARDIOVASCULAR CRITICAL CARE UNIT WITH AN ONCOLOGY ACUITY ADAPTABLE UNIT IN A NEW HOSPITAL

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At IU Health Bloomington Hospital we had the great opportunity to build a new hospital campus and to deliver care in a more innovative way. Our legacy hospital was land-locked and we were limited in the ability to expand services for our oncology patients. We needed to brainstorm ways that we could deliver comprehensive skilled care to our oncology patients without having to transfer them to different units based on level-of-care. The purpose of our work was to develop a unit that could deliver care without having to transfer our patients between units if their level-of-care changed. A patient who was being admitted for respiratory failure due to a new diagnosis of lung cancer would not have to go to ICU to receive care while ventilated and needing to start chemotherapy. We had a team of nurses and interdisciplinary colleagues who worked together to plan the unit and train the staff. Our planning involved focus groups of staff nurses, patient care assistants, ancillary staff and nursing leaders. With assistance from profession-

al staff development specialists, we were able to start training the oncology nurses with cardiovascular critical care core classes. We also began to train the cardiovascular nurses in our world of oncology care. We are only one month into our new Regional Academic Health Campus and we continue to work as a team to improve our new unit. We continue to cross-train our staff and have begun to pod our nursing care with the team. At-the-bedside training, learning, and education occurs on a daily basis. We will continue to analyze and evaluate. Our next step is to perform a self-needs assessment and plan quarterly education and competency based on the results. This new unit has been a great satisfier for both our oncology patients as well as our oncologists. With the combined skill sets of the cardiovascular nurses and the oncology nurses our patients are getting the best continuity of care. This new cardiac-oncology critical care/acuity adaptable unit is a new concept and we are excited to continue to grow our nurses and improve our patient care and patient outcomes.

P399
UNDERSTANDING THE NIOSH LIST OF HAZARDOUS DRUGS

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The NIOSH List of Hazardous Drugs in Healthcare Settings is a tool used to identify potential health hazards to workers in healthcare settings. While working in oncology treatment settings workers often work in areas with, handle, and administer many different drug treatments, some of which may pose a hazard to the workers handling them. Exposure to some of these treatments, either routinely or acutely, may lead to adverse health effects in the workers that handle them. Identifying which drugs are a potential hazard for workers is the first step in managing the risk of exposure. In recent years NIOSH has worked to revise and update the NIOSH List of Hazardous Drugs in Healthcare Settings. In this session we'll learn where the current NIOSH List of Hazardous Drugs in Healthcare Settings can be found and what information is available there. We'll discuss how proposed changes to the NIOSH List affect how it may be used during hazard identification in workplaces that administer oncology drugs. We'll talk about what information can be found on the NIOSH List as well as the limits of the available information it provides. This will provide users of the NIOSH List with the basic knowledge they need to identify which treatments in their workplace may be identified as potential hazards to workers in their practices.

P400
NURSING IMPLICATIONS FOR INFUSING JELMYTO VIA NEPHROSTOMY TUBE

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A diagnosis of upper tract urothelial carcinoma used to mean a nephroureterectomy. Now, with the techniques of endoscopic surgery, the kidney may be saved while the tumor is removed from the ureter. Once the tumor has been removed a local treatment is often the best option for minimizing recurrence of the tumor. Placing a drug locally in the kidney includes having a nephrostomy tube. In 2021, UroGen Pharma developed Jelmyto, a gel-based mitomycin treatment that is administered weekly for a six-week course of treatment. Jelmyto does have some special considerations and techniques for the nurse to remember when treating the patient. At the time of diagnosis, the physician will need to measure the size of the renal pelvis. Once the volume has been determined, the pharmacist will prepare the drug, which takes approximately 1.5 to 2 hours. Once mixed it can be held for up to 8 hours at room temperature, until ready to administer. The patient is instructed to take sodium bicarbonate tablets to maintain a basic urine ph. Upon patient arrival, symptoms are assessed and labs checked. The mixture can be placed on ice for 10 minutes and then the practitioner has 50 minutes to complete the administration. Placing it on ice will make it become liquified again for the installation. The licensed practitioner will then prepare the syringe with the appropriate volume and place it in the administration syringe before it solidifies. The practitioner will have 1 minute to administer the Jelmyto via the nephrostomy tube and then flush with 2-3 cc of iced normal saline to clear the tube of the medication. Patients may report feeling a cool sensation in the kidney area since the solution has been chilled. The nephrostomy tube is then capped, site cleansed, and dressing applied. The patient is instructed to monitor for blood in the urine, kidney pain, fatigue, urinary issues and vomiting. Our policy is to have weekly labs including CBC and chemistry panel. Timing is one of the most important aspects of this treatment, from the diagnosis to giving the actual treatment at the bedside. The nurse needs to be aware of the time constraints on the mixing, dispensing, administering, patient education, and follow up required.

P401
REDUCING TREATMENT WAITING LENGTH TIME IN OUTPATIENT CLINIC

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The evaluation of schedule of patients waiting time to provide safe and timely care delivery, to improve patient satisfaction and enhance financial outcomes for the Infusion Clinics, comes as a results of servicing numerous patient population from a variety of medical specialties. The aim of the study is: 1) to identify the difference in waiting length time in 6 different infusion clinics providing the same treatments to Oncology patients; 2) to decrease clinics experiencing higher staff overtime, lengthier treatments time, whereas others had none for the same number of patients. A retrospective data analysis of a year divided in 6 months intervals between 2019 and 2020 was examined between the different clinics. The following findings were noted: (a) Each clinic used a various coding abbreviation verbiage to schedule patients such as CS, CL or other who had no meanings. (b) No treatment duration list was available to schedulers who were not medically trained. Two hours treatment in one clinic could be four hours in another clinic due to lack of uniformity. (c) No protocol process was in place for staff to follow both schedulers and nursing which generates same day patient cancellation. Based on findings, the follow are the concluding recommendations: (a) Preparation of treatment duration time list for all treatments oncology and non-oncology, (b) Updating Chemo Drug Nursing Administration Booklet by Oncology pharmacy, (c) Utilization of Acuity-Based Scheduling grid based on Evidence-Based Practice adopted by many Ambulatory Oncology Centers, and (d) Implementation of Institute Health Improvement Proposal Queueing theory to track improvement.

INDUSTRY-SUPPORTED

P383
CLINICAL STRATEGIES FOR MITIGATION OF CYTOKINE RELEASE SYNDROME AND NEUROTOXICITY WITH CHIMERIC ANTIGEN RECEPTOR T CELL THERAPY CILTACABTAGENE AUTOLEUCEL IN MULTIPLE MYELOMA

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As chimeric antigen receptor T cell (CAR-T) therapies expand to different indications with new targets and constructs, it is crucial that patients receive the maximum benefit from treatment while mitigating serious adverse events (AEs) such as cytokine release syndrome (CRS) and immune effector cell–associated neurotoxicity syndrome (ICANS). The aims of this analysis are to characterize CRS and neurotoxicity data for the B-cell maturation antigen–targeting CAR-T ciltacabtagene autoleucel (cilta-cel) from two multiple myeloma (MM) clinical trials, CARTITUDE-1 and CARTITUDE-2 cohort B, as well as to describe patient management strategies for movement and neurocognitive treatment-emergent AEs (MNTs) in the CARTITUDE program. CARTITUDE-1 is a phase 1b/2 study in patients with relapsed or refractory MM (RRMM) with ≥3 prior lines of therapy or are double refractory to a proteasome inhibitor (PI) and immunomodulatory drug (IMID), and prior exposure to PI, IMID, and anti-CD38 antibody. As of July 2021 (~2-year median follow-up), no new safety signals were observed relative to previously reported data, including no MNTs since an ~1-year median follow-up. After implementation of patient management strategies for MNT across the development program (including early aggressive treatment of CRS and ICANS, and extended monitoring and reporting of neurotoxicity) informed by analysis of 2 or more risk factors (eg, high baseline tumor burden, previous ICANS, grade ≥2 CRS, and/or high CAR-T cell expansion and persistence), approximately 200 patients have been dosed with cilta-cel across the CARTITUDE clinical development program as of October 2021 and overall MNT incidence has decreased to 0.5%. In CARTITUDE-2 cohort B, 19 patients with MM after early relapse following one line of prior therapy including a PI and an IMID have received cilta-cel as of October 2021. Neurotoxicity (26%) and CRS (84%) incidence rates were comparable to those in CARTITUDE-1. One patient experienced grade 3 MNT; this patient was treated with high-dose methylprednisolone, plasmapheresis, and intravenous immunoglobin and was reported to be stable with some improvements at data cutoff. Data collected in CARTITUDE studies have informed patient management strategy development that may assist nursing strategy (eg, frequent monitoring and recognizing symptoms, grading of CRS and ICANS, patient education) for management of AEs in patients receiving cilta-cel in the future.

P384
MANAGING TOXICITIES IN PATIENTS TREATED WITH FIBROBLAST GROWTH

FACTOR RECEPTOR INHIBITORS (FGFRI): THE ROLE OF THE ONCOLOGY NURSE

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Fibroblast growth factor receptors (FGFR) are receptor tyrosine kinases involved in a wide range of biological functions, including cell proliferation, survival, migration, and differentiation. FGFR genetic alterations have been identified in several solid tumor malignancies, including cholangiocarcinoma and bladder cancer, in which selective FGFR inhibitors (FGFRi), including infigratinib, pemigatinib, and erdafitinib, have shown promising antitumor activity. Although generally well tolerated, FGFRi have a distinct adverse event (AE) profile that includes hyperphosphatemia, stomatitis, skin/nail toxicities, and ocular toxicities, not commonly observed with other anti-cancer therapies. Here we provide guidance on managing four common toxicities more unique to FGFRi: (a) Hyperphosphatemia is the most common on-target effect of FGFR inhibition. During treatment, patients should reduce high phosphate foods and limit dietary phosphate to 600–800 mg/day. Patients who develop hyperphosphatemia should initiate a phosphate binder (e.g. sevelamer, lanthanum carbonate) while taking the FGFRi, and dose reduction or dose interruption should be considered for phosphorous levels >7 mg/dl. (b) Stomatitis is also common, with painful oral lesions appearing rapidly after FGFRi initiation. Thorough and frequent oral hygiene along with non-pharmacologic measures may help prevent stomatitis. For mild stomatitis, dexamethasone elixir 0.5 mg/ml 'swish and spit' three times daily is recommended; for grade 3 stomatitis, the FGFRi should be withheld until resolution to grade ≤1; clotrimazole lozenges 3–5 times daily may be added. (c) Skin/nail toxicities should be identified early and supportive measures (e.g. urea preparations, steroid creams, or nail soaking) introduced where indicated, together with antibiotics for bacterial infection. Referral to a dermatologist/podiatrist should be considered for more severe AEs. (d) Ocular AEs range from dry eyes to less common, but more serious, conditions such as serous retinal detachment. Baseline and periodic examination by an ophthalmologist is recommended during treatment, with onset of visual symptoms warranting urgent evaluation. Dry eyes can be managed using artificial tears. Although seldom severe or life threatening, it is important to educate and monitor patients to identify AEs early in their development and manage AEs to allow patients to stay on FGFRi therapy and derive the full benefit of treatment. Through their interaction with patients during the course of treatment, nurses can help improve quality of life and contribute to better treatment adherence and outcomes. Detailed guidelines will be presented during the meeting.

P385
MEASURING AEROSOLS GENERATED BY TOILET FLUSHING, AND EVALUATING EFFECTIVENESS OF SPLASHBLOCKER

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Flushing a hospital toilet that does not have a lid can produce aerosols that may contain excreted hazardous drugs (HDs) and/or infectious microorganism. Aerosolization can result in contamination of the surrounding area and exposure of hospital personnel. To date, an effective method of prevention has not been studied. A study was designed to measure aerosol concentration after flushing, and determine whether using a removable device, (Splashblocker™) to cover the toilet reduces aerosols. Testing was performed inside an aerosol chamber test bathroom at the University of Oklahoma Health Sciences Center Department of Occupational & Environmental Health. 480mL of 1% fluorescein was used as a surrogate for urine and placed into a hospital-grade toilet. Flush pressure was set to 55 PSI. All tests were performed three times with and without the Splashblocker™. Bathroom air flow was controlled and HEPA-filtered between tests to minimize background aerosols. Baseline and test measurements were taken with a Scanning Mobility Particle Sizer (SMPS) for aerosols of 0.016–0.593 µm, and an Aerodynamic Particle Sizer (APS) for aerosols 0.523–19.81 µm to continuously measure concentrations for up to five minutes after each flush. Ultraviolet-visible spectrophotometry was used to quantify the fluorescein deposited on the Splashblocker™. Average aerosol concentrations for the uncovered toilet peaked in the first minute at 134 #/cm^3 (SMPS) and 1.08 #/cm^3 (APS) compared to 70 #/cm^3 and 0.2 #/cm^3 with the Splashblocker™, both of which were near baseline measurements. Large fluorescein droplets were captured by highspeed camera and were visible on the floor with UV light but not detected

when the Splashblocker™ was used. Droplets of fluorescein on the underside of the Splashblocker™ were visible and quantified. This study corroborates prior studies showing the generation of aerosols of varying size after flushing a hospital toilet, with the highest concentration occurring during the first two minutes. Reducing or eliminating inhalation of aerosols is an important goal for promoting healthcare worker safety. Although when used, a respirator can prevent aerosol inhalation, it has no impact on surface contamination or subsequent healthcare worker exposure. The Splashblocker™ was able to decrease particle concentration to near pre-flush levels when left on the toilet for one minute after flushing, providing a safe option for reducing the possibility of aerosol inhalation.

P386
COMBINATION OF DAROLUTAMIDE WITH ANDROGEN-DEPRIVATION THERAPY AND DOCETAXEL INCREASES SURVIVAL FOR PATIENTS WITH METASTATIC HORMONE-SENSITIVE PROSTATE CANCER IN THE PHASE 3 ARASENS STUDY

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Current standard treatment for metastatic hormone-sensitive prostate cancer (mHSPC) combines androgen-deprivation therapy (ADT) with docetaxel or an androgen-receptor (AR)-pathway inhibitor (abiraterone, enzalutamide, or apalutamide). Although median overall survival (OS) is improved with these combinations versus ADT alone, there is a need for more efficacious treatment approaches that not only delay progression and improve OS but also minimize additive with manageable toxicity to preserve patients' quality of life. The burden of treatment with docetaxel includes adverse events (AEs) such as neuropathy and neutropenia, while the AR-pathway inhibitors abiraterone acetate, enzalutamide, and apalutamide have been associated with fatigue, falls, fracture, rash, mental impairment, and hypertension. In the phase 3, double-blind, placebo-controlled ARASENS trial, darolutamide in combination with ADT and docetaxel significantly reduced the risk of death by 32.5% versus standard of care ADT and docetaxel alone (hazard ratio [HR] 0.675, 95% confidence interval [CI] 0.568–0.801; P<0.0001) in mHSPC patients. Time to pain progression and time to subsequent cancer therapies were also significantly prolonged in the darolutamide group. Most patients completed 6 cycles of docetaxel therapy in both groups (87.6% and 85.5%, respectively). The overall incidence of AEs was similar between treatment groups, and most common AEs were alopecia, neutropenia, fatigue, and anemia, which are expected AEs of docetaxel. As such, their incidences were highest during the time overlapping with docetaxel treatment in both groups. Oncology nurses play an important role in helping patients manage disease symptoms and treatment side effects by providing education and support. Counseling patients on preventive measures and management options for anticipated AEs can help alleviate treatment decision anxiety, optimize treatment outcome, and minimize the impact of AEs on patients' quality of life. The results of ARASENS provide valuable information for the management of patients with mHSPC. The addition of darolutamide to ADT and docetaxel met key treatment goals of increasing survival and prolonging the time that patients were free from pain progression and the need for other systemic therapies for cancer, without increasing the incidence of AEs. This treatment regimen has the potential to become a new standard of care in patients with mHSPC.

P387
PRACTICAL GUIDE FOR INFUSION-RELATED REACTION (IRR) MANAGEMENT WITH AMIVANTAMAB FOR EXON 20 INSERTION MUTATION (EX20INS) NON-SMALL CELL LUNG CANCER (NSCLC): A NURSE'S VIEW

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Amivantamab, an EGFR-MET bispecific antibody, was recently FDA-approved for the treatment of patients with Ex20ins NSCLC. IRRs, a common toxicity of monoclonal antibodies observed within minutes to hours post-infusion, were reported in 67% of patients receiving amivantamab in the phase 1 CHRYSALIS study. Symptoms associated with amivantamab IRRs include pyrexia, nausea, vomiting, chest pain, chills, and shortness of breath. This post-hoc analysis evaluated infusion duration, time to onset, and resolution of IRRs with descriptive summary statistics (mean, median, interquartile range [IQR], range).

97% of amivantamab IRRs were grade 1–2, and 98% occurred during the first dose infusion, with median onset of 60 minutes from infusion initiation. Notably, grade 3–4 IRRs occurred in only 2% of patients and included dyspnea, hypoxia, hypotension, hypertension, and vomiting. Median infusion times at Cycle 1 Day 1 (C1D1) were 4.70 hours for the 1050-mg dose and 5.08 hours for the 1400-mg dose, decreasing to 2.20 and 2.25 hours, respectively, by C1D22. Most IRRs were manageable with intervention strategies or treatment modifications (dose interruptions in 56%; dose reductions in 53%; only 1% led to discontinuation) and resolved in a median of 60 minutes (IQR: 30–118). Additionally, dose interruptions ≥ 28 days were not associated with IRRs upon reinfusion, and only 7 IRRs occurred post-infusion (median: 28 minutes). Nurses play a critical role in the prevention, identification, and timely management of IRRs, along with educating patients/caregivers on what to expect with amivantamab infusions. The multiple strategies nurses can use to prevent and mitigate IRRs include: administration of premedications (antihistamines, antipyretics, and glucocorticoids) prior to amivantamab infusion on C1D1/D2 and as necessary for subsequent infusions; infusion rate reductions; and infusion interruptions/dose reductions. Nurses can also help set patient expectations on the anticipated frequency and length of clinic visits, especially during the first 4 weeks of treatment, and provide overarching support to patients and caregivers throughout the treatment journey. Here we present the latest data from CHRYSALIS on the incidence, timing, and management of IRRs, as well as nursing recommendations to optimize prevention and management of IRRs with amivantamab infusion. In summary, amivantamab IRRs are representative of those reported with other antibody infusions and can be effectively managed by nurses with appropriate guidance.

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PATIENT IDENTIFICATION FOR CHIMERIC ANTIGEN RECEPTOR T-CELL THERAPY: INITIAL INSIGHTS FROM THE CARTITUDE PROGRAM IN MULTIPLE MYELOMA

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Chimeric antigen receptor T-cell (CART) therapies for multiple myeloma (MM) have been predominantly investigated in patients with heavily pretreated or refractory disease. The CARTITUDE clinical trial program was designed to investigate the safety and efficacy of ciltacabtagene autoleucel (cilta-cel) in MM in patients with varying prior treatment histories and in newly diagnosed MM where CAR-T therapy may provide deep and durable clinical benefit. This analysis aims to describe patient populations included in the CARTITUDE studies. Inclusion criteria for all CARTITUDE trials include adults with MM and Eastern Cooperative Oncology Group (ECOG) Performance Status grade ≤1. In the single-arm studies CARTITUDE-1 and CARTITUDE-2, participants received ciltacel infusion with a target dose of $0.75x10^6$ CARpositive viable T cells/kg. CARTITUDE-4 and CARTITUDE-5 are randomized trials comparing cilta-cel infusion with current standard-of-care therapy. CARTITUDE-1 has completed enrollment, and efficacy data including a high response rate have been reported.[1] In CARTITUDE-1, 97 participants (median [range] age, 61 [43-78] y) received cilta-cel. Per eligibility criteria, no patients received prior CAR-T or B-cell maturation antigen–targeted therapy. At baseline, 39 (40.2%), 54 (55.7%), and 4 (4.1%) participants had ECOG scores of 0, 1, or 2, respectively (all participants met the inclusion criteria of ECOG score ≤1 at screening). At least 1 ongoing comorbidity at screening was reported in 96 (99%) participants, the most common being peripheral sensory neuropathy (n=60, 61.9%), fatigue (n=53, 54.6%), anemia (n=48, 49.5%), and hypertension (n=44, 45.4%). Mean (standard deviation) creatinine clearance at baseline was 94.2 (31.6) mL/min/1.73m^2. Overall interpretations of 12-lead electrocardiogram/multiple-gated acquisition results at screening were normal in 77 (79.4%) participants, abnormal but clinically insignificant in 17 (17.5%) participants, and abnormal with clinical significance in 3 (3.1%) participants. The mean (standard deviation) left ventricular ejection fraction was 60.8% (5.0%). In conclusion, current and future data from the CARTITUDE trials will aid characterization of patients with MM who may benefit from CAR-T therapy. Participants in CARTITUDE-1 had generally good functional status and adequate renal and cardiac function. Monitoring of real-world patient characteristics once cilta-cel is commercially available will be important to identify physicians' prescribing preferences.

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ASSOCIATION BETWEEN DECLINES IN PROSTATE-SPECIFIC ANTIGEN AND PATIENT-REPORTED OUTCOMES IN PATIENTS WITH ADVANCED PROSTATE CANCER

TREATED WITH APALUTAMIDE IN THE SPARTAN AND TITAN STUDIES

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Monitoring prostate-specific antigen (PSA) kinetics in patients with prostate cancer is helpful and cost-effective for early identification of aggressive disease at high risk of progression, enabling prompt treatment intensification as needed. Treatment with apalutamide plus androgen deprivation therapy (ADT) improved overall survival, resulted in rapid and deep PSA declines, and reduced risk of disease progression while preserving health-related quality of life (HRQoL) compared with placebo plus ADT in patients with nonmetastatic castration-resistant prostate cancer or metastatic castration-sensitive prostate cancer in the phase 3 SPARTAN or TITAN studies, respectively. This post hoc analysis evaluated the association of a deep PSA decline with patient-reported outcomes (PROs) following apalutamide treatment in SPARTAN and TITAN. Patients receiving continuous ADT were randomized to apalutamide (240 mg QD) or placebo: SPARTAN 2:1 (N = 1207; apalutamide n = 806), TITAN 1:1 (N = 1052; apalutamide n = 525). Each cycle was 28 days. PROs were assessed using Functional Assessment of Cancer Therapy-Prostate (FACT-P), Brief Pain Inventory-Short Form (BPI-SF; TITAN only), and Brief Fatigue Inventory (BFI; TITAN only) at baseline, specific cycles during study treatment, and post progression up to 1 year. Association between deep PSA decline (≤ 0.2 ng/mL) and time to subsequent deterioration in PROs was evaluated at landmark 3 and 6 months. Time-to-event end points were analyzed by Kaplan-Meier method and Cox proportional hazards model. Survival estimates were conditional on the group membership of patients at the landmark time. Median treatment durations were 32.9 months (SPARTAN) and 39.3 months (TITAN). At each cycle, > 50% of patients completed PRO questionnaires. Patients in either study who achieved deep PSA decline to ≤ 0.2 ng/mL at Month 3 had a lower risk of deterioration in FACT-P Total or Physical Wellbeing. Patients in TITAN who achieved PSA decline to ≤ 0.2 ng/mL at Month 3 had a lower risk of BPI-SF worst pain intensity or BFI worst fatigue intensity progression. Similar results were found at 6 months. Patients with advanced prostate cancer who achieved deep and rapid PSA responses following treatment with apalutamide were also likely to have more favorable HRQoL and lower intensity pain or fatigue. An understanding of this association may help clinicians guide care and counsel patients.

P390
NURSING EXPERIENCE WITH PATIENTS RECEIVING SOTORASIB FOR KRAS G12C-MUTATED SOLID TUMORS: FOLLOW-UP FROM THE PHASE 1/2 CODEBREAK 100 STUDY

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Sotorasib is an oral once daily irreversible inhibitor of $KRAS^{G12C}$ recently approved in non-small cell lung cancer (NSCLC). Previous data from the CodeBreaK 100 study showed an objective response rate of 37.1% in patients with KRAS p.G12C-mutated NSCLC and mostly low grade, reversible adverse events (AEs). Since sotorasib is a novel targeted therapy, nurses can help patients manage side effects, continue treatment, and achieve clinical benefit. The purpose is to present data from the CodeBreaK 100 pooled safety population and provide practical recommendations for educating patients on AE management. In CodeBreaK 100, 357 patients with KRAS p.G12C mutant advanced solid tumors received sotorasib orally once daily at 960 mg. The patients (median age 63 years, range 31–86) were heavily pre-treated and had progressed on standard therapy. Treatment related AEs (TRAEs) of the gastrointestinal (GI) tract were among the most common reported in the CodeBreaK 100 trial including diarrhea (22.4%), nausea (12.0%), and vomiting (5.6%), with median times to first onset of 30, 15, and 21 days, respectively. For TRAEs that resolved, median duration was 20 days for diarrhea, 12 days for nausea, and 2.5 days for vomiting. GI TRAEs were primarily grade 1–2, with 3.4% of patients having grade 3 treatment-related diarrhea. As stated in the prescribing information, sotorasib should be stopped in case of grade 3-4 nausea, vomiting, or diarrhea

and restarted at a lower dose following resolution. Treatment-related diarrhea led to dose reductions/interruptions in 5.9% of overall patients, nausea in 2.5%, and vomiting in 0.8%. Among these common GI TRAEs, only 1 subject discontinued sotorasib due to vomiting (0.3%), while none did for nausea or diarrhea. Based on the authors' experience, nurses can help prevent grade 3–4 AEs by educating patients on use of antidiarrheals, bland diet, and fluids for diarrhea, and antiemetics for nausea and vomiting. Nurses encouraged patients to proactively communicate safety concerns and reviewed events that require urgent care. By helping patients identify and manage AEs, nurses can facilitate continued treatment. Sotorasib is a novel targeted therapy approved for NSCLC. Gastrointestinal TRAEs are common and are primarily grade 1–2, rarely leading to treatment discontinuation. Nurses are uniquely positioned to educate patients and support AE management to facilitate continued sotorasib treatment for optimal clinical benefit.

P391
WHAT CAN PATIENTS WITH PROSTATE CANCER EXPECT FROM TREATMENT WITH APALUTAMIDE? HEALTH-RELATED QUALITY OF LIFE IN PATIENTS WITH METASTATIC CASTRATION-SENSITIVE PROSTATE CANCER IN THE PHASE 3 TITAN STUDY

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Pain and treatment-related side effects may negatively affect health-related quality of life (HRQoL) in patients with prostate cancer. Patient-reported outcomes (PROs) from clinical studies can provide nurses and physicians insight when managing disease in patients during treatment. In the phase 3 TITAN study, adding apalutamide to androgen-deprivation therapy (ADT) significantly improved radiographic progression-free survival and overall survival versus placebo in metastatic castration-sensitive prostate cancer (mCSPC) (Chi NEJM 2019) while preserving HRQoL (Agarwal Lancet Oncol 2019). We evaluated HRQoL and side effect burden in TITAN after continued study follow-up. Patients with mCSPC (N=1052) were randomized 1:1 to receive either apalutamide (240 mg QD) or placebo plus ADT. PROs were assessed using Brief Pain Inventory-Short Form (BPI-SF) and Functional Assessment of Cancer Therapy-Prostate (FACT-P). BPI-SF was completed for 7 days consecutively (Days –6 to 1 of each 28-day cycle) through end of treatment. FACT-P was completed at baseline, Cycles 2–7, then every other cycle through end of treatment. Responses to "I am bothered by side effects of treatment," "I have a lack of energy" questions were evaluated post hoc. Mean scores were reported over time by treatment group. Time to deterioration in PROs (calculated by Kaplan-Meier methods) was compared between groups. At median 44 months' follow-up, median treatment duration was 39 (apalutamide) and 20 (placebo) months; >50% of eligible patients per cycle completed PRO questionnaires by Cycle 31 (FACT-P) or 34 (BPI-SF). Most patients reported little pain at baseline, and this remained stable over time in both groups. Median HRQoL scores at baseline were favorable and did not worsen notably over time in both groups. There were no significant differences between groups in median time to deterioration in any BPI-SF or FACT-P scores. At each cycle, most patients (≥79% apalutamide, ≥82% placebo) indicated they were either "not at all" or "a little bit" bothered by side effects. At baseline, most patients had favorable energy levels (76% apalutamide, 72% placebo), and levels remained stable or improved (>67% apalutamide, >65% placebo). The final analysis of TITAN demonstrated that survival benefit with addition of apalutamide to ADT was achieved without significant patient-reported side effect burden or reduction in HRQoL. These findings provide valuable evidence-based insights aiding clinical decision-making for nurses and physicians treating patients with mCSPC.

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EFFECTS OF NIRAPARIB ON HEALTH-RELATED QUALITY OF LIFE IN THE FINAL ANALYSIS OF THE GALAHAD STUDY IN PATIENTS WITH METASTATIC CASTRATION-RESISTANT PROSTATE CANCER AND HOMOLOGOUS RECOMBINATION REPAIR GENE ALTERATIONS

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The phase 2 open-label GALAHAD study evaluated once-daily niraparib (300 mg) in patients with metastatic castration-resistant prostate cancer (mCRPC) and homologous recombination repair (HRR) gene alterations who had progressed on prior taxane-based chemotherapy and androgen signaling inhibitor therapy. Patient-reported outcomes (PROs) from the final analysis of the GALAHAD study were evaluated to determine the treatment impact on health-related quality of life (HRQoL); these data may help clinicians manage expectations and potential side effects in patients treated with niraparib. Patients were categorized by type of HRR gene alteration: BRCA (BRCA1 or BRCA2) or other HRR (ATM, FANCA, PALB2, CHEK2, BRIP1, HDAC2). HRQoL was assessed on Day 1 of Cycles 3, 5, 7, and 10 using Functional Assessment of Cancer Therapy-Prostate (FACT-P) and Brief Pain Inventory-Short Form (BPI-SF). PROs were compared across cohorts using a mixed model for repeated measures. Patients were classified as improved/stable or worsened based on established meaningful change thresholds. Generalized estimating equations were used to estimate odds ratios of HRQoL improvement using the other HRR cohort as a reference. Median time to first deterioration (FACT-P, BPI-SF worst pain intensity/interference) were estimated by Kaplan-Meier methods. 221 (140 BRCA, 81 other HRR) of 223 patients in the intent-to-treat population completed PRO questionnaires at baseline and ≥ 1 postbaseline evaluation. Overall HRQoL, per FACT-P total, was improved in the BRCA cohort after 3 cycles of niraparib (odds ratio for improvement, 2.40) and maintained thereafter. FACT-P total remained unchanged in the other HRR cohort. Median time to deterioration in FACT-P total was 8.31 and 3.71 months in the BRCA and other HRR cohorts, respectively. Patients from both cohorts experienced rapid reductions in pain intensity and pain interference per BPI-SF at Cycle 3, although the BRCA cohort experienced greater early pain relief and were more likely to have stable or improved scores than the other HRR cohort. The final analysis of GALAHAD demonstrated that niraparib improved or maintained overall HRQoL, pain intensity, and pain interference in patients with mCRPC and DNA repair gene alterations. When PRO measures were compared across cohorts, patients with BRCA alterations had greater benefits than those with other HRR gene alterations. These data provide valuable information for clinicians to consider while caring for patients receiving niraparib for advanced prostate cancer.

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DEVELOPMENT OF A RETROSPECTIVE CLINICIAN-ADMINISTERED SURVEY STUDY (RETROCLASS) ASSESSING EFFICACY AND TREATMENT BURDEN IN PROSTATE CANCER PATIENTS

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The treatment landscape of prostate cancer (PCa) has evolved with the emergence of novel androgen receptor (AR)–targeted therapies. These treatments have demonstrated improvement in survival across the PCa spectrum and are among the most widely used treatments in advanced disease. However, these treatments are associated with adverse events (AEs), including fatigue, sexual dysfunction, and cognitive impairment, which may undermine health-related quality of life (HRQoL). RetroCLASS explored the feasibility of leveraging real-world data from electronic medical records (EMRs) to describe the treatment burden of these therapies in patients with metastatic castration-sensitive PCa (mCSPC), particularly with respect to fatigue and cognitive function decline. RetroCLASS had 2 phases. In phase 1, described here, qualitative interviews were conducted with Europe- and US-based clinicians to assess whether fatigue and cognitive function are consistently documented by healthcare practitioners (HCPs) and to determine the feasibility of collecting AE and HRQoL data via an electronic case report form (eCRF) using existing, retrospective EMR data. In phase 2, the eCRF would be used to generate a retrospective AE and HRQoL dataset of mCSPC patients as reported by HCPs. Qualitative interviews with clinicians revealed that the collection of AE/HRQoL data via EMR review would be impeded by the inconsistent data capture by HCPs owing to the selective approach and nonsystematic recording of AEs in patient notes. HCPs deemed it logistically challenging to retrieve accurate AE data from EMRs retrospectively, particularly for outcomes considered less severe. Following these

insights, phase 2 was deemed not feasible. Clinicians recognized fatigue and decline in cognitive function as significant burdens of treatment for patients with mCSPC and recommended systematic prospective data collection to assess these outcomes. Clinicians agreed that current data capture by HCPs is inconsistent and lacks standardization and specification of outcomes. Consequently, retrospective collection is insufficient for evaluating treatment impact on AEs and HRQoL domains relating to fatigue and cognitive function. Results suggest that standardization of AE/HRQoL reporting in the clinic would improve the utility of real-world data in assessing treatment burden of AR-targeted therapies. Implementation of patient-reported outcomes may also be necessary to fully understand the treatment burden of these therapies.

INTERNATIONAL

P382
THE QUALITY OF ACUTE CARE AMONG SURGICAL ONCOLOGY PATIENTS

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Patients with cancer are at a higher risk of experiencing surgical side effects and complications. The purpose was to investigate the quality of acute care provision for cancer patients admitted for surgery. The research design was a retrospective review of available records of adult cancer patients admitted for a surgical operation. The quality of acute care provision was evaluated using 17 indicators, six surgical indicators, and eleven hospital quality care indicators. Surgical indicators included time-out procedure, pre and post-operative care, time in the operation room, time in the post-anesthesia care unit, and Post-Anaesthesia Recovery Assessment (Aldrete Score).The hospital quality of care indicators included hospital length of stay, mortality, falls, medication error, hospital-acquired pressure injury, hospital-acquired infections, incomplete assessment, failure to identify risk factors and conditions, failure to respond to these risk factors and conditions, and negligence contributing to a patient experiencing an adverse event. Ninety-three patients were admitted for surgery. The leading causes for surgery were curative (24.7%), debulking (22.6%), diagnostic (17.2%), and restorative (16.1%). The most common operations were laparotomy (30.1%), cystoscopy (17.2%), modified radical mastectomy (12.9%), colonoscopy (10.8%), and thyroidectomy (10.7%). Although most patients (95.7%) were assessed preoperatively, the time-out procedure was not performed in one-third of the patients. Shortcomings in the acute care continued postoperatively and included incomplete patient assessment (53%), failure to identify risk factors and conditions (45.2%), and failure to respond to these risk factors and conditions (36.6%). This failure in patient assessment and management resulted in patients experiencing adverse events, particularly the development of hospital-acquired infections (30.1%) despite the short median length of stay of four days. After developing a consensus between the two oncology nurse specialists who evaluated the appropriateness of the provided care, they identified that 20% of these adverse events could be attributed to negligence. An extensive assessment and open disclosure with clients are essential for addressing surgical oncology complaints and complications. Surgical oncology nurses are required to be vigilant to identify potential adverse events and respond promptly to ensure that patients receive optimal care, whether preoperatively or postoperatively. Cancer management remains complex, requiring the development of multidisciplinary teams and open communication between their members to limit adverse events for a better patient experience and outcome.

LEADERSHIP/MANAGEMENT/EDUCATION

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KNOWLEDGE IS POWER

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Our urban medical center identified the need for a new infusion unit focused on inflammatory bowel disease (IBD). The opening of this new site, located within the inflammatory bowel disease clinic (IBDC) required nursing staff to identify the knowledge base of this population prior to initiating treatment. Obtaining this understanding of their patient's knowledge base and potential deficits would then enable the nurses to establish patient-tailored care plans and goals. The goal of the IBDC is to deliver holistic care and treatment to patients diagnosed with IBD disorders, such as Crohn's Disease, and Ulcerative Colitis. A strong, trusting nurse-patient relationship leads to

better outcomes and more accurate treatment goals. The purpose of this project was to determine a baseline understanding of patient knowledge of their disease and treatment regime through the development of a therapeutic nurse-patient relationship. A brainstorming session occurred with the infusion team to determine the best method for gathering information to answer the question, "what do our patient's know about their disease?" To answer this question, a four question survey was designed and given to all patients. These questions would gather: current knowledge base of disease process, therapy regime, and awareness of psychosocial resources. Each survey would also note the medication the patient was receiving to further focus education to measure any disparities. The RNs would use the collected data to design tailored education for infusion patients. Survey data will be analyzed once patient sample goal is reached (N = 200). This project will continue long-term to encompass all new patients, and become standard of practice for the nursing staff. While education will be tailored to survey results, the needs of the patients will continue to evolve. Nurses will need to continuously assess effectiveness of nursing care plans.

P370
THE URGENCY OF ONCOLOGICAL EMERGENCIES USING THE CANADIAN TRIAGE GUIDELINES

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Triage in an emergency department plays a pivotal role as the volume of visitors is unpredictable. In this setting, patients are triaged to ensure that patients with urgent or life-threatening conditions are seen immediately while others with more stable conditions are safe to wait. We examined the Canadian Triage and Acuity Scale guidelines to determine if the urgency of oncological emergencies can be prioritized appropriately using these guidelines. We used an interactive computerized Canadian triage tool to triage actual scenarios of select oncological emergencies; superior vena cava syndrome, cardiac tamponade, tumor lysis syndrome, and febrile neutropenia. Patients with superior vena cava syndrome were likely to present with subtle manifestations, which rendered them triaged to the lower acuity level of '4' or '5'. A similar low acuity triage rating was expected among patients with cardiac tamponade due to the gradual and chronic accumulation of fluids as the body adapted slowly to these incremental changes. Tumor lysis syndrome was also complex to triage appropriately using these triage guidelines as early detection at triage required electrocardiogram and laboratory testing. The guidelines prioritized febrile neutropenia appropriately only if the patient had a high fever and presented with infection signs. Still, one-third of neutropenia patients were afebrile and had increased mortality. Although revisions have been implemented and the Canadian triage tools' reliability has improved, additional support is needed at triage to determine the real urgency of oncological emergencies accurately. These guidelines can be sensitive in this population only if patients presented with severe manifestations or with more investigations ordered at triage which can be unlikely to occur in the first place or can prolong triaging time in the second scenario. Multiple sensitive severity scales for different oncological emergencies are available. These scales can be combined with the triage guidelines to identify the real urgency better. Also, protocols and care pathways should be in place to enable immediate fast-tracking of patients to provide timely treatment.

P371
PERIPHERAL INTRAVENOUS CATHETER INSERTION WITH SIMULATION-BASED EDUCATION AMONG PRACTICING NURSES

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Nurses are the predominant group of clinicians responsible for the placement and management of peripheral intravenous access. The literature suggests that there is a lack of comprehensive intravenous access education in nursing that roots in undergraduate nursing programs and extends into the practicing nursing environments. Gaining intravenous access is an invasive procedure that nurses have to be proficient in, yet there is no standardized or evidence -based education guiding the development of intravenous access curriculum. Extravasation is a costly complication of PIV therapy and it has been closely related to insertion methods and the operator's insertion experience. This evidence-based teaching project aims to fill in the foundational education gap in peripheral intravenous access among practicing nurses. Replacing prior knowledge and skill for practicing nurses requires significant cognitive effort. Therefore, the education curricula must be focused, constructive, and include deliberate practice. Simulators have been a standard component of practice training in other professional fields. Simulations can provide a physical model for direct practice where mistakes can

be made without harming patients. Moreover, nurses can practice skills multiple times, which allows them to learn from their mistakes and for educators to provide immediate feedback. Based on the thorough review of 1,005 articles, 7 peer reviewed research article was included in the EBTP with the date range from 2006 to 2021. A combination of theoretical content and specific simulation-based approach reflects the most promising method to improve nurses' PIV access knowledge and skills. It's necessary to institute multimodality teaching strategies to develop, maintain, reinforce nurses' continuous clinical proficiency with PIV catheter insertions skills. The blended learning approach with didactic, audio-visual presentations, engaging online testing and the deliberate practice of the skill in a non-threatening, life-like simulation setting (high fidelity) meets various nurses needs with diverse learning styles. Multiple failed attempts of PIV access increase the risk for extravasation, causes pain/anxiety for patients, delays in care, excessive use of supplies and valuable nurses' time. By taking the evidence-based approach to achieve better results, the goal is set to transform PIV catheter insertion practice to one attempt per patient visit, while reducing cost.

P372
A JOURNEY TO EXCELLENCE—ADVANCING PROFESSIONAL SPECIALTY CERTIFICATION FOR ONCOLOGY NURSES

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Cancer therapies are highly specialized and complex necessitating nurses acquire advanced knowledge and competent skills. Meeting Commission on Cancer accreditation standards for nursing credentials requires cancer programs measure competency based on oncology continuing education (CEUs) or oncology specialty certification. Our Cancer Program had an 11% reduction during 2020 for professional certification across the oncology division (~230 nurses), largely due to retirement or staff turnover. A needs assessment by the Oncology Unit Based Practice Council (UBPC) identified the biggest barriers to achieving specialty certification were study-time (26%) followed by lack-of-drive/nurse-burnout (14.5%). Preparation materials cost (11%) and exam fees (11%) were also factors influencing nurse's decision to become certified. The purpose of this project is to increase the percentage of oncology nurses with a unit designated professional specialty certification for the Oncology division from 48% to 52% by January 2022. This Oncology UBPC project utilized surveys from over 100 oncology nurses to understand barriers and support needed to obtain specialty certification. Based on survey responses we prioritized and implemented several solutions aimed at meeting nurses needs and accreditation requirements. Strategies included hosting a low cost review course providing 14 oncology CEUs, contracting with ONCC Freetake to alleviate test anxiety and reduce financial burden of exam fees, and providing financial assistance for study courses/materials. Newly certified nurses were recognized in the Oncology UBPC newsletter distributed to oncology nurses. A total of 94 nurses attended the review course from the Greater Sacramento region. Twenty-four nurses were from our Cancer Program with 50% taking the exam and 100% passing. During 2021, 16 total nurses acquired a new oncology specific certification. Specialty certification increased to 53% for 2021 exceeding our goal. Solutions to support nurses on their path to specialty certification were implemented enabling us to meet our goal. Fewer than expected nurses from our facility attended the review course and COVID played a considerable role in nurse-burnout causing some nurses to postpone certification. To provide additional support during 2022 we have established nurse "certification champions" as an additional resource. Since achieving our goal, we adopted a 54% maintenance goal for 2022. This work may provide a framework for other programs seeking to develop knowledge and skills needed to deliver complex care and support specialty certification.

P373
SUPPORTING EBP FOR LEADERS: AN RCT TO PROMOTE EBP INFRASTRUCTURE AND IMPLEMENTATION IN A COMPREHENSIVE CANCER CENTER

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Implementation of evidence-based practice (EBP) in healthcare remains challenging. The influence of

leadership has been recognized; however, few randomized trials have tested effects of an educational and skills building intervention for leaders in clinical settings. The purpose of this project was to test effects of an EBP leadership immersion intervention on EBP attributes over time between two cohorts of leaders at a national comprehensive cancer center. A stratified, randomized, wait-list group, controlled design was conducted. Participants received the evidence-based intervention one year apart (2020, n=36; 2021, n=30) with EBP knowledge, beliefs, competencies, implementation self-efficacy, implementation behaviors, and organizational readiness measured at pre-, post-intervention, and one- and two-year follow-ups. Participants applied learnings to a specific clinical or organization priority topic. Baseline outcomes variables and demographics did not differ between cohorts except age and years of experience. Both cohorts demonstrated significant changes on EBP attributes (except organizational readiness) post-intervention. Mixed linear modeling revealed group by time effects at 3-months for all EBP attributes except implementation behaviors and organizational readiness after the first intervention, favoring cohort 2020, with retained effects for EBP beliefs and competencies at one-year. Following Cohort 2021 intervention, at 12-weeks post-intervention implementation behaviors were significantly higher for cohort 2021. Findings suggest promise to engage leaders in EBP knowledge and skills building to ultimately improve quality and safety in cancer care. While implemented during the Covid-19 pandemic, the project continued as an organizational priority. The findings advance implementation science by demonstrating effects of an EBP immersive intervention for healthcare leaders through an RCT and over time. Implications of this study demonstrate an intensive EBP intervention can increase healthcare leaders' EBP knowledge and competencies, aligning EBP initiatives with organizational priorities is strategic, and follow up with participants is essential to retain motivation, knowledge and competencies. Future research is needed to demonstrate effects on clinical outcomes. Supporting the participation of all nursing leaders at a weeklong intensive course on EBP is an innovative strategy for promoting uptake of EBP among frontline users. Using the nursing strategic plan and professional practice model to elicit initiative topics for participants to execute during the year following their education helped to prioritize time for work on the initiatives.

P374
UTILIZING COLLABORATION AND TEAMWORK TO FOSTER EFFECTIVE EDUCATION ON THE DIGNICAP SCALP COOLING SYSTEM

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The DigniCap Scalp Cooling System has been used in infusion centers across the country since 2001 to manage the severity of alopecia, a common side effect of chemotherapy. The first to be FDA approved, it works by cooling patients' scalps to 3°C, minimizing hair follicle exposure to chemotherapy. At our facility, it is primarily patients receiving adjuvant taxane-based breast cancer treatment utilizing DigniCap. In 2001, DigniDelta, an updated version of DigniCap, was introduced to our infusion center. With the new machine patient outcomes have improved with personalized caps and cooler temperatures. We used a nurse driven education initiative to implement best practice with the new machine and promote better patient outcomes. The education plan was built to accommodate nurses with past experience on the previous cooling system and novices. Our goal was a smooth transition for nurses and patients. Utilizing the "train the trainer method" my manager assigned me as the designated point person. We created a needs assessment tool to identify gaps in nurses' knowledge and developed a procedural competency tool to standardize practice and outline detailed instructions for the new system. We assessed preferred methods of learning and created SMART goals. This demonstrated that the majority of the nurses were kinesthetic learners who needed to be actively engaged in education. Others were visual learners and preferred to observe the application process. With this knowledge, we adopted a see one; do one; teach one method which was beneficial to both kinesthetic learners and visual learners. The evaluation process involved the "trainer" directly observing each nurse applying the cooling cap three times correctly. Following the training, all nursing staff reported confidence in using the DigniCap. A variation of the nurse's level of comfortability was noted with the introduction of the new DigniCap. Lack of experience and anxiety utilizing the cooling system were thought to be the cause. The needs assessment showed gaps in knowledge of the application process and the required patient education. Some staff exhibited reluctance to learn the new process and stated they did not want to bear the responsibility of a patient losing their hair due to poor application of the cap. Teamwork and collaboration promoted open communication, increased confidence, and enhanced patient outcomes.

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NEW GRADUATE ONCOLOGY NURSE PROGRAM

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The pandemic has impacted the traditional clinical rotation experience for nursing students. Many schools of nursing have had to transition away from direct patient care experience to simulation based experiences. Additionally, nursing programs do not offer a clinical rotations specific to oncology. The outpatient oncology new graduate RN program provided me a unique opportunity to learn how to best care for this patient population, learn new skills, and receive feedback in real time to gain the necessary confidence in my transition to nursing. The program began with two weeks of orientation and classroom instruction for hands on skills specific to oncology care in preparation for rotations. Traditional new hire orientation does not include classroom time. I was able practice skills prior to working with a preceptor in direct patient care. I attended lectures that provided knowledge of cancer fundamentals, treatments and side effects, oncology focused assessments and lab values/interpretation. Rotation settings included radiation oncology, infusion centers, blood cancer center, and a variety of medical and surgical oncology clinics. The classes gave me the introductory knowledge, but rotations gave me a well-rounded, up close understanding of different cancer pathologies and treatments. I worked closely with preceptors trained to orient new graduate nurses, advanced practice providers, and oncologists. I sought a work environment where I would be challenged regularly, and also have the colleagues to help me move through those challenges. I ultimately chose a clinic where I felt I could best continue to learn and be supported along the way. Through these rotations I was able to see an entire continuum of oncology treatments, which is what I found to be the most important part of this residency program. Cancer patients often receive a combination of therapies, and I gained hands on experience with almost every aspect. Many of these therapies are quite toxic, and their side effects often lead to hospitalization. Having a rotation through inpatient oncology units could be a really valuable addition to this program and allow for even further understanding of patient care. Annual evaluations will allow this program to grow and be helpful for all the new graduate nurses to come.

P376
THE PATH TO CERTIFICATION—A PERSONALIZED EXPERIENCE

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The OCN (Oncology Certified Nurse) certification is a nationally recognized benchmark of competency in cancer nursing. A hallmark of excellence for organizations, it also assures oncology patients that their certified nurse is committed to the cause of evidence-based practice. Nurses require relevant prior experience and the test itself is challenging, with a broad range of topics in all aspects of oncology, provoking a sense of overwhelming anxiety. To be successful, a nurse must be proficient in all categories of the test content. This presents a challenge in most cases as knowledge is predominantly drawn from past and current roles. For example, experience in radiation or surgical oncology nursing does not translate into transplant or infusion nursing knowledge. These are distinct specialties with specific learning needs. The purpose of the project is to identify the needs of the learner and fill in the gaps for a comprehensive understanding of the test content. A pre-test needs evaluation is conducted for uncertified nurses preparing for the test. Years of general and oncology-specific experience, previous attempts with performance summary, identified strengths/ weaknesses, and learning needs/ preferences are considerations. Individualized coaching is conducted within 30 days of the test, in 1-2 hour sessions at a time. Total time spent depends on the learner needs, ranging from 100 minutes to 10 hours. The method of learning is Socratic, where each question or concept is discussed and critically analyzed for improved understanding. The goal is to understand the concept that enables the nurse to answer the question. A post-test evaluation is collected for feedback and recommendations. This method has proven to be tremendously successful, with all 6 participants passing their certification exam. Oncology nursing is complicated, challenging, and continually evolving. Nurses must be equipped with the evidence-based knowledge that allows them to be the best caregivers they can, affirming the commitment to the core values and ethical principles of nursing. One size does not fit all, education should be tailored to meet the needs of the individual learner. This path to certification is a personalized experience that is ultimately rewarding. It promotes professional development and nursing education, creating mentors and preceptors that create a culture of giving back to the community.

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COMMUNICATION SKILLS TRAINING FOR INTERDISCIPLINARY ONCOLOGY CLINICIANS: DESCRIPTIONS AND OUTCOMES OF A TRAIN-THE-TRAINER PROGRAM

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The purpose of this abstract is to describe the development and evaluation of the Interprofessional Communication Curriculum (ICC) project and its train-the-trainer cancer education course for interdisciplinary oncology clinicians. Communication is a vital component of interdisciplinary cancer care and communication skills training for all members of the interdisciplinary team is recognized as a common goal of oncology clinicians. However, there are few communication training programs designed for oncology nurses, social workers, and chaplains. There is a growing need for communication training that highlights the interdisciplinary team while also addressing effective strategies for communication across all aspects of care. Organized by the eight domains of the National Consensus Project (NCP) Guidelines for Quality Palliative Care, ICC was developed to provide communication skills training for interdisciplinary teams of two oncology clinicians with a focus on their role in providing communication training to others. The second 3-day train-the-trainer ICC course was held in August 2021. The course included skills-building exercises, vignette and role play demonstrations, and interactive discussions to assist participants in integrating communication skills training into their clinical settings. Each dyad completed a pre-course survey that identified their greatest challenges to improving communication at their institutions. Evaluation of the course included immediate post-course evaluation. Forty-two teams (74 participants) consisting of 35 nurses, 27 social workers, and 12 chaplains, representing 20 states and DC attended the communication training course. The pre-course survey revealed a lack of knowledge and resources to teach communication as participants' greatest challenges to improving communication at their institutions. On a scale of 1 to 5 (1=lowest), the post-course evaluation indicated that participants found the materials and resources useful to their practice (4.8) with the Spiritual, Religious and Existential Aspects of Care (4.8), Physical Aspects of Care (4.8), and Cultural Aspects of Care (4.8) modules as most useful to their practice. ICC is an effective train-the-trainer program for improving communication skills in cancer settings. A 6-and-12-month follow-up will provide an update on goal status and implementation progress including the quantity of additional healthcare professionals trained. A third ICC course is scheduled for August 2022 with funding by the National Cancer Institute (NCI).

P378
ANNUAL ONCOLOGY EMERGENCY SIMULATIONS

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Chemotherapy patients are a vulnerable population that face unique emergencies. The pandemic has caused an unprecedented nurse turnover making education more imperative than ever. Staff on the oncology unit, particularly those not certified in chemotherapy, may be ill-prepared to respond to such emergent challenges. Workshops that provide simulations of chemotherapy-related emergency situations could provide staff the competency to implement appropriate medical interventions. The purpose of this project is to provide training on oncologic emergencies for all staff members on the chemotherapy unit through simulations of emergent situations using interactive mannequin and live actors. Among the participants, 40% were RNs with chemotherapy certification; 40% RN's without; and 20% PCTs/HUCs. Simulation mannequin and live actors were utilized for training of: extravasation of vesicant, chemotherapy spill, biotherapy hypersensitivity, tumor lysis syndrome, and hemorrhagic stroke. Competency was assessed subjectively by debrief sessions with performance feedback. Learning gains were objectively measured using a 15-question test taken before and after training. The test assessed knowledge: pertaining to treatment of the emergencies, care prioritization, and equipment location. Scores were expressed as % correct answers and learning gains statistically analyzed. For all participants, post-training questionnaire scores were significantly ($p<0.0001$) higher than those observed prior to the session, i.e. 95.53 ± 0.96 vs. 74.07 ± 2.09 (mean ± SEM), respectively, representing a learning gain of 36.2%. Participants with the least medical training in chemotherapy demonstrated the highest learning gains ($p<0.01$). Non-chemotherapy-certified RNs exhibited gains that averaged 44% in comparison to 20% for RNs with chemotherapy certification.

Learning gains for the PCTs and HUCs, who generally receive minimal training on chemotherapy or medical emergencies, showed the greatest improvement, i.e. 55% ($p<0.01$). A workshop involving simulation training for emergency situations significantly improves staff knowledge of appropriate interventions. The learning gains exhibited by both chemotherapy-certified and non-certified staff validate the need for annual simulation workshops and continued education. The workshop is designed for annual completion. It includes staff members that are commonly not included in education sessions. The pandemic has caused an unprecedented nurse turnover making education more imperative than ever. The increase in learning gains demonstrates the need for the investment in the annual completion of the workshop.

P379
IMPLEMENTING NURSE-LED VIRTUAL EDUCATION SESSIONS TO SUPPORT PATIENTS AND FAMILIES FOR HEMATOPOIETIC CELL TRANSPLANTATION DURING THE COVID-19 PANDEMIC

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The current COVID-19 pandemic has led to many changes in how education is delivered to patients and families/caregivers. Quarantine and social distancing have prompted a shift from traditional in-person approaches to virtual platforms. Despite the ongoing pandemic, hematopoietic cell transplantation (HCT) recipients require specialized education given their complex care. Most HCT centers also require patients to have a designated caregiver (i.e., family, friend) who is willing to be with the patient constantly for the first 100 days following HCT, which shifts additional responsibilities on these populations. In response to in-person restrictions, HCT nurses approached resource center colleagues to develop an online alternative to continue group sessions for patients and their families safely. Published work describing nurse-led multidisciplinary efforts to adapt patient and family/caregiver education within the HCT population during COVID-19 is lacking. The purpose of this project was to describe the development and preliminary evaluation of nurse-led virtual education sessions for patients undergoing HCT and their families/caregivers during COVID-19. In early August 2020, an initial pilot webinar-style education session for patients scheduled for allogeneic HCT with two oncology nurse navigators was conducted. In late August 2020, the project team adapted content for the autologous HCT population. Webinar attendees were invited to participate if the HCT was scheduled within 2-6 weeks and they had access to a telephone or computer. Session topics included role of the caregiver, hospital admission, medication management and infection control, safety and nutrition, communication with transplant team, and peer support. Between August 1, 2020 and December 30, 2021, 862 patients and families/caregivers participated (n=408 allogeneic and n=454 autologous) in at least one of the >100 weekly virtual education sessions that have been conducted. On average, eight patients and families/caregivers attended per session. Data from post-session evaluation questions were >97% positive for understanding the HCT, understanding the information, having questions answered, and knowing how to contact the care team. Educational needs persist for patients undergoing HCT and their families/caregivers, despite the ongoing pandemic. The shift to virtual education has become a resource-saving standard of pre-HCT care and found to be helpful, easy to understand, and informative for patients and families/caregivers. A nurse-led team adapted in-person one-to-one education sessions to group-based virtual sessions to prepare patients and families/caregivers for the HCT process.

P380
EXPANDING ONCOLOGY NURSING EXCELLENCE THROUGH EDUCATION OFFERED BY ONCOLOGY UNIT BASED PRACTICE COUNCIL

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As oncology nursing becomes increasingly specialized and complex, up-to-date, education is needed to support up-to-date evidence-based oncology nursing competency. Our Cancer Center Oncology Unit Based Practice Council (UBPC) conducted a survey in 2020, which showed that 64% of oncology nurses expressed a lack of oncology-specific educational opportunities

offered by the health system. This professional development project focused on identifying educational barriers, needs, and expectations of oncology nurses in meeting cancer related education requirements and to expand current educational opportunities. A survey sent to all Cancer Center and inpatient nurses helped identify gaps in continuing education offered and established a starting point for class development. Three key strategies were designed to close the gap including 1) offering on-site oncology-related classes; 2) distributing information about local and national educational events; and 3) providing access to funding opportunities for courses offered elsewhere. Fifty-six nurses responded to the survey. Most respondents (89%) indicated interest in attending facility sponsored oncology lectures. Offering continuing education units (CEUs) was extremely important to 50% of nurses. Over 70% were interested in receiving advance notification about oncology-specific educational opportunities. Based on these findings, the UBPC launched a new educational series covering a variety of oncology topics. Monthly, 90-minute classes providing CEUs at no cost were offered for 2021. A virtual class format was selected due to COVID restrictions. Eleven lectures were held, with ~71 unique individuals attending (mean of 15 per class). Findings from the needs assessment survey led to the identification of oncology-related topics for monthly continuing education courses, as well as factors and barriers influencing nurse's ability and desire to participate in educational activities offered onsite. Information gathered from the survey resulted in development of a monthly oncology education lecture series offering nursing CEUs. This strategy worked well to obtain input from nurses on topics needed to foster competency in oncology nursing. The program will be extended for 2022 offering eight lectures. Next steps will be to determine if oncology nurses' educational needs were met, conduct a follow-up educational needs assessment, and recording classes to improve accessibility to registered participants on-demand.

P381
CODE LAVENDER ROUNDS: A RESPONSE TO HEALTHCARE WORKERS' STRESS

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The healthcare environment is stressful and over time this can result in decreased compassion, increased burnout, or moral distress. A hospital "code" situation occurs when a patient has an unstable, deteriorating problem which signals a rapid response to the bedside to support patient's needs and intervene to improve clinical outcomes. An adaptation for staff support has been referred to as Code Lavender (CL). A CL is intended to provide a holistic response during times of healthcare worker stress or crisis – an opportunity to provide care and intervention to the caregiver to reduce the stress impact on staff. A CL program was developed and piloted as one response to help support healthcare workers at the point of care. The feasibility, design, and the staff response to CL were evaluated. Due to pandemic environment of heightened stress, CL was adapted to scheduled, proactive rounds offering holistic interventions throughout the hospital units. The CL team provides opportunity to break and complete self-care activity before returning to the job. CL rounds consist of trained staff traveling hospital to offer mindful snacking, aromatherapy, massage, meditation, and pet therapy. Funding for the CL program was obtained from the internal hospital foundation. Since June 2020, CL rounds were completed multiple times per month throughout hospital units and procedural areas. During a three-month period, over 70 hours of rounds were completed reaching 600 staff. Healthcare worker feedback has been extremely positive. Their remarks include: "This was helpful," "Please come back," "Farley the therapy dog made my night," and "We always need a CL." Staff rate aromatherapy as the number one intervention with pet therapy a close second. In addition to planned rounds, nurse leaders have requested specific CL sessions for their unit. Oncology nurses have participated more than other nurses and have provided the most positive feedback of those participating, which may indicate a high stress level in this group. While other forms of stress reduction should be supported, CL rounds warrant consideration. Next steps will explore new options for stress outlets during CL. Based on the outcomes, there are implications for nurse leaders to support efforts targeted towards a culture of healing and resiliency to impact healthcare provider stress.

QUALITY IMPROVEMENT

P341
A QUALITY IMPROVEMENT PROJECT TO IMPLEMENT A PEER TO PEER (P2P) PROGRAM TO IMPROVE PATIENT SELF-EFFICACY

AND SELF-MANAGEMENT, THUS IMPROVING CLINICAL OUTCOMES IN A BONE MARROW TRANSPLANT (BMT) UNIT

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Peer-to-peer (P2P) programs have become increasingly popular as an intervention to affect patient health outcomes positively. The P2P program allows the patients to develop knowledge, skills, and confidence in managing their conditions. In addition, P2P programs facilitate emotional support by normalizing experiences and feelings, highlighting available resources, and addressing patients' and caregivers' specific concerns. This quality improvement project's mission is to promote the Peer to Peer (P2P) programs in the Bone Marrow Transplant (BMT) service to improve patient self-efficacy and self-management, thus improving clinical outcomes. The target population of this project is allogeneic stem cell transplant patients since they have the highest rate of 30-day readmission on the BMT service and increased emotional distress and sense of isolation. The first objective of this project proposal is to increase provider knowledge around the P2P evidence-based practice project. The education component will collaborate with physicians, nurses, patient services, social workers, informatics, and advanced practice providers (APPs). Increasing the knowledge of the collaborating team will increase awareness of the program and the referrals for patients and their caregivers to participate in the P2P program. The second objective is to decrease patient-reported psychological distress; this evaluation will be with a pre/post-survey. The third objective is to decrease 30-day readmission rates of allogeneic stem cell transplant patients; this would be observed by evaluating pre and post readmission data. The first goal of this quality improvement project is to see an overall increase in the utilization and referral to the P2P program. The second goal is to see an overall decrease in readmissions related to self-management, such as mismanagement of polypharmacy. Hospital medical records and administrative data will be utilized to identify the cause of the subsequent readmissions. The third goal is to measure psychological effects to show an overall reduction in distressing symptoms through hospitalization. This quality insurance project will show that Peer-to-peer programs help improve quality of life and reduce distress among patients with statistically significant differences.

P342
SCCC INFUSION AND FAST TRACK: IMPROVING PATIENT CARE AND MAXIMIZING WORKFLOW THROUGH COLLABORATION WITH SAC

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An NCI-designated Cancer Center in the Southwest provided 28,000 infusions and 25,000 Fast Track (FT) visits in 2021. The FT area is the initial point of contact for approximately 80% of patients entering the Infusion Center (IC). With increasing demand for infusion and FT services, addressing unanticipated medical needs can increase wait times, adversely impacting patient outcomes and perception of quality of care. Patients presenting with acute medical issues were previously referred to the Emergency Department (ED) and/or the nurse paged one or more providers to obtain orders. This workflow led to delays in care of other scheduled infusions and increased the number of avoidable ED visits. An intervention was piloted to address patients' acute medical needs in IC and FT. To expedite the care of oncology patients with acute medical needs, Infusion Center and Fast Track patients will be transferred to an advance practice provider (APP)-led acute care clinic (ACC) decreasing wait times 10% by December 31, 2021. The Plan-Do-Check-Act (PDCA) cycle was used to implement the process change. IC and FT nurses identified patients with acute medical issues requiring additional evaluation and intervention. A transfer process was developed with ACC for patients to be transferred to ACC, with the ACC APP managing the patient's acute needs. The APP communicated and collaborated with the primary oncology team. 102 patients were transferred from IC and FT to ACC from March 2021 to November 2021. Eighty-one percent (n= 83) of those patients were discharged home, 11% (n= 11) directly admitted to the hospital, and 8% (n=8) transferred to the ED. IC and FT wait times were decreased by 10% or more in six months after implementation of the pilot. The workflow changes and partnership between the IC, FT and ACC resulted in decreased patient wait times, expediting care. Patients transferred from IC and FT received immediate evaluation and treatment in the ACC. After implementation, IC and FT nurses

report feeling empowered and have a positive perception of the collaboration with ACC.

P343
QUASI-EXPERIMENTAL STUDY, EVALUATING IMPACT OF SUPPORTIVE CARE ON CHEMOTHERAPY WOMEN PHYSICAL AND AFFECTIVE SYMPTOMS

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Breast and reproductive organ cancers are commonest cancer among women, treated with surgical, chemotherapy and radiation interventions. Women suffer from sequela of physical and affective symptoms because of cancer diagnosis and chemotherapy treatment side effects. However, these symptoms could be lessened through pharmacological and non-pharmacological/supportive interventions. In Pakistan, probably two studies have been conducted previously to offer supportive care to breast cancer women under chemotherapy treatment via individualize patient education. Current study is an extension of previous studies with additional features of comprehensive counselling, mind diversion activities and group therapy features. The purpose of this project was to evaluate the impact of supportive care on symptoms of women receiving chemotherapy treatment. Quasi-experimental design with a control group was utilized. Study was conducted at chemotherapy day care unit of one of the private, non-for-profit institution located in Karachi, Pakistan. Participant of the study were women receiving weekly chemotherapy for breast and reproductive cancers. Initially, 51 participants were recruited for the study. Sample size reduced to 33 participants for the two-point data collection after drops outs, leading to 16 and 17 participants in control and intervention groups. The intervention group participants were exposed to interventions for five weeks', exclusive of data collection time. Outcome variable, symptom was assessed from both the group participants, at baseline (T1) and follow up (T2). Variable was assessed via self-developed questionnaire after pilot testing of tool. Calculated questionnaire validity was 94% for relevancy and 91% for clarity. Supportive interventions offered were counselling for physical, psychosocial symptom/issues. Mind diversion activities utilized were humor, guided imagery, spiritual practices (slide show of natural scenes and prayers). Intervention was effective in producing a statistically significant difference in reducing the physical ($p < 0.001$) and affective ($p = 0.001$) symptoms of the intervention group participants, from T1 to T2 at 95% Confidence Interval (CI). Moreover, on comparative analysis between the groups statistically significant results were obtained for affective symptoms (0.045) and few of the symptoms distress items. Supportive care interventions alleviated symptoms of intervention group participants. Therefore, oncology nurses must utilize them in chemotherapy patient care. Future studies should evaluate the effectiveness of these interventions with a larger sample size and extended intervention time. Intervention addressing comprehensive needs of women receiving chemotherapy treatment.

P344
IMPLEMENTATION OF A SKIN C.H.A.M.P.S. BUNDLE IN AN ONCOLOGY ICU

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The objective of the evidence-based practice project was to provide hospital staff with a bundle to prevent reportable hospital-acquired pressure injuries. Patients in an oncology ICU demonstrate a high risk for skin injury during hospitalization. Organ failure, medical devices, and treatment side effects, in addition to critical illness and ICU admission, are contributing risk factors to the development of hospital-acquired pressure injuries (HAPI). The Skin CHAMPS bundle considered the effect of a collaborative RN and Manager in the implementation of an evidence-based skincare bundle to reduce the incidence of reportable pressure injuries in an 18-bed oncology ICU. In the year before this project, the ICU had seven reportable pressure injuries. In intensive care unit patients, how does best practice compared to current practice affect pressure injury prevalence? A literature review and synthesis table were completed based on current evidence-based practices. The identified measures were then combined into an ICU-specific skincare bundle, Skin CHAMPS. The CHAMPS acronym represents key components of the bundle: Collaboration, skin Hygiene, Appropriate bed settings, Mobility, Protective dressings, and Support. CHAMPS included bedside RNs taking key roles in the education of bedside staff, and included nurse and manager rounding. CHAMPS rolled out in April with an introduction of the bundle at staff meetings, posted flyers, conversations through

the UBC communication tree, and twice-weekly rounds including ICU managers, Skin CHAMPS RNs, and frontline nurses. During these rounds, RN skincare champions from the ICU staff helped nurses implement the bundle at the bedside, and provided recommendations and education as needed. During July, all ICU RNs were competency validated by one of the CHAMPS team members on the bundle components and skincare knowledge. ICU outperformed the NDNQI benchmark for three consecutive quarters. Zero HAPI discovered during Prevalence Studies since the implementation of the Skin CHAMPS bundle. ICU has outperformed the NDNQI benchmark for three consecutive quarters. Zero HAPI discovered during prevalence studies since the implementation of the Skin CHAMPS bundle. While long-term results are yet to be collected, Skin CHAMPS shows a promising decrease in the occurrence of reportable pressure injuries through the combination of a skincare bundle, and a combined ICU Manager and RN skincare team.

P345
BEE CARING: A COMMITMENT TO PATIENT SATISFACTION ACROSS THE AMBULATORY CARE SETTING

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To focus a structured effort in response to nursing-related Press Ganey scores below the targeted level. "Bee Caring" responded directly to information reported by patients as a result of the Press Ganey survey. Attempts were made coordinating strategies across outpatient departments responding to patient's dissatisfaction and addressing concerns. The goal was to see an improvement in targeted scores in the Press Ganey Survey results impacted by oncology nursing practice. Press Ganey scores have become increasingly important for hospitals in all care settings due to its direct relation to reimbursement. These publicly shared results affect hospital reputation and ranking. Stress from diagnoses, provider visits, multiple modality treatment therapies, and wait times leave patients overwhelmed with information and feeling impersonalized. These issues result in decreased patient satisfaction and lower Press Ganey scores. In order to focus efforts an initiative was undertaken at a comprehensive cancer facility entitled "Bee Caring." This campaign focused on staff education and organizational initiatives to show patients their concerns were being heard. A kickoff presentation was led by leaders from Infusion, Ambulatory clinic, Radiation, and Patient Access. Champions were selected from all departments to represent, devise, and disseminate the education and tactics utilized in this campaign. Huddle sessions and visual boards promoted the use of various techniques, buzz words, and social cues and focused on six topics related to care in the outpatient Press Ganey survey. These categories include staff courtesy, management of side effects, concern for comfort, sensitivities to difficulties/inconvenience, communication of wait times and improved interdisciplinary communication between teams. An interdisciplinary team was formed across the ambulatory care setting to finalize efforts and disseminate the program to staff members. Efforts were visible to patients. Signage and buttons were created with our slogan, "Bee Caring." Staff participated by wearing the buttons, explaining the initiative to patients, and implementing strategies into their daily work. Scripted material was circulated by committee members and staff attendance was documented. Press Ganey data was collected prior to the start of the campaign and will be evaluated quarterly post-implementation and disseminated to the teams to discuss and work on continuous improvement. Target for data to reflect patients felt more 'cared' for and visible improvement in many targeted indicators, including perception of wait times and peer group rankings.

P346
SIMULATE AND EDUCATE: A NURSE-LED PILOT TO ENHANCE PATIENT EDUCATION, AND EXPERIENCE

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Simulate and Educate is a nurse developed and led process improvement project to reallocate staffing resources and implement a pilot role which focuses on multidisciplinary collaboration in a large radiation department to facilitate improved patient education and enhanced patient experience. Historically, nurses have not been involved in the simulation stage for patients starting radiation treatment. The goal of the Simulate and Educate initiative would create nursing support during this stage of care to

facilitate patient preparedness, decrease stress and improve throughput. Based on patient experience feedback, and observation of the simulation process, direct care nurses identified a gap in patients' knowledge and preparedness. Further challenges recognized were undue stress for patients, and delays in the department throughput. Through shared-decision making, a team of nurses reviewed data, and developed a pilot role and workflow, supported by leadership, based on interdisciplinary collaboration, to better navigate patient care during radiation planning. Information gathering from each disease site service occurred and checklist templates created, collaborating with physicians, nurses and APC's. With manager support and assistance, staffing resource was identified and reallocated, and space obtained for patient care. Project discussion occurred at staff meetings, and feedback was provided from interdisciplinary radiation committees. A primary project nurse was identified and trained by the Assistant Nurse Manager. Patient satisfaction survey results at the end of Q4 2021 reflected all Radiation department indicators falling steadily over 2 quarters consecutively, leaving overall rankings against comparison groups lower than the 10th percentile. The specific measured indicators of concern are explaining what to expect during radiation, concern for comfort, and explaining side effects. Early data after implementation showed improvement in all patient experience metrics, especially regarding explaining what to expect during radiation which moved from the 5th percentile ranking to the 50th percentile against the specialty comparison group. This data will be continuously evaluated as success measures. The implications that this project has already had on nursing practice has been improved multidisciplinary communication, streamlined processes, and standardized education, enhancing experience for patients. This is an innovative new role that could be emulated by other institutions to yield improved quality of care for oncology patients everywhere.

P347
STARTING A NEW ORAL ONCOLOGY AGENT IN THE MIDST OF THE PANDEMIC

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The COVID-19 pandemic increased risk for oncology patients to develop serious illness and complications from a COVID-19 infection due to their compromised immune systems. Oral oncolytic therapy use is rapidly growing and requires frequent laboratory monitoring of toxicities. The Oral Oncolytic: Bridging the Gap and Enhancing Safety in Challenging Times (OOBG) project was a quality improvement project conducted to ensure safety of patients receiving oral oncolytic therapy with the challenges presented by COVID-19. Prior to the availability of video visits, patients completed monthly in person laboratory work and follow-up toxicity visits with an oncology provider. The OOBG project allowed patients to complete laboratory work remotely at a laboratory of their choice closer to home and follow up with their provider via video virtual visit while monitoring their symptoms at home. This project streamlined three processes: ordering of external laboratory tests, receiving of results, and monitoring symptoms. The provider orderable was decreased from 23 mouse clicks to five mouse clicks. The pathway to receive external laboratory results was converted from a paper process into an electronic fax decreasing time from fax receival to provider inbox. Patient reported outcome measures are utilized by patients to log their symptoms into a mobile app; if indicated the clinical team receives an alert in the medical record for intervention, and the patient is provided clinically relevant patient education on their symptoms at the time of report. Provider satisfaction and use of streamlined processes notability increased throughout the course of the project; monitored by satisfaction surveys and electronic medical record metrics. Nurses play an active role in the OOBG process as they complete the review of symptoms prior to video visits, assist in identifying eligible and ineligible patients for remote monitoring, and triage remote symptom reports as alerted via the medical record. This project builds upon current medical record technologies and allows the patient a pathway to report symptoms outside of an in-person clinic visit. As the future of breast cancer care will include expanding oral cancer medications, we must have robust and efficient mechanisms in place to order remote lab work, receive results, and monitor and respond to toxicities to ensure the safety of our patients during COVID-19 and beyond.

P348
BMT FAST TRACK AMBULATORY CLINIC

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BMT Fast Track (FT) Ambulatory Clinic opened in August of 2018. Unit converted two inpatient rooms to four outpatient chairs in an effort to better serve patients post-stem cell transplant. Plan was to utilize an innovative, efficient care team model that could also positively impact patient outcomes. Goal was to provide continuity of care (nurses that took care of patient while undergoing inpatient admission for transplant would also see them in the FT clinic), increase patient satisfaction and compliance with post-transplant follow-up, reduce readmissions and LOS, and identify any post-transplant complications as early as possible. Care team was assembled and developed workflows for stem cell transplant patients. Patients being discharged are scheduled for multiple appointments/week in the FT clinic for close follow-up. Visits include assessment, vital signs, lab draws, and oftentimes included symptom management and/or fluid, blood, and/or electrolyte infusions. It provides an easy transition for patients and their caregiver and contributes positively to their patient experience. While not all interventions have been fully measured, we know the impact of this program has been impressive. It has been a huge satisfier for the patients, caregivers, nurses and providers delivering their care. Recent data suggests that LOS (Length of Stay) for both auto and allo transplants has been reduced and readmissions have been reduced in the allogenic transplant population. A slight increase was seen in the readmission rate for the autologous transplant population. More specifically, autologous transplants average length of stay (ALOS) has decreased from 19.2–16.4 (days from FY2018–FY2021. Vizient expected 17.5). Allogenic transplants ALOS has decreased from 27.6–22.4 days from FY2018–FY2021. When compared to Vizient expected of 29.4, it is even more impressive. Allogenic transplant readmissions were reduced from 16.7% to 9.4%. However, a slight increase from 2.6% to 3.1% was observed in the autologous transplant population during the same time frame of FY18–FY21. Along with the positive impact on patient outcomes, profitability has increased from ~$534,000 in FY19 to nearly $750,000 in FY21.

P349
REDUCING SHORT LENGTH OF STAY INPATIENT ADMISSIONS IN A CANCER CENTER

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Inpatient bed availability within our metropolitan NCI designated cancer center is essential in providing high level care to our acutely ill oncologic patient population. Admitted patients who have short lengths of stay (LOS) (which is defined as less than 48 hours from their disposition time) utilize inpatient resources and have later discharge times. This creates limited access and patient throughput for patients requiring inpatient resources. In 2019, nineteen percent of all hospital admissions who were admitted through our Urgent Care Center (UCC) were considered short LOS patients. After review, many of these patients could have been cared for in a Clinical Decision Unit (CDU)—an observation unit which is run solely by oncology trained Advanced Practice Providers (APPs). A root cause analysis helped us to identify three main areas of opportunity that could be targeted to reduce short LOS inpatient admissions. Results pointed to a lack of standard clinical guidelines for patient placement into the CDU, outpatient oncologist's referrals for direct inpatient admission, and patients with only interventional radiology (IR) needs who were admitted inpatient. We used three years of data in our discovery stage and advanced analytics to identify common factors to include in a proposed guideline. We designed and implemented a guideline to facilitate appropriate patient disposition from UCC to CDU. This guideline included specific IR procedures with projected short LOS and guided the disposition of patients undergoing these procedures into CDU. Another element of this guideline was specific exclusion criteria of common oncologic patient presentations, which facilitated disposition of appropriate patients to be admitted inpatient vs. CDU placement. Lastly, we changed the outpatient referral process of direct admissions to be the decision of the UCC clinical team. These interventions combined reduced the short LOS inpatient admissions from 19% to 13%, creating more than 400 bed days annually. Using analytics and systematic thinking in combination with utilizing the clinical expertise of the multidisciplinary team which consisted of APPs, Physicians, Nurses and senior hospital leadership helped to make this project successful. This was accomplished without expanding our inpatient platform or using excess funds.

P350
THE CONTRIBUTION OF ONCOLOGY TRIAGE REGISTERED NURSES IN EXPEDITING CARE FOR PATIENTS WITH CANCER

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Triage nurses help identify cancer and treatment-related side effects, prevent delays in care, and reduce unnecessary appointments and emergency room visits. Our NCI-designated cancer center encourages patients to report medical concerns by calling the triage line or sending a MyChart message to their oncology team. Response to MyChart messages can vary based on the availability of the clinical team, which can delay care. Triage nurses address patient concerns and facilitate urgent visits. Initially, triage nurses would direct urgent calls to patient's primary team and in most instances, patients were directed to the emergency center (EC) due to provider availability and/or space for urgent evaluation. To reduce EC use and provide timely care, triage nurses collaborated with ACC in December 2020 to provide outpatient management of symptoms related to cancer and cancer treatment. Demonstrate triage registered nurses reduce time to acute care appointments for patients by 50% versus MyChart messages or calls to clinical teams by October 31, 2021. Multidisciplinary team consisting of cancer center leadership, triage nurses and advanced practice providers evaluated current state and developed a workflow to schedule solid tumor medical oncology patients in ACC expeditiously. If triage nurse assessment warranted urgent evaluation, ACC and primary team were both paged. ACC APP returned page within 30 minutes and if appropriate would schedule patient and contact primary team. If primary team called before ACC APP, triage nurse would direct patient care based on their recommendation. Triage nurse would notify patient of appointment time, location and update ACC and primary team once appointment was confirmed. From January 2020 to November 2021, 278 patients were referred by triage nurses with 249 EC visits avoided and 202 patients discharged home. October 2021 data showed, 28 ACC visits scheduled by triage nurses. The average time from patient call to triage to ACC appointment was 102 minutes, whereas 15 patients were referred by the primary team via MyChart messages with average time of 368 minutes from time of patient message to appointment in ACC. Oncology cancer centers without a designated telephone triage nurse can incorporate triage nurses to expedite urgent visits. For our institute, next step is to improve patient education and communication regarding the role of triage nurses and expand to other oncology specialty clinics.

P351
A RETROSPECTIVE ANALYSIS OF THE EFFECTIVENESS OF A SEPSIS PREDICTIVE MODEL IN HEMATOPOIETIC STEM CELL PATIENTS

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Sepsis is a leading cause of death in Hematopoeitic Cell Transplant (HCT) recipients post-transplant. It is difficult to detect sepsis with commonly used models and tools in this patient population as sepsis presentation may be different from the general patient population. A sepsis predictive model was designed and evaluated retrospectively using data for this population at City of Hope National Medical Center. The model was then integrated with Epic workflows and best practice advisories (BPAs). The purpose of this project was to use machine learning for early identification of sepsis in moderate and high-risk transplant patients. Workflows went through standard approval and testing processes, including Epic, nursing and clinical councils, as well as functional and user acceptance testing. Following these approvals, the BPAs were deployed alongside a real-time modeling infrastructure in June 2020. Technical measures of the system, such as frequency of BPAs and model accuracy, were tracked via Epic reporting, but additional research was necessary to understand qualitative understanding and acceptance of the system. Performance of the model and Epic workflows were evaluated via surveys distributed via RedCap. Surveys were distributed to all clinical staff that had received at least one BPA since go-live. The survey was open for one month. Questions were related to recall, feedback, and comprehension of the Sepsis Risk system. Questions utilized a 1-5 scale, indicating whether they strongly disagreed, disagreed, felt neutral, agreed, or strongly agreed with the prompt. 892 physicians, nurses, and researchers received at least one BPA since go-live. 92 individuals responded to the feed-

back survey. Of the 92 respondents, 54 recalled seeing the BPA in the last year. Responses to questions related to overall system feedback ranged from a mean of 3.04 to 3.56 (N=54). Responses to questions related to system comprehension ranged from 3.64 to 4.28 (N=54). Feedback regarding the model was generally positive and provided honest information regarding acceptance and understanding. This survey research will guide model updates going forward, including BPA lockout times, BPA targeting by role or department, BPA content and actions, and model performance. Acute care machine learning implementations are novel and evaluation of workflows with clinical staff are crucial to optimizing user experience with these clinical applications.

P352
USING THE ELECTRONIC MEDICAL RECORD SYSTEM TO IMPROVE AND STANDARDIZE THE ONCOLOGY DISCHARGE HANDOFF FROM INPATIENT TO OUTPATIENT

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Discharge handoff is a priority for adult Oncology patients, promoting safety and care coordination. Standard discharge handoff report from adult oncology inpatient to nurses at any of the five outpatient clinics at this Comprehensive Cancer Center was an oral phone report using a paper template. The templated paper form was completed by the inpatient discharging nurse, and used to provide direct call to the designated outpatient clinic nurse to provide verbal report. This process was time consuming, often requiring multiple calls to accomplish the nurse to nurse handoff. The purpose of this quality improvement process was to utilize the EMR system to establish a more efficient way to give a discharge handoff report from inpatient to outpatient oncology. To improve efficiency of the discharge handoff, an Electronic Medical Record (EMR) report was created replicating the paper form. A nursing discharge handoff note is completed, with specific information populating from the EMR system. The note includes both free text and drop down selections. The discharging nurse places an EMR text message, attaching the patient chart to communicate completion of the discharge note and follow up appointment information. Both inpatient and outpatient nurses were educated by video instruction. This process was piloted in three of the five outpatient clinics in December 2020 and implemented in all five outpatient clinics in September 2021. Using the paper/phone format did not permit universal access to view important information conveyed or discussed during the discharge handoff report. Baseline data showed 77% (58/75) compliance with paper/phone discharge handoff report in August 2020.The EMR discharge handoff was implemented on December 1, 2020, and compliance with discharge handoff report improved to 94% (51/54). Informally, both inpatient and outpatient nurses report preference for and satisfaction with the revised handoff process via EMR. The electronic communication process allows for chat clarifications and an enduring record of the patient's discharge plan. Standardizing discharge handoff report between inpatient oncology units and all outpatient areas using the EMR note and direct text for additional communications not only promoted efficiency but has allowed all users to read the discharge plan. This process also promotes care coordination and is applicable to many other oncology practices that use integrated EMR systems.

P353
CREATING AN EFFECTIVE PROCESS TO ACCOMMODATE ACUTE LEUKEMIA PATIENTS FROM INTERNAL OR EXTERNAL COMMUNITY HOSPITALS AND PROVIDERS

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Our hospital system has a mature Acute Leukemia Program (ALP) with a world-class provider and researcher in charge. The acute leukemias are a heterogeneous group of diseases characterized by the rapid expansion of a malignant clone derived from a very early hematopoietic progenitor, either in the lymphoid lineage in the case of acute lymphoblastic leukemia (ALL) or the myeloid lineage in acute myeloblastic leukemia (AML). Both conditions are rapidly fatal if not treated but are usually initially highly responsive to chemotherapy. According to the report, the current out-of-network spend for Leukemia/ Lymphoma care is around $15M. There are transformative opportunities to accept Acute Leukemia patients from community hospitals and providers who do not provide leukemia care and management. The project aims to support both Accountable Care Organization (ACO) and cancer ACO strategies, drive consumer experience, support the "no one faces" cancer alone philosophy, capture preventable out-

of-network spending, and provide profitable inpatient growth. The team will collaborate with oncologists, nursing service, transfer center, bed management, leadership team, and operation administrators to develop an Acute Leukemia Program that will accommodate planned and unplanned Leukemia patients to the inpatient oncology unit. The Oncology unit will develop strategies to accept Acute Leukemia patients and provide care promptly. This ALP program will identify a dedicated leukemia bed on the inpatient Oncology unit; once this bed is used for an Acute Leukemia Patient, another leukemic bed will be opened within the next 2-3 hours. When a patient is admitted to this unit, the nursing staff will collaborate with the oncologist and pharmacy and start chemotherapy within 1-2 hours for planned admissions and within 4-8 hours for unplanned admissions. This program provided timely access to Acute Leukemia program. Also provided profitable growth and availability of a center of excellence program with resources and expertise. Strategies implemented effectively reduced the time from diagnosis to start treatment among patients referred to the ALP. From July 2021 to September 2021, data shows the average time from admission to starting chemotherapy was Around 6 hours for unplanned admissions. Data will be collected to monitor the number of Leukemia patient admissions to the unit under the ALP, including how long it takes to initiate treatment.

P354
PERIOPERATIVE NURSE LIAISON COLLABORATION WITH THE DEPARTMENT OF PSYCHIATRY AND BEHAVIORAL SCIENCES—CAREGIVER DISTRESS STUDY

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According to the National Alliance for Caregiving & AARP Public Policy Institute approximately 3 million Americans are caregivers to people with cancer. The burdens of caring for their loved one places these caregivers at high risk for significant symptoms of anxiety and depression. The role of the perioperative nurse liaison is to function as a communicator, educator and guide between patients, caregivers, and healthcare team throughout the surgical experience; reducing stress and anxiety during the surgical visit. For the caregiver distress study, the perioperative nurse liaison aided in identifying caregivers as potential participants for the study. While the caregiver waited for the patient during a procedure, the caregiver was introduced to the study by the perioperative nurse liaison. If amiable, the caregiver was escorted to a private consultation room, consent for the study was obtained and the caregiver was instructed on how to complete the survey. During the pandemic, the recruitment of the caregivers converted to a virtual platform. The perioperative nurse liaison continued to assist by asking caregivers if they desired to participate in the study during surgical phone call updates. Interested caregivers were informed via email with further instruction regarding their participation. The perioperative nurse liaison would be provided with the survey responses and would perform follow up consultation calls with the caregiver. During the follow up conversations, the perioperative nurse liaison would ask the caregiver about their emotional well-being, concerns about the patient, and if the caregiver needed referral services. Some of these referral services included: patient financial services, chaplaincy, social work, and patient representative. The caregiver also had the option to not obtain any services at that moment. It is vital to illicit feedback from caregivers to provide them with the resources they need so they can care for themselves and the patient. The role of the caregiver in recovery after a procedure can affect patient outcomes. Many caregivers play a role comparable to that of a nurse when the patient is recuperating at home. Assessing the needs of the caregiver can assist in reducing anxiety and depression allowing the caregiver to provide optimal support for the patient and themselves. Providing care for the caregiver can also alleviate the anxieties of the oncology patient population.

P355
IMPLEMENTATION OF MULTI-MODAL OPT-OUT PROGRAM TO IMPROVE SCREENING, REFERRALS, AND ENGAGEMENT TO A DEDICATED ONCOLOGY TOBACCO DEPENDENCE TREATMENT PROGRAM

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Ongoing smoking following a cancer diagnosis poses substantial hazards for patients. These dangers include increased mortality, increased risk for recurrence of primary cancer, increased risk of developing a second primary cancer, reduced efficacy of treatments, and decreased quality of life. Notably, the 2020 Surgeon General's report underscored the importance of assertively encouraging and supporting smoking cessation for patients diagnosed with cancer. At a regional

cancer center in Western New York, a scholarly project was developed in an effort to improve referrals and engagement with the dedicated tobacco dependence treatment program. This project applied a quasi-experimental design with both quantitative and qualitative measures to evaluate the feasibility of a multi-component opt-out referral program. As part of this project, prior to initiation, clinic staff underwent specialized training regarding tobacco dependence and treatment. Implementation of the project took place from October 2021–December 2021. Clinic staff applied the 3A's model (Ask, Advise, Act) to assess tobacco dependence as part of a multi-modal opt-out referral to tobacco dependence treatment services. Furthermore, clinic staff informed the patient that they would be contacted by the project manager (PM) to arrange a consultation appointment. Patients were free to opt-out at any time. For those patients who did not opt-out, the PM attempted to reach the patient via telephone. Once the patient was successfully contacted, the PM collected qualitative data regarding the patient's experience during the referral process, provided additional information about the program, and attempted to engage the patient for an initial visit. Initial consultation visits were performed via telephone, video, or in-person. Preliminary findings suggest that the opt-out referral was offered to a total of 17 current tobacco users during the course of the project period. A total of 35% (6/17) patients agreed to be contacted by the project manager and a total of 33% (2/6) patients engaged in tobacco dependence services. Of note, one of the clinic nurses transitioned to the nurse navigator role for the service line just prior to the project initiation. In her new role, the nurse navigator engaged 7 additional patients during new patient telephone outreach, 57% (4/7) of which engaged in treatment. This data suggests that assessment of tobacco status and delivery of the opt-out referral may be more feasibly executed by the nurse navigator.

P356
HOSPITAL NURSE COORDINATION FOR PROCESS IMPROVEMENTS LEADS TO REDUCTIONS IN CHEMOTHERAPY TURN AROUND TIMES

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Chemotherapy patients are a vulnerable population that require specialized care from a multidisciplinary team. They endure increased stress levels due to diagnosis, side effects, and time away from work. Higher wait times lead to increased stress and time away from work. Chemotherapy regimens are complex, long and formatted differently than all other orders. The orders take longer to process, review, prepare and administer than other drugs given in a hospital setting. The in-patient setting does not administer chemotherapy as often as an out-patient infusion center and typically takes longer to administer the drugs. The purpose of this study was to determine the effects of nurse-led/coordinated weekly multidisciplinary review of inpatient chemotherapy regimens to identify causes for delayed door-to-drug administration turnaround times. Nurse-directed multidisciplinary inpatient chemotherapy reviews were implemented by the inpatient chemotherapy coordinator. Participants included the MD or APRN, MD office, nursing staff, pharmacy, charge nurse, case manager, dietician, vascular access team, and music therapist. At the weekly sessions, chemotherapy regimens were reviewed and turnaround times from door-to-drug administration were calculated. The cause of any delays were identified and categorized as 'Avoidable' and 'Unavoidable'. Avoidable delays were addressed by the group for process improvement. At implementation of the program the door-to-drug turnaround times averaged 12 hours, 23 minutes. Of the 'Unavoidable' causes for delays, 70% were due to the chemotherapy orders, 19% were related to nursing, and 11% were due to pharmacy delays. The turnaround times following initiation of the weekly rounds averaged 4 hours, 53 minutes, representing a 60% reduction. Weekly nurse-led multidisciplinary reviews identifying chemotherapy delays led to the reduction of door-to-drug turnaround times by 60%. The entire process of chemotherapy administration in the in-patient setting is reviewed in real time on a weekly basis by the in-patient chemotherapy navigator/coordinator. Process improvements are made based on all delays and errors found. This leads to a decreases in turnaround times, decrease in errors, and decrease in patient stress to to wait times. Out-patient navigation and coordination is common practice. In-patient navigation/coordination of chemotherapy regimens is not as common. The role serves a bridge/liaison between the in-patient and out-patient settings.

P357
THE SILVERLON PROJECT

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The use of silver in medicine dates back to BC 335 to present day. First documented to be used by Alexander the Great, silver was used in vessels for disinfectant and storage purposes of drinking water. Current

purposes of silver include but are not limited to the following: food handling, water storage and purification, body adornment, and clinical uses with silver impregnated dressings for central lines, silver impregnated dressings for wounds and post-operative surgical incisions. The purpose of this study is to evaluate differences in the CLABSI numbers using the Silverlon Disc as the new standard of care compared to the previous Biopatch. Like the Biopatch, this disc was placed at the insertion point under the central line dressing while using sterile technique. For this evidenced-based project, the Silverlon patch was placed on all patients in two units at Moffitt Cancer Center in Tampa, Florida (4 North and 3 Central). This Silverlon patch was used in place of the current standard of care for central line dressings: the Biopatch. The Biopatch is made from chlorhexidine gluconate while the Silverlon is made directly from silver plated nylon. From July 1st through August 31st, the Silverlon patch was placed on all patients with a central line, unless allergic to silver. Through the months of July and August, there were a total of three CLABSIs. These numbers were compared to the two months prior to the study (May, 2021 and June, 2021) as well as July and August of the previous year, 2020. In May and June of 2021, there were there were two CLABSIs. In July and August of 2020, there were three CLABSIs. During this Silverlon trial period, there were three CLABSIs. Overall, the results of this study were not significant enough to show an improvement in CLABSI rates. However, due to the recent study published by Tampa General Hospital showing a reduction and maintenance of decreased CLABSIs after implementing the Silverlon disc, Moffitt Cancer Center decided to go house wide with this new standard of care. The CLABSI rates will continue to be assessed until long-term information becomes available at this institution.

P358
ON-BOARDING—CLINICAL NURSE WORKFLOW CHECKLIST

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Onboarding nurses is a constant state of evolution especially with the impact that Covid 19 has had on our nursing teammates. The present onboarding process takes twelve weeks to fully onboard to the department's duties and job responsibilities. It is imperative to focus on a robust nursing orientation to improve nurse retention and to decrease turnover, as vacancies create emotional stress, job dissatisfaction and turnover of our experienced Oncology nurses, generating a vicious cycle. In 2021 there were five new registered nurses that started in the hematology clinic due to turnover. Leadership felt with each nursing vacancy, there was an opportunity to improve the onboarding process for new and experienced nurses. A team of nurses was assembled with the priority to address the challenges faced with the onboarding process and the length of time it takes to onboard a nurse. The team identified ways to streamline the onboarding process for both the new nurse and the preceptor. The team created all-inclusive workflow checklist divided into eight weeks. The workflow checklist defines what the nurse must learn for that specific week and what the preceptor is responsible for teaching. Each week builds on the previous week in a structured manor for a total of eight weeks. Mastering these specific tasks will enable the nurse to successfully run a clinic in the Hematology ambulatory setting. In addition, the workflow checklist serves as a training tool for the preceptor, measures the new teammate's progression, and includes the new teammate's perception of learning which helps identify gaps and areas of opportunity. Furthermore, the team created an online onboarding resource manual which can be use during the onboarding process and beyond. This manual contains policies, resources, web addresses and phone numbers. With the addition of our last two RN teammates, onboarding was successfully decreased from twelve to eight weeks. This is evidenced by the successful completion of the onboarding workflow checklist by both the teammates and the preceptor. The Onboarding workflow checklist has enhanced the new nurses learning experience as well, based on direct feedback stating workflow checklist is clear, well organized, easy to follow and "I knew what is expected". This is a huge win for our new teammates and positive strides to retaining our RN teammates.

P359
NAVIGATING END OF LIFE CARE EDUCATION: NURSES STEER THE SHIP

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Research supports the importance of providing End-of-Life (EOL) care education to nurse residents

(NR). Improvement in comfort, knowledge, job satisfaction, and psycho-social well-being is a result of providing dedicated education. EOL knowledge increased and was deemed a valuable learning tool when caring for patients and families. Growing interest of EOL education peaked at our institution among nursing staff. It has been implemented as an annual quality improvement initiative to enhance staff knowledge and patient care. (EOL) education is an important component of nursing care. After successful integration into the nurse residency program, the EOL Education Symposium has expanded to include nurses at all levels of experience throughout the health system. NR Coordinator and Palliative Care NP collaborated in EOL symposium development. Presentation topics were selected based on requested learning needs from previous attendee evaluations. Interdisciplinary team consisting of physicians, nurses, social work, and pastoral care presented. Since COVID-19, the symposiums have been hosted virtually. Opportunity to attend was extended to nurses throughout the health system. Topics included key components of hospice/palliative care, symptom management, conducting difficult conversations, family perspective of EOL care, psychosocial concerns, and ethical considerations. A one-day symposium is held annually and consists of seven one hour presentations. Program success is measured by increased yearly attendance and evaluation feedback. Over the past two years attendance has increased 35%. Nursing experience and a variety of nursing specialties were represented. The symposium received positive feedback with all participants rating the program as valuable or extremely valuable. When assessing perceived knowledge, 45% of participants report they thought they knew a great deal about EOL care but after attending the symposium, realized additional education was needed. Over 60% reported that content expanded their prior knowledge and all attendees report potential clinical practice changes based on symposium content. EOL education is a vital component in comprehensive patient care. Reported practice changes by attendees include: use of therapeutic communication and effective coping mechanisms, involvement of interdisciplinary team, and patient advocacy at EOL. Positive feedback supports symposium longevity. EOL Care Symposium is an education based model providing nurse driven learning tools for comprehensive patient care. Attendees drive program content which differentiates this symposium from other EOL education initiatives.

P360
INTEGRATING EARLY REFERRALS TO ONCOLOGY NUTRITION SERVICES THROUGH THE CANCER NAVIGATION PROGRAM: THE EXPERIENCE AT SYLVESTER COMPREHENSIVE CANCER CENTER (SCCC)

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A cancer navigation program is the entry point for all newly diagnosed cancer patients and the first step in oncology care. Timely referral to cancer support, including nutrition services, is associated with better outcomes. However, referrals to nutrition services, in general, are not made prior to the first appointment with the oncology team. There is a need for protocols that assess and refer oncology patients in a timely manner to nutrition support services to optimize cancer outcomes. The purpose of this project was to describe a nurse-driven protocol that assesses and refers newly diagnosed cancer patients, who meet established criteria, prior to their first appointment to nutrition services. A multi-disciplinary team of navigation, nutrition and nursing leadership developed an evidence-based nurse-driven protocol for early nutrition referral and intervention. Based on the criteria defined in the protocol, nurse navigators may refer newly diagnosed patients to nutrition services at the initial interaction. Patients must meet at least one of the predefined criteria: a diagnosis of head and neck, thyroid, or pancreatic cancer, verbalize an interest in a nutrition consult, receiving total parenteral nutrition or enteral nutrition, and/or report unintentional weight loss of: 1–2% total body weight in one week, 5% of total body weight in one month, or ≥7.5% body weight in 3 months. Among the first 70 patients referred to nutrition services between January-June 2021, mean age was 63.6±11.7 years, 57.1% were male, 81.4% white, 8.6% black or African American, 2.9% Asian, 1.4% Native American, and 28.6% Hispanic. Pancreatic and head and neck were the most common cancer types at 40% and 32.9%, respectively. Average Body Mass Index was 25.8 ±8.7 m/kg^2 with the major-

ity (42.9%) of patients in the normal range and 27.1% overweight, 10% obese, and 2.9% underweight. Out of the 70 patients referred, 54 patients (77.1%) completed at least one appointment with the Registered Dietitian (RD), 33 patients had 1 visit and 21 patients had >1 visit. Utilizing a navigation nurse-driven protocol resulted in early referral and intervention to nutrition services. Results suggest an increase in early access to nutrition services and the number of visits by the RDs. Additional data will inform the decision criteria/algorithms, development of educational resources and provide long-term outcomes of early nutrition referral.

P361
DECREASING TIME FROM CHECKING-IN TO STARTING CHEMOTHERAPY IN THE OUTPATIENT INFUSION CENTER

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More than 80% of chemotherapy occurs in ambulatory oncology settings as cancer incidence rises annually. Despite safe and efficient management of chemotherapy treatments remaining a cornerstone, not all facilities have systems in place to ensure timely receipt of treatments. This causes unnecessary delays in the time from registration to receiving the first chemo/immunotherapy agent. Reducing delays to the time of starting chemotherapy from checking into the outpatient infusion center will promote patient satisfaction and overall clinic flow. The project aims to identify the current length of time from the check-in time to starting treatment and to shorten the time by 25% by ensuring readiness for treatment execution with the PDSA (Plan-Do-Study-Act) cycle framework. Time to start treatment from initial clinic arrival (registration) was 111.50 minutes (1.86 hours) through retrospective chart reviews between 06/2021-09/2021 in 577 encounters of patients 18 years or older who received cancer treatment in the infusion center. Factors impacting delays were identified through discussion with stakeholders. The three phases to improve these factors were 1) the completion of all necessary lab work prior to the appointment, 2) efficient communication between nursing staff about unsigned orders and provider notification, and 3) communication between advanced practice providers to physicians of incomplete orders 24 hours before patient's appointment. Changes to the current system were implemented at completion of each phase of the PDSA cycle. Systematic modification of laboratory orders has been implemented. A new system of internal direct e-mailing to each provider, after chart review at least 24 hours before the appointment, was implemented to complete necessary signatures on orders. Post-implementation results will be available by 04/2022 to reduce waiting times to start chemotherapy. These changes, if successful, will lead to improvement of patient satisfaction and maximized utilization of limited resources. Using a PDSA framework as an organized way for a continuous evaluation process to improve current practice is innovative. Forward-thinking about patient satisfaction and institution's resources for the maximum benefits for patients prior to the new expansion of an outpatient infusion center in November 2022 is also conceptually innovative. Systemic evaluation with a phase-based approach is innovative for overall clinic production, flow, and patient outcomes.

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DOSE DELAYS, DOSE REDUCTIONS, AND RELATIVE TOTAL DOSE INTENSITY IN PATIENTS WITH ADVANCED CANCER WHO EXERCISED DURING NEOADJUVANT CHEMOTHERAPY TREATMENT

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When it comes to chemotherapy, maintaining the dose and schedule of treatment are of vital importance, as clinical evidence suggests that this is associated with optimal treatment outcomes. Yet, dose delays and reductions are common methods of mitigating the chemotherapy-induced side effects of treatment. Despite the fact that maintaining RDI is important to achieve improved outcome, a substantial proportion of patients are given less than 85% of the suggest dose. Exercise has been successfully shown to attenuate chemotherapy-related symptoms that frequently cluster together. In light of importance of maintaining dose intensity, we conducted a retrospective analysis in patients with advanced disease treated with adjuvant or neoadjuvant chemotherapy regimens and who completed exercise training during treatment. After obtaining IRB approval, data were collected retrospectively in a chart review of 184 patients, aged 18 years or older and treated for Stage IIIA-IV cancer. Data collection included baseline patient demographics and clinical characteristics, including age at diagnosis, cancer stage at initial diagnosis, chemotherapy regimen, and planned dose

and schedule. Specific variables that were collected include: cardiovascular changes, treatment-related side effects, treatment compliance, and medications. All patients completed at least 12 weeks of prescribed, individualized exercise. Each program included cardiovascular, resistance training, and flexibility components, and were completed under the supervision of a certified exercise oncology trainer once a week. RDI was measured for each myelosuppressive agent in a regimen over the entire chemotherapy course and then averaged across the myelosuppressive agents in a regimen. An RDI of less than 85% was designated as the clinically meaningful threshold for reduction in RDI based on previously published studies. A considerable proportion of patients across regimens had dose delays (18.3%–74.3%) and dose reductions (18.1%–84.6%). Further between 12% and 83.9% of patients missed at least one dose of a myelosuppressive agent that was part of their standard regimen. Overall, 50.8% of patients received less than 85% of the RDI. Patients with advanced cancer who adhered to their exercise regimen, chemotherapy dose delays and dose reductions were relatively common among tumor types and treatment regimens. However, these delays and reductions occurred significantly less frequently than previously published data.

P363
GENETIC COUNSELING AND RISK ASSESSMENT REVIEW FOR BREAST CANCER

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Evaluation of our process in hematology/oncology regarding genetic counseling for breast cancer (BC). Commission on Cancer accreditation requires review of our genetic counseling and risk assessment process. As a comprehensive community cancer center, our resources don't include on site genetic counseling. We are continually looking for ways to improve our referral process. This year, our Cancer Committee chose BC as our site of interest. BC is one of our top five sites. The purpose of this project was to review our process and look for opportunities to improve patient care/outcomes. Interventions: A quality study using NCCN guidelines to review 12 months of newly diagnosed BC cases looking for testing ordered and referrals completed for patients who met criteria. Evaluations: Completed at each quarterly Cancer Committee with input from our regional genetic counseling resource. Innovation: Future state will include more involvement with our regional and system partners. Our primary resource feedback = that all patients who meet criteria for genetic testing should be referred for genetic counseling. More information pending first quarter 2022 CC discussion.

P364
UTILIZING NURSE NAVIGATION FOR OUTPATIENT MASTECTOMIES WITH OR WITHOUT RECONSTRUCTION

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Historically, patients undergoing mastectomy surgeries at John Muir Health (JMH) required a one-night admission for postoperative care, pain management, and education support. However, research studies show that implementing Enhanced Recovery After Surgery (ERAS) pathways and patient education improves outcomes for mastectomy patients. These pathways improve patient satisfaction and reduce hospital stay. JMH Nurse Navigator (NN), Nurse Practitioner (NP), and Breast Surgeon aimed to utilize ERAS pathways and patient education for patients undergoing a mastectomy procedure. Patient preoperative education by an NN/NP is essential to improving postoperative recovery and decreasing patients' fears and anxieties. This quality improvement project aims to decrease the length of stay for patients undergoing a mastectomy by utilizing nurse navigation patient education. The multidisciplinary team created a plan to implement ERAS pathways for mastectomy patients to decrease the length of stay. The NN developed the program by following our surgeon through a clinic day, surgery, and conducting a direct patient observation during a surgical day to understand the patient care flow. The NN created education sheets in both English and Spanish. In addition, the program provided a 1:1 in-person or virtual education that covers preoperative and postoperative instructions. In addition, the surgery, patient care flow, postoperative exercises, care of the drain, and instructions when to contact the surgeon postoperatively are reviewed. The NN/NP saw 140 patients. 112/140 patients (80%) were discharged same day, and the average length of stay was reduced to a 13-hour stay. 12 patients did stay overnight postoperatively for observation due to side effects of anesthesia and medical history. Overall, there was an 80% decrease in overnight stays. In addition, 112 hospital beds were available. All staff noticed a significant decrease in patient distress after meeting with the NN/NP and going home after surgery. In

addition, there was a substantial reduction in patient fear and distress before surgery. Creating this program has increased the utilization of the NN/NP with a multidisciplinary team approach for the patient. It improved communication for patients, staff, and physicians. It increased the care coordination needed. Due to the wide success, decreased resources, and improved patient satisfaction, our facility will continue to provide the education program for mastectomy patients. We may utilize the concept for other cancer areas, such as colorectal surgeries in the future.

P365
ESTABLISHING A METHOD TO COMPLETE A DISTRESS SCREENING TOOL IN A BUSY AMBULATORY CANCER CENTER. ONE NEW YORK CITY CANCER CENTER'S EXPERIENCE

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The Commission on Cancer (CoC) requires a distress screening be implemented that evaluates and addresses the psychological, social, financial, and behavioral issues that can interfere with their treatment plan and adversely affect outcome. Distress screening surveys assess the biopsychosocial well-being of patients at least once during cancer care and offer follow-up support appropriate to identified needs, patient interest and stressors. Documentation is made on each follow-up procedure. The distress screening protocol was developed in response to the American College of Surgeons Standard 5.2. It aims to ensure that comprehensive and holistic quality care is delivered to the oncology patient population. Clinical staff collects a Distress Screening for the patient receiving treatment to gather information about patient's feelings related to emotional, psychosocial, spiritual and physical distress. Distress screening furthers our commitment to excellence in care by finding out more about our patients and improving their knowledge of and access to support services. It is given to the patient at pivotal points of care: at the second visit and every three months subsequently (or during the next visit after 3 month time period). The purpose of this project was to introduce a best practice utilized at one Cancer Center to assist staff in completing the screener tool and improving patient outcomes. The tool is completed by the Medical Office Assistants (MOA's) as per the guidelines above. While it was designed to be completed electronically barriers to this were noted by the staff. This included, poor internet access, unfamiliarity with utilization of an IPAD and inadequate time between arrival and patient visit. The MOA's created a printed version of the screening tool in multiple languages to facilitate completion. By instituting the above practice we were able to increase our completion rate by 50%. Barriers still in place include adequate staffing and time for completion. However, this best practice has allowed for improvement in responses and increased ownership by the Medical Office Assistants.

P366
DEVELOPMENT AND IMPLEMENTATION OF AN INFUSION NURSE CHEMOTHERAPY GUIDE

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Safety is a concern in every hospital system. Several chemotherapy errors were analyzed at a Midwestern Veteran Affairs Medical Center (MWVAMC). The root cause of these errors is the infusion clinic Registered Nurses (RNs) were oriented and subsequently operated without a dedicated, clinic-specific chemotherapy guide. RN chemotherapeutic drug and administration knowledge relied heavily on the individual RN's experience. The dissemination of information often occurred informally between hematologists/ oncologists (MDs), Pharmacists (PharmD), and RNs within the department. The RNs often garnered chemotherapeutic drug and administration information via various internet sources (Clinical Pharmacology, UpToDate, Micromedex, Google search) and face-to-face communication with pharmacists and doctors. Errors included missed/unscheduled treatments, overdosing, double-dosing patients, and drug administration via the incorrect route; subcutaneous (SQ) instead of intravenous (IV). This capstone project aims to develop and implement a dedicated chemotherapy guide for MWVAMC infusion clinic RNs to increase and improve their self-reported and tested knowledge and practice. This proposal suggests that improving infusion clinic RN practice will reduce the rate of chemotherapy drug errors, thus improving patient outcomes.

P367
INTERDISCIPLINARY APPROACH TO EFFECTIVE MANAGEMENT OF SEPSIS IN OUTPATIENT ONCOLOGY EVALUATION AND TREATMENT CENTER

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Evaluation Treatment Center staff brought up concern about delayed antibiotic administration from the time of order. Internal audit from September 1, 2020, to November 15, 2020, showed an average of 151.6 minutes from arrival to antibiotic administration, 55.16 minutes from arrival to blood cultures, 91.2 minutes from arrival to order of antibiotics, and 61 minutes from order to antibiotic administration. The audit did not meet national guideline of antibiotic administration of 60 minutes from identifying sepsis symptoms. The ETC Sepsis Dashboard showed ETC Sepsis mortality rate of 7.3 for 2020 Q4. Multiple contributing factors caused the delays that need to be addressed collaboratively with different disciplines involved in delivering timely care for oncology patients presenting with fever in the ETC. The purpose of this project was to improve the management of oncology patients presenting in the Evaluation and Treatment Center (ETC) with Sepsis. An ETC Sepsis Committee is formed, including ETC staff, Nurse Managers, Medical Director, Outpatient Pharmacy Manager, Phlebotomy Supervisor, Clinical Pathology Supervisor, and Clinical Practice Educator. ETC implemented surviving sepsis campaign by establishing an ETC internal sepsis committee, institution of internal ETC code sepsis, utilization of standardized practice ETC RN-driven sepsis protocol, updated the fever order set in the EHR, and educating ETC providers and nurses in the unit. The ETC Manager and charge nurse performed monthly chart audit that is reviewed and discussed by ETC Sepsis Committee to address workflow issues. From January 2021 to October 2021, there was a significant decrease in the timeframe from arrival to antibiotic administration of 59 minutes, arrival to blood cultures of 33 minutes, arrival to order of antibiotics of 15 minutes, and order to antibiotic administration of 53 minutes. The ETC Sepsis Dashboard showed mortality rate of 1.27 in 2021 Q2 and 0.0 in 2021 Q3. The ETC Sepsis committee meets monthly to discuss results of the chart audits and collaboratively address issues that arise. The ETC Sepsis committee interventions and outcomes are shared in staff meetings and huddles. The development of internal ETC code sepsis response to meet one-hour timeline and utilization of the ETC RN-driven sepsis protocol gave frontline staff member clear guidelines necessary to improve the response time for treatment of sepsis in oncology outpatient that significantly improved ETC sepsis mortality rate.

P368
RETURN TO BREAST CANCER SCREENING LEARNING COLLABORATIVE AND STUDY

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The early detection of cancer is essential to improving the length and quality of life for all populations (American Cancer Society, 2021). Unfortunately, one of the most significant impacts of the COVID-19 pandemic has been the dramatic reductions of routine cancer screenings across the United States (American Cancer Society, 2021). Closures or limited hours of radiology departments, public fears of contracting COVID-19 at a medical facility, and loss of medical insurance and employment were a few of the major barriers for obtaining routine cancer screenings in 2020. To help reverse the routine breast cancer screening losses experienced at the onset of the pandemic in 2020, Northeast Georgia Medical Center (NGMC) united with the American Cancer Society (ACS), the American College of Surgeons Commission on Cancer (CoC) and many other health systems and clinics across the United States in a 6-month quality improvement project journey and clinical study. The project AIM statement of the learning collaborative and clinical study was to increase mammography screening rates by 10% over pre-pandemic/pandemic rates using evidence-based interventions. Specifically, the NGMC goal was to perform 217 additional screening mammograms each month from June 1 through November 30, 2021, and to directly target women and providers of women in rural, low-income, and minority populations in Northeast Georgia who may have been adversely affected by the pandemic. In addition to the screening goals, accreditation goals and stewardship goals were set by the Cancer Program at NGMC. With the successful completion of the learning collaborative and clinical study, the American College of Surgeons CoC Standard 8.3, Standard 7.3, and Standard 9.1 would be fulfilled for the Cancer Program CoC Accreditation. Additionally, ACS provided grant funding of $20,000 to NGMC to assist in the implementation of the evidence-based interventions and to help reduce screening disparities. Through national and local interdisciplinary collaboration and use of evidence-based interventions, the goal of increasing screening mammograms by 10% of pre-pandemic/

pandemic was achieved. Furthermore, the 6-month project goal of increasing screening mammograms to 1,302 was exceeded by 920 mammograms.

RESEARCH

P303
A PHASE 2 STUDY EVALUATING THE ADDITION OF UBLITUXIMAB AND UMBRALISIB (U2) TO IBRUTINIB IN PATIENTS WITH CHRONIC LYMPHOCYTIC LEUKEMIA (CLL): A MINIMAL RESIDUAL DISEASE (MRD)-DRIVEN, TIME-LIMITED APPROACH

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While time-limited novel agent combinations have demonstrated high overall response rates and durable responses for patients with chronic lymphocytic leukemia (CLL), these patients may have high rates of adverse events and there remains a risk of overtreating patients. To address these patient care challenges, we utilized an "add-on" and MRD based, time-limited therapy approach with combination therapy after a period of ibrutinib monotherapy. In a phase II clinical trial, we examined the addition of umbralisib (a selective PI3Kδ and casein kinase-1epsilon [CK1ε] inhibitor) and ublituximab (a novel anti-CD20 monoclonal antibody glycoengineered for enhanced antibody-dependent cellular cytotoxicity), to ibrutinib in CLL patients with detectable minimal residual disease. Rate of undetectable MRD (uMRD), safety, and duration of clinical benefit after treatment discontinuation was analyzed. Eligible patients were receiving ongoing ibrutinib for a minimum of 6 months with detectable MRD. Umbralisib (800mg orally daily) and ublituximab (IV 900 mg on Days 1/2 [split 150/750 mg], 8, and 15 of Cycle 1, Day 1 of Cycles 2–6, and on Day 1 every 3 cycles after Cycle 6) were added to ibrutinib, and patients MRD status was monitored starting on Cycle 3 Day 1. Once uMRD confirmed, patients entered treatment-free observation (TFO). Patients without uMRD confirmed, continued treatment up to 24 cycles followed by TFO. U2 was added to ibrutinib in 26 patients, median age 63 years, and 77% male. Median time to first uMRD was 5 months. A total of 16 patients (67%) entered TFO with a median of 242 days off therapy (range 5–538 days). TFO appears durable, and 73% remain uMRD at last follow up. No patient has required re-treatment per iwCLL criteria. U2 added onto ibrutinib was well tolerated with low rates of all-causality grade 3/4 adverse events of special interest including ALT/AST increase (4%), diarrhea (4%), and hypertension (8%). Two patients discontinued all therapy due to rash; both were uMRD at the time of treatment discontinuation and remain uMRD. This novel patient care approach of "add-on" combination therapy was well tolerated and effective, with achievement of uMRD in 71% of evaluable patients allowing for tailored, time-limited therapy and sustained treatment-free observation. This approach may assist nurses with patient care challenges such as management of adverse events due to indefinite ibrutinib therapy.

P304
"WHAT MATTERS MOST": EXPERIENCES OF ADULTS WITH ADVANCED CANCER AT ENROLLMENT ON EARLY PHASE CLINICAL TRIALS

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The purpose of this project was to explore and describe what is important to adults with advanced cancer enrolling on early phase oncology clinical trials (EP-CTs). EP-CTs investigate novel treatment options, with recent advances in personalized therapy leading to increased response rates, decreased toxicity, and improved survival. These trials are offering new hope as the future of cancer therapy. Participants often present with a mixture of hope that the trial will provide benefit, a realistic awareness that it may not, and the uncertainty of having a serious illness with an uncertain future. There is limited data regarding hopes and worries of participants at the time of enrollment. Adults with cancer who consented to an EP-CT were approached to participate in this descriptive study. Data were collected to obtain baseline characteristics (demographics and clinical factors), clinical outcomes, receipt of supportive care

services, and longitudinal patient-reported outcomes. Self-reported assessments included quality of life, symptom burden and distress, coping, hope, anxiety and depression, financial toxicity, prognostic awareness, and parenting concerns. Semi-structured interviews were conducted at the time of enrollment on an EP-CT. Analysis was conducted using NVivo and SPSS software programs. Fifty-one adults (median age = 57.9 years [range 31.8–80.1 years]) completed interviews. More than half were female (n=31, 60.8%) and 98.0% had metastatic cancer. The most common cancer types were gastrointestinal (47.1%), breast (23.5%), and lung (7.8%). Half (51.0%) had received three or more lines of prior therapy at the time of enrollment to the EP-CT. Subjects described "What Matters Most" within six major subthemes related to physical effects, outcomes, quality of life, surviving, family concerns, and the health care team. Findings provide an understanding of the multiple dimensions of what is important to persons initiating an EP-CT. This study is innovative in seeking to understand patient hopes and contributes important insights about what is important at EP-CT enrollment. This study provides knowledge for nurses to anticipate psychosocial and physical concerns at EP-CT enrollment to better care for this population in a demanding and highly regulated environment. Knowledge directly acquired from patient experiences is needed to design care and interventions. Findings provide important insights and implications for education and psychosocial support, as well as a foundation for future research to inform intervention development.

P305
EVALUATING EXPERIENCES AT DIAGNOSIS: SOUTHERN COMMUNITY COHORT STUDY OF CANCER SURVIVORS

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Despite a reduction in incidence and mortality through 2021, cancer continues to be the second leading cause of death in the United States. Access to health care services impacts a timely cancer diagnosis and treatment including critical information to navigate cancer survivorship. The purpose of this study is to investigate Southern US adults' perspectives on cancer testing wait-times and treatment information. A chi-square test or Fisher's exact test as appropriate was used to investigate the relationships between testing and social economic status (SES) factors at disease diagnosis (providers explanation of wait times and appropriate information). Participants are representative of the Southern Community Cohort Study (SCCS) of adults diagnosed with breast (n=263), prostate (n=195), lung (n=46), colorectal (n=105), or other cancers (n=526). This study includes all cancer survivors who completed the SCCS Baseline and Cancer Navigation Survey. A chi-square test was used to examine the relationship between a patient's visit with a provider about their testing and wait time for their results, and information about treatment. The relationship between these variables was significant for wait-times between all household incomes (p=0.0498), participants employed (p= 0.0001), and education level (p= 0.0286) for test results. A Fisher's exact test found a significant association between race and wait-time for test results (p= 0.046). Participants had a higher satisfaction with information received for test results across all age groups (p=0.0114). Participants who were employed had a greater satisfaction in receiving enough information by the provider on test results than individuals in the unemployed group (p=0.0460). We also found that participants who were employed were more satisfied with information received by providers about symptoms and side effects post treatment (p=0.0036) than those who were unemployed. The SCCS population represents individuals that are historically underrepresented in cancer research. The results of this study will have broad implications across diverse populations and communities to reduce cancer disparities and inform models of care. Nurses are positioned to design and lead interventions that will benefit socially and economically under-resourced communities.

P306
THE IMPACT OF TELEHEALTH ON NURSING CARE IN THE RADIATION ONCOLOGY SETTING DURING THE COVID-19 PANDEMIC

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Despite the literature about the use of telehealth in healthcare delivery to cancer patients, there is lack of research delineating the impact of telehealth on nursing care in radiation oncology. The purpose of this study is to explore care patterns and understand the impact of telehealth on nursing care in the radiation oncology setting at a comprehensive cancer center

during the COVID-19 pandemic. In this study, focus group interviews were used to gather qualitative data from 2 groups of radiation oncology nurses, and institutional quantitative data was utilized to describe current patient care patterns during the study period. This poster will present the qualitative and quantitative findings from this study. Radiation oncology nurses' responses reflected themes describing: 1) the evolution of nurses' roles during the transition to telehealth, 2) the benefits and constraints of the institution's technological infrastructure, and 3) the resilience of the human element within the telehealth environment. Focus group discussions addressed changes to patient education and staff resources related to telehealth including matters of privacy and confidentiality and availability of technological support for remote work. Despite these changes, institutional data confirmed that telehealth did not have a negative effect on patient understanding of side effects and expectations during treatment (during pre-treatment consult, only 12% of patients preferred office visits, while 82% did not find a difference in quality of nursing education provided). Similarly, patients actively undergoing radiation therapy were satisfied with their level of preparation for treatment visits (99% of patients rated staff communication about visits as satisfactory, while 98% felt they were adequately prepared for their visits). Study results support radiation oncology nurses' ability to provide quality patient care using telehealth and will guide the expansion of current telehealth models of care for radiation oncology patients. Additional research on telehealth care outcomes among patients receiving radiation is warranted. Radiation oncology nursing practice must be expanded to include telehealth care, particularly for non-local and international patients. This research can be used to guide oncology nursing practice when caring for patients using telehealth and should be an addition to oncology nursing orientation. Ongoing analysis of patient and caregiver knowledge related to telehealth is recommended.

P307
A BLOG TEXT ANALYSIS TO EXPLORE PSYCHOSOCIAL SUPPORT IN ADOLESCENTS AND YOUNG ADULTS WITH CANCER

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The achievement of developmental milestones of adolescents and young adults (AYAs) is significantly challenged by a cancer diagnosis and treatment. In order to help with challenges in AYAs with cancer, various types of psychosocial support have been studied to cope with cancer and seek optimal well-being. However, despite differences among AYAs' developmental stages, AYAs with cancer are often treated as a homogenous group in research and hospital settings. The purpose of the study is to identify and compare psychosocial support that facilitate the well-being of AYAs with cancer by age including emerging adulthood (18–25 years) and young adulthood (26–39 years) and gender including male and female. There are both quantitative and qualitative analyses presented in this study to analyze AYAs' perceived psychosocial support as expressed on an online cancer community. Themes were identified using a qualitative method with content analysis, and quantitative methods with Chi-square test were used to compare themes by age and gender. Seven themes emerged: coping skill building, self-transcendence, family support, support from friends, professional support, peer support including online and offline support groups, and accommodation including school and work. However, there were no significant differences in the frequency of posts at $p < .05$ between age and gender groups within each theme. Regardless of statistical significance, how they described support was qualitatively different. As coping strategies, emerging adults read books, played video games, watched movies or tv shows, and listened to music. Young adults were more likely to meditate, exercise, or engage in writing. Males were more likely to discuss support from friends as consisting of doing activities together (e.g., watching movies and playing video games), but females were more likely to describe support from friends such as physical and emotional presence during cancer treatment and staying in touch and maintaining communication. The fact that this study, which utilized an emerging methodology (i.e., text analysis of social media blogs), yielded findings generally consistent with previous research, tends to corroborate the importance of coping strategies, social supports, and timely information for AYAs. This study suggests critical opportunities for nurses along with other providers to contribute their support to AYAs' perceived psychosocial support throughout AYAs' cancer journeys.

P308
A SURVEY OF CANCER SCREENING BEHAVIORS AND TRIGGERS IN Z CITY, JAPAN

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Japan provides free or partially publicly-funded medical checkups for residents, during which basic tests are conducted. Recommended early-detection tests at partial recipient expense include screenings for colorectal, stomach, lung, cervical, breast, and prostate cancers along with the hepatitis virus. Some recipients chose only basic examinations whereas some also underwent cancer screenings. In Z city, the six cancer screenings and hepatitis virus tests are provided free of charge or partially at public expense. However, the cancer screening uptake rate in Z city is low compared to that in other Japanese municipalities. The purpose of this study was to clarify the factors that influence behaviors of cancer screening recipients in Z city and their triggers for screening. A questionnaire survey was conducted on health checkup recipients in Z city. The survey items investigated triggers for undergoing cancer screening, behaviors involved in undergoing cancer screening, and factors influencing the behaviors of those who undergo cancer screening. Descriptive statistics were used for statistical analysis, and the results were compared and verified using the 2 test. Questionnaires were distributed to 5468 persons, and responses were obtained from 2003 persons (recovery rate: 36.6%, valid response rate: 89.0%). The participants were 64.4 ± 13.3 years old (mean ± SD), and 708 (40.0%) were men. The most common reasons for undergoing cancer screening were "health management" (56.8%), "information from the city" (52.0%), and "for early detection" (46.9%). Fewer respondents selected "attending lecture" (0.3%), "media coverage" (1.8%), "having a relative/acquaintance take the screening" (4.4%), "recommendation by a relative/acquaintance" (4.8%), and "recommendation by family doctor" (6.1%). In terms of behaviors for colorectal, lung, and stomach cancer screenings, those who ate breakfast every day, participated in community activities, had underlying diseases, and had regular medical checkups had significantly higher screening rates. For cervical and breast cancer screenings, the uptake rate was significantly higher among those who were concerned about having cancer. These results suggest that a high level of concern for health is a trigger for cancer screening behaviors, and that recommendations from others are unlikely to be a trigger. In the future, the characteristics of subjects with low uptake rates should be clarified, and interventions that increase interest in health and uptake of cancer screening are required.

P309
USING THERAPY DOGS TO DECREASE LEVELS OF ACUTE WORKPLACE STRESS IN ONCOLOGY NURSES

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On our medical oncology units, patients can be hospitalized for prolonged periods, often with several stays per year; while this continuity builds rapport and exceptional care, it also exposes nurses to the risks of secondary trauma as they bear witness to pain and suffering of these patients. As these experiences are considered "part of the job", nurses tend to simply accept them, leaving the underlying emotional discomfort unaddressed. Currently, our facility has minimal resources easily available to nurses during regular work hours. There are programs available to patients experiencing acute anxiety/stress including certified and highly-vetted therapy dogs. It has been shown that high levels of compassion fatigue and burnout leads to poor resiliency, low retention, and contributes to nursing shortages especially in oncology, reflected in our staffing rates. Additionally, nurses unable to appropriately cope with personal distress may find it difficult to adequately address psychosocial needs of patients. Having an already accepted patient resource available to also address nurses' needs "in the moment" could lead to increased resiliency and retention. A literature review was conducted to compile evidence supporting the design of a therapy dog program, the aim of which is reducing self-reported stress and anxiety among nurses during working hours. The proposed method of conducting this program is through weekly scheduled sessions where inpatient nurses can visit with approved therapy dogs/handlers in an easily accessible location in the main hospital. Participants will be self-selected and recruitment through emails detailing the program as well as flyers in communal areas on inpatient units. In order to evaluate the effectiveness of visits, participants are asked to complete the 6-Item State Trait Anxiety Inventory before and after the visit; the intended outcome is to show a decrease in score from before interacting with therapy dogs to after. The ultimate goal is to demonstrate the benefit of implementing a

program for nurses to address feelings of occupational stress/anxiety as they occur rather than push them aside allowing them to build, leading to burnout and compassion fatigue. Not only will this directly serve the well-being of nurses, but will indirectly lead to improved patient care as nurses feel more equipped to deal with stressful environments.

P310
MEDITATION FOR ANXIETY IN STRESSFUL SITUATIONS (MASS): VACCINATING ONCOLOGY PATIENTS FOR COVID-19

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Anxiety is common among patients with cancer, and the COVID-19 pandemic has heightened overall distress for many. Identification of methods to reduce distress is an ONS priority, and mindful meditation techniques relieve symptoms in circumstances known to produce patient anxiety. During a vaccination campaign for COVID-19 targeted to oncology patients, an assessment of anxiety and the intervention of a brief mindfulness mediation exercise in the immediate post–inoculation period was conducted at a large academic comprehensive cancer center. A 2 arm, quasi-experimental design used cluster randomization to assign patients to a 5 minute mindful meditation recording (intervention) or not (control) during the post-inoculation observation period. Baseline anxiety pre-inoculation was measured with the General Anxiety Disorder-7 (GAD-7) and the Visual Analogue Scale-Anxiety (VAS-A). Post-inoculation, patients listened to the meditation intervention then completed a second VAS-A. Patients in the control arm completed a VAS-A and then had the opportunity to hear the meditation. Participants were recruited at a hospital run vaccine clinic. All study elements were conducted electronically on the patient's smartphone including enrollment and data entry via REDCap's QR code and self-administration of the mindful meditation recording. 243 patients enrolled in the study. Findings from the GAD-7 assessment revealed that 86.01% of participants were found to have minimal-mild anxiety prior to receiving their COVID-19 vaccination while 13.99% had moderate to severe anxiety. VAS-A data was analyzed using a Welch Two Sample t-test and found intervention recipients current state of anxiety significantly decreased post mindfulness meditation intervention, regardless of baseline reported anxiety (GAD-7). Among the intervention group, the mean VAS-A pre score was 35.59 and the VAS-A post score was 25.53. The change in reported anxiety within the intervention group decreased significantly by –10.12 points (P=.005), an indication of a calmer state. Among the control group, the mean VAS-A pre score was 35.12 and VAS-A post score was 32.18, demonstrating no significant decrease in anxiety. These results support the use of a brief mindfulness meditation delivered in the immediate COVID-19 post inoculation waiting period. This intervention is innovative and widely scalable due to its simplicity, low to no cost budget requirements, and non-pharmacological nature. This creates an opportunity for this intervention to be administered in a variety of healthcare settings.

P311
A SURVEY ON RECOGNITION ABOUT CANCER GENOMIC PROFILING AMONG PATIENTS WITH CANCER

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The objective of this project was to assess the recognition about cancer genomic profiling among patients with cancer. 265 patients with cancer who visited a 4 center for cancer genomics from October 2019 to September 2021 were enrolled. A questionnaire on cancer genomic profiling was administered. The survey items included questions on recognition and concerns about the test, information they need, accessible resources, and handling of test results. Survey results were simply tabulated. Results: 1. The participants consisted of 117 men and 142 women, with a mean age of 58.29 ± 11.99 years. Six patients did not respond to the survey. 114 (53.2%) participants had stage 4 cancer. 2. 82.3% of the participants were recognition of the term "cancer genome profiling," 34.0% were recognition of the contents of the test, 18.9% were recognition of hereditary tumor, and 26.4% were recognition of secondary findings. 3. Concerns included cost (40.4%) and accuracy (37.4%) of the test. 4. Information needed included treatment after the test (75.8%). 5. Acces-

sible resources included healthcare professionals (71.7%), the internet (50.2%), and consulting room in hospital (36.6%). 6. 89.4% of the participants wanted to share the test results with their family. Since June 2019, cancer genomic profiling have been covered by the national health insurance, in Japan. Our results showed that recognition about hereditary tumor and secondary findings was low among patients, suggesting the need for genomic counseling service for these patients. This study was conducted with a research grant from Grants-in-Aid for Scientific Research.

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IMMUNOTHERAPY PATIENT EXPERIENCE: A CROSS-SECTIONAL SURVEY OF PATIENT KNOWLEDGE, EXPECTATIONS, AND INFORMATION SEEKING STRATEGIES

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Immunotherapy, especially immune-checkpoint inhibitors, extends the promise of longer life to cancer patients with severe disease. But immune-related adverse events of treatment can seriously compromise quality of life. Few studies examine immunotherapy patients' expectations of treatment or patients' decisions for seeking more information or managing side effects. The purpose of this innovative study is to characterize the experience of persons with cancer who have been treated with immunotherapy from the perspective of the patient. A cross-sectional survey addressed the range of patient experiences with immunotherapy side effects including 1) knowledge about treatment; 2) expectations about treatment; 3) experience with side effects; and 4) information seeking strategies. Data analysis includes descriptive statistics; free text responses will be analyzed with content analysis. To date, 294 out of 940 (31%) potential participants responded to the survey. Preliminary analysis describes participants as reporting primarily lung cancer (31.3%), melanoma (17.2%), and renal cancer (14.4%). The top treatment expectations included "help me live longer" (73.9%), "cure the cancer" (48.2%), and "improve my life quality" (43%). Most (74.3%) felt treatment would be "effective" against cancer. Most participants did not experience a side effect serious enough to affect sleep, eating, daily activities, or caring for another. When a side effect was experienced, tiredness was most common. Side effects were managed by calling their oncologist (38.1%), calling the cancer center nurse (28%), discussing it with family (19.5%), and treating it themselves (17.5%). Patients learned about immunotherapy from their oncologist (89.5%) and if learned about it from media, found television informative (66.7%). When not feeling well from treatment, 67.2% relied on their spouse or partner for support; 13.6% had no one to rely on. Additional data analysis will include examining factors associated with patients' expectations of immunotherapy, their management of side effects, and their choices of information sources. This study characterizes the treatment experience of patients with cancer on immunotherapy, a first step towards identifying patients at risk for a higher symptom burden of treatment. Patients often report treatment side effects to oncology nurses who also serve as patient educators. The findings of this study will help improve the treatment and management of immunotherapy side effects and inform immunotherapy patient education and side effect reporting processes.

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COGNITIVE BEHAVIORAL THERAPY FOR INSOMNIA COMORBID WITH CANCER

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Insomnia is highly prevalent in the oncology population and can impact patients' quality of life. Medications are commonly used to treat insomnia comorbid with cancer, but other options such as cognitive behavioral therapy may be effective. Pubmed, PsychINFO and CINAHL were searched for articles pertaining to the use of cognitive behavioral therapy specifically for the treatment of insomnia in patients who had been diagnosed with cancer. The available articles were assessed with Bowling's criteria for quantitative and mixed methods analysis. Cognitive behavioral therapy has been successfully used to treat insomnia in cancer survivors. A variety of treatment models have been studied including group, web-based and video formats as well as telemedicine delivery. Modified approaches that used some, but not all of the CBT-I techniques were also successful in improving insomnia comorbid with cancer. Based on this literature review, it can be concluded that cognitive behavioral therapy is effective for treating insomnia in breast cancer survivors. More work needs to be done to include other types of cancer as well as indigenous people and people of color. There is a lack of evidence supporting its use in people undergoing cancer treatment as well as those

that have advanced cancer. Although effective, CBT-I is underutilized. Nurses and APPs can be trained to provide this treatment in general clinic visits. Innovations in telemedicine, telehealth, and other virtual formats can provide greater access for patients.

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EXPLORING PATIENTS' UNDERSTANDING OF CHEMOTHERAPY-INDUCED PERIPHERAL NEUROPATHY AT THE BEGINNING OF NEUROTOXIC CHEMOTHERAPY INITIATION

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Approximately 70% of individuals receiving neurotoxic cancer treatment (e.g., taxanes or platinums) will develop chemotherapy-induced peripheral neuropathy (CIPN), a dose-limiting and disabling side effect. Little is known about patients' level of understanding of CIPN at chemotherapy initiation that would enable them to effectively identify and report symptoms to clinicians during chemotherapy. The purpose of this cross-sectional analysis was to describe knowledge and education patterns surrounding CIPN among adults beginning neurotoxic chemotherapy. Adults who had received fewer than three infusions of neurotoxic chemotherapy at the time of consent were eligible for participation from Dana-Farber Cancer Institute. Participants completed a REDCap questionnaire that prompted respondents to describe the symptoms and frequency of CIPN and CIPN education received from their clinician. Participants' responses to each question were described. Participants (N=67) were mainly female (78%), white (91%), diagnosed with breast (48%) or gastrointestinal (36%) cancers, and experiencing ≥ mild CIPN severity (45%). About a third of participants (24/65, 37%) reported that CIPN occurs in <30% of adults receiving neurotoxic chemotherapy. Participants without CIPN (n=37) were less likely to expect to develop CIPN during treatment than participants with ≥ mild CIPN (n=30) at the time of the survey (30% vs. 77%). Participants without CIPN (n=37) were also more likely to be unaware of CIPN as a side effect than participants with ≥ mild CIPN (n=30) (35% vs. 3%). Prior to beginning treatment, 72% (46/67) of participants reported receiving education about CIPN from their doctor or nurse. Most participants received education about CIPN symptoms (43/46, 93%) and when to report CIPN during treatment (25/46, 54%). Conversely, fewer participants reported receiving education about CIPN management (8/46, 17%) or the impact of CIPN on chemotherapy dosing (10/46, 22%) or physical functioning (14/46, 30%). Results revealed that a substantial proportion of participants beginning neurotoxic chemotherapy were unaware of the incidence or adverse consequences of CIPN. Few quantitative studies have explored patients' education and knowledge patterns surrounding CIPN prior to neurotoxic chemotherapy. The findings provide impetus for the development of CIPN education interventions to increase patients' activation in CIPN self-management behaviors. The development of interventions to promote patient-clinician education and communication about CIPN during treatment are needed to promote the early identification and management of CIPN to decrease the likelihood of chronic CIPN development.

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ONCOLOGY CLINICIAN'S PERCEPTIONS OF BREAST/CHEST CANCER CARE FOR SEX AND GENDER MINORITY SURVIVORS

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Sex and Gender Minority (SGM) breast/chest cancer patients receive disparate care throughout the cancer care continuum, often dissatisfied with their healthcare experience. Marginalization and discrimination of this population have precluded a culturally informed understanding of barriers to equitable cancer care. Clinician communication and shared treatment decision-making play a key role in SGM breast/chest health outcomes. Research on oncology clinician training, practice, and personal experiences is needed to inform culturally sensitive, preference-concordant models of care. This study aims to examine oncology clinician's perceptions about SGM breast/chest cancer care needs and barriers to providing equitable care. This prospective qualitative study leveraged a community-engaged approach through partnership with a Community Ad-

visory Board to ensure development of acceptable and sustainable interventions. Self-reported clinical and sociodemographic data was collected through online surveys and qualitative data via semi-structured interviews. A convenience sample of licensed clinical professionals in the state who care for breast/chest cancer patients (including nurses, social workers, physicians, and others) was recruited from a large Midwestern academic cancer center, as well as state-wide health professional networks and social media. Sociodemographic data was characterized with descriptive statistics. Interview sessions are audio-recorded, transcribed, independently coded using NVivo qualitative software, and analyzed with grounded theory qualitative analysis to identify emergent themes. The mean age of this sample (n=13) was 48.8; the majority (84.6%) of respondents were Caucasian (7.7% Hispanic/Latino, 15.4% Asian), (92.3%) female, and (84.6%) heterosexual, with a mean of 17.38 years of clinical practice. Preliminary analysis of this on-going study yielded variability in clinician training, experiences, and comfort level in providing SGM cancer care, across clinical disciplines (6 Medical Oncology, 2 Surgical Oncology, 3 Radiation Oncology, and 2 Other) and clinician roles (6 APPs, 3 Physicians, 2 Social Workers, 2 Other). Majority (61.5%) of respondents reported confidence in comfort level of treating LGBTQ patients, but only (38.5%) report being knowledgeable about transgender health needs, with a majority (92.3%) expressing interest in further education about SGM health needs. Self-reported unawareness of available resources and inadequate training signal opportunities for improvements in clinical education, resources, and interventions to improve shared decision-making, patient education, and communication for SGM cancer care. Further research is needed to elucidate the effectiveness of existing trainings in improving patient outcomes.

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THE IMPORTANCE OF PATIENT DECISION AIDS FOR DECISIONS ABOUT CANCER TREATMENT: A QUALITATIVE SYSTEMATIC REVIEW

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Meta-analysis has been used to understand the effectiveness of patient decision aids (PtDAs) in supporting patients' medical decisions. However, there are limited systemic reviews identifying which aspects of PtDAs patients with cancer find particularly beneficial to help them make a decision for their first-line of cancer treatment. This study examined the qualitative evidence on what key elements, from end users' perspectives, of PtDAs enhance treatment choice for patients with cancer. We used a meta-aggregative approach to identify published studies with qualitative evidence from the CINAHL, Ovid-MEDLINE, PsycINFO, and Embase databases. We selected studies that involved adults with a cancer diagnosis. The phenomenon of interest and the context for this review were patients' experiences of using PtDAs for decisions about first-line cancer treatment. Two independent reviewers immersed themselves in repeated readings of the text, then rated the level of credibility of the extracted findings to determine whether the accompanying illustrations retrieved from published studies supported the findings. A total of 13 studies that met the inclusion/exclusion criteria were included. When consensus was achieved among reviewers, 5 synthesized findings emerged: (1) content included in PtDAs should be structured in an informative, straightforward, and accessible way (i.e., portable and publicly available); (2) content related to treatment options should be balanced and unbiased, using an appropriate amount of information; (3) information about the progression of the disease and the treatment should be presented using graphs, pie charts, and/or statistics instead of narrative terms; (4) nurses should be involved in helping patients formulate questions prior to clinical encounters; and (5) a written summary and/or audio-recording of patients' medical consultations should be provided to give patients the opportunity to review their decision-making process. This review uses an innovative method to identify what components of PtDAs are particularly beneficial for patients with cancer during their decision-making process. As patients with cancer may have difficulty making decisions for their treatment, future studies can incorporate these five identified elements during the development of PtDAs. Additionally, the guidelines of the International Patient Decision Aid Standards Collaboration could also be used to enhance patients' understanding of treatment options to facilitate their decision-making process with healthcare providers.

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A PHENOMENOLOGICAL STUDY OF PEDIATRIC CANCER CAREGIVERS'

PERCEPTIONS OF POST-DIAGNOSIS TEACHING

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Educating a family in which a child has received a cancer diagnosis presents a unique set of challenges. In order to be effective, nurses must navigate varying levels of education, learner stress, and divergent treatment pathways. However, standardization of family education has only recently emerged as a research priority. Moreover, while standardized education materials have been published, the implementation of and caregivers' response to those materials has not been studied. The aim of this project was to understand how caregivers of pediatric solid tumor patients perceive the education they received at and following diagnosis, and whether their perceptions of important information aligned with the standardized education checklist created by the Children's Oncology Group (COG). A qualitative, phenomenological design comprised of semi-structured virtual interviews with caregivers was used for this study. Six caregivers were recruited by the hematology-oncology unit director of a 229-bed children's hospital. The recorded interviews were transcribed, field notes completed, and two research investigators independently identified themes in the transcribed interviews. Identified themes were congruent across reviewers. Analysis was performed using NVivo software to analyze the themes identified. The results of the qualitative analyses revealed four major themes: (1) topics identified by COG as of primary importance were effectively communicated; (2) the shock of diagnosis affected caregivers' ability to comprehend information; (3) education was viewed as a starting point for independent research and advocacy; and (4) education instilled realistic hope and enhanced ability to cope in families. Although the hospital did not expressly utilize the checklist for education, findings indicated consensus among families that topics outlined in the COG Education Checklist were effectively covered in education at and following diagnosis. The themes found in these interviews highlight that, while topics of importance are effectively taught to parents, room for improvement remains in meeting the psychosocial needs of this population. This finding is consistent with prior research, which suggests that families value broader psychosocial education beyond topics immediately related to patient care. Utilizing education to increase coping among families remains a future target for research and interview.

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COMBINED EXERCISE AND GAME-BASED COGNITIVE TRAINING INTERVENTION: CORRELATIVE STUDY OF NEUROTROPHIC AND INFLAMMATORY BIOMARKERS FOR WOMEN WITH BREAST CANCER

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Research is on-going to develop effective interventions to prevent and/or mitigate cognitive effects of cancer and cancer therapy and to determine the mechanism(s) involved. Interventional research to improve cognitive function for cancer survivors must be combined with concurrent investigation of potential mechanism(s) such as increase in neuroprotective factors and reduction of inflammatory cytokines to fully understand and refine effective interventions. The purpose of this correlative prospective randomized controlled pilot was to investigate biomarkers related to potential mechanism(s) of an intervention designed to improve cognitive function in breast cancer survivors (BCS). Study aims included: 1) Describe neuroprotective (neurotrophic and growth) factors and inflammatory biomarker levels at three timepoints for the intervention and wait-list control groups; 2) Compare the change in neuroprotective factors and inflammatory biomarker levels between groups; and 3) Explore the relationship between change in neuroprotective factors and inflammatory biomarker levels with change in cognitive function. Fingerstick bloodspot samples were collected at three timepoints (baseline-T1, four-T2, and sixteen-T3 weeks) from 30 BCS (15-control, 15-intervention) participating in a 4-week combined exercise and game-based cognitive training study. Biomarker assays were conducted for neuroprotective factors (brain-derived neurotrophic factor, insulin growth factor-1, vascular endothelial growth factor) and inflammatory biomarkers (tumor necrosis factor-α, C-reactive protein, interleukins (IL)-1β, IL-6, IL-8). Levels were compared between T1/T2, T2/T3, and T1/T3 with Wilcoxon rank sum test. Cognitive

function was assessed by participants' self-report (Functional Assessment Cancer Therapy-Cognition Function) and neurocognitive test performance (Trail making tests (TMT) A and B). Pairwise correlation coefficients between changes in biomarkers and changes in mean scores for self-report of cognitive function and performance on neurocognitive tests were calculated. Associations between the longitudinal changes in outcomes and change scores in covariates were examined with mixed models. Separate models were analyzed for self-report and neurocognitive test performance while controlling for potential confounders, including: fatigue, anxiety, depression and pertinent demographics. Significant increases in IGF-1 were noted for the intervention group at all timepoints ($p<.01$). Improvement in TMT B performance correlated with increases in IGF-1 ($r=-0.31$, $p=.02$) but the association is not significant in the mixed model. IGF-1 increases were not correlated with self-report of activity level or intervention dose. Results of this small pilot suggest further investigation of IGF-1 levels is warranted related to potential mechanisms for this intervention.

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COGNITIVE IMPAIRMENT IN OLDER ADULTS WITH ACUTE MYELOID LEUKEMIA WHO WERE RECEIVING CHEMOTHERAPY: A PRELIMINARY QUALITATIVE ANALYSIS

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Cognitive impairment has been observed in cancer survivors who receive chemotherapy. With this impairment, survivors may experience medication nonadherence, reduced work performance, and a lower quality of life. Intensive chemotherapy is widely used for treating acute myeloid leukemia (AML); however, chemotherapy may be intolerable for those who are suffering from comorbidities, with reduced physical function, or the elderly. Therefore, hypomethylating agents in combination with Venetoclax (HMA+VEN) chemotherapy have been approved for those who are precluded from intensive chemotherapy. However, little research focuses on understanding older adults' experiences and exploring cognitive function during chemotherapy. Hence, it is important for oncology nurses to develop and understanding of the experiences of cognitive impairment among older adults diagnosed with AML. The purpose of this study was explore cognitive impairment experiences in AML patients who receive HMA+VEN chemotherapy. In this preliminary analysis of a prospective longitudinal study, 11 older adults with AML were recruited using purposive sampling. Semi-structured interviews were conducted at the second cycle of HMA+VEN chemotherapy. All interviews were audio-recorded and transcribed verbatim. Two researchers conducted thematic content analysis using the Atlas.ti and discussed all the codes to reach consensus. The mean age of the participants was 73.45± 9.0 years with a range between 64 and 89 years, the majority were male (72.7%), White (90.9%), married (54.6%), and high school graduates (63.6%). Four main themes were identified: cognitive impairment experiences, perceived risk factors, impact of cognitive impairment, and coping strategies. For cognitive impairment experiences, participants mentioned forgetting names/dates/events, refocusing life priorities, and having difficulties finding or recalling right/proper words. Perceived risk factors included cancer treatment, overwhelming information and tasks, and age. The impacts of cognitive impairment were feeling frustrated/upset and interfering daily tasks. To cope with cognitive impairment, participants would pause and think, seek others' support, and take notes/written reminders as strategies. Findings reveal that the older adults with AML experience cognitive difficulties during chemotherapy. Understanding their experiences, risk factors, impact, and coping strategies provides oncology nurses an opportunity to intervene and support patients and caregivers earlier. This study is innovative because this is the first study to explore experiences of cognitive impairment in older adults with AML during chemotherapy using a qualitative approach.

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BENEFICIAL EFFECTS OF VIRTUAL REALITY-BASED NATURE EXPOSURE ON COGNITIVE PERFORMANCE IN CHEMOTHERAPY-TREATED BREAST CANCER SURVIVORS EXPERIENCING COGNITIVE DIFFICULTIES

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Exposure to natural environments is known to produce cognitive benefits in various healthy and clinical populations. However, a considerable number of people cannot maintain the ideal human-nature interaction because of barriers such as limited physical functions, risks to infection, or long distance from home to nature. Virtual reality (VR) has been introduced as a promising technology that can offer a chance to deliver vivid visual and auditory stimuli of nature. A growing body of literature suggests that interacting with virtual nature can contribute to enhanced cognitive health through restorativeness in natural environments. Thus, this study was conducted to evaluate the effect of VR-based nature exposure on cognitive performance in women with cognitive difficulties after chemotherapy for breast cancer. This study is a double-blind randomized controlled pilot trial. Thirty-eight patients were included, 20 participants in the 4-week intervention group and 18 participants in the waitlist control group. Primary outcomes were assessed by using a computer-based cognitive test battery (CNS Vital Signs, CNSVS) and self-reported cognitive function at baseline (T1), 4 weeks (T2), and 8 weeks later since baseline (T3). Secondary outcomes included depression, fatigue, and sleep. Repeated measures analysis of variance was performed to determine the change in cognitive performance over time. Overall cognitive function was similar between the VR and the control groups, with 23% and 29% below average performance at baseline. A significant group by time interaction on overall scores on CNSVS was found. The VR group showed a rapid increase between T1 (37.92) and T2 (54.95) and continuous increase between T2 and T3 (62.15), while the control group had a slight increase between T1 (37.64) and T2 (46.29) and plateau between T2 and T3 (49.61). This is a first report of a randomized, double-blind, waitlist-controlled trial for evaluating cognitive benefits induced by a 4-week intervention in women with cognitive complaints within two years after chemotherapy for non-metastatic breast cancer. This study provided VR-based nature exposure as a feasible intervention that can improve cognitive outcomes in cancer patients and survivors after chemotherapy.

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FATIGUE AS A KEY FACTOR OF COGNITIVE FUNCTION IN COLORECTAL CANCER SURVIVORS

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Post-treatment cognitive dysfunction has been found in 15–75% of colorectal cancer patients. A recent meta-analysis reported that the neurocognitive effect of chemotherapy was not clear in colorectal cancer survivors, suggesting a need for consideration of other key factors such as age and fatigue. According to the attention restoration theory (ART), cognitive performance can be improved by engaging in restorative activities and diminishing high cognitive demands requiring attentional effort. Therefore, this study aimed to examine the association between post-treatment cognitive function and factors selected from the ART and other works among colorectal cancer survivors. This is a correlational study with 168 Individuals treated with or without chemotherapy following surgical treatment for non-metastatic colorectal cancer. Cognitive function was assessed with the computerized test (Attention Network Test, ANT) and a self-report measure (Attentional Function Index). Other self-report measures were used to assess family support and individual's restorative activities. After removing data from individuals with accuracy scores lower than 50% in the practice set, the final analysis was performed. The multivariable linear regressions were used to identify the association between ANT performance and factors selected based on the attention restoration theory. There was no significant difference in cancer stages and interval since cancer diagnosis between the final sample and individuals who were not included due to poor ANT practice performance. Fatigue was found as the only common factor associated with error rates and reaction times of the ANT, when controlling for demographic (age, education), clinical (cancer stage, months since diagnosis, receiving chemotherapy), and beneficial factors (restorative activities, family support). Furthermore, greater fatigue was associated with a wider interval in error rates of the executive control network ($p<.05$). Self-reported cognition was related to fatigue and restorative activities when controlling for the same

covariates (p<.01). Post-treatment cognitive function could be significantly explained by key factors selected from the attention restoration theory. Therefore, post-treatment intervention should target both treatment-related fatigue and restorative activities to improve the cognitive outcomes of individuals treated with various treatments for non-metastatic colorectal cancer. This is the first study to investigate objectively-measured and self-reported attention function and to highlight the impact of fatigue on post-treatment attention function among colorectal cancer survivors.

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FACTORS ASSOCIATED WITH GENETIC TESTING AND FAMILY RISK COMMUNICATION AMONG RACIALLY/ETHNICALLY DIVERSE YOUNG BREAST CANCER SURVIVORS

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Current guidelines recommend multi-gene panel testing for hereditary breast and ovarian cancer (HBOC) syndrome as the standard of care for all young women diagnosed with breast cancer before age 45 years, regardless of race/ethnicity. However, racial and ethnic disparities in genetic testing completion and genetic testing results have been well documented among breast cancer patients. Black and Hispanic/Latina women are not completing genetic testing at the same rates as White women, despite similar prevalence and in some cases higher rates of HBOC pathogenic variants. This gap in testing is concerning because breast cancer disproportionately affects Black women with a 39% higher mortality rate compared to White women, contributing to cancer health disparities. The purpose of this project was to conduct a sequential explanatory mixed-methods study to identify factors associated with completion of HBOC multigene panel testing and family risk communication among racially/ethnically diverse young breast cancer survivors, to compare prevalence and types of pathogenic variants in HBOC cancer susceptibility genes, and to examine racial differences in multilevel factors and patient reported outcomes. We will conduct a cross sectional survey, electronic medical record review, and focus groups among 300 (Black, Hispanic/Latina, and non-Hispanic White) young breast cancer patients and survivors diagnosed within the past 5 years in Florida and New York. Focus groups will explore beliefs, attitudes, barriers, preferences for an intervention, and feedback about an existing intervention. Descriptive statistics, correlation, t-test, analysis of variances, and multiple regression will be used to answer research questions. Qualitative data will be audio record and transcribed verbatim. Grounded theory will be used to analyze the qualitative focus group data. Research is ongoing. Data analysis is pending. Findings will improve our understanding of the experiences and needs of Black and Hispanic/Latina young breast cancer survivors and will inform the tailoring and cultural adaptation of a web-based intervention[9] to empower cancer survivors and their at-risk family members with education and resources to make informed decisions about genetic testing, risk-reduction, and family risk communication. A comprehensive understanding of BRCA1/2 germline genetics in Black and Hispanic women is warranted to address health disparities.

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THE USEFULNESS OF THE NYU ELECTRONIC PATIENT VISIT ASSESSMENT (EPVA)© FOR HEAD AND NECK CANCER IN ESTABLISHING SYMPTOM BURDEN CUTPOINTS

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Cutpoints of health care measures as threshold values are useful to trigger alerts to providers for timely interventions. The NYU head and neck cancer (HNC) team created the Electronic Patient Visit Assessment (ePVA)© as a mHealth patient-reported symptom measure for early detection of uncontrolled symptoms. This analysis aims to determine the usefulness of the ePVA to identify useful cutpoints to indicate patients' symptom burden. This study is a retrospective analysis of data collected from 98 individuals with HNC recruited during or after cancer treatment. Patients completed the ePVA followed by the European Organization for Research and Treatment of Cancer (EORTC©) QLQ-C30 v3.0 quality of life survey. The ePVA is a valid, reliable patient-reported symptom measure consisting of binomial items (yes/no) representing participants' perception of the presence or absence of the symptom. A sum of symptoms was used to represent symptom burden. The EORTC© is a valid, reliable measure frequently used in HNC studies. The scale consists of 30 questions that build subscales measuring health-related quality of life (HRQoL) and physical, role, emotional, and social

function. The subscale scores range from 0 (worst) to 100 (best). The analyses included descriptive statistics and Analysis of Variance (ANOVA). The study population's characteristics were mean age 61 (SD = 11), and primarily male (65%), White (78%), oral cavity/oropharyngeal cancer (56%), and stage IV disease (54%). The population was divided into categories of low (0-7 symptoms, n=37), medium (8–12 symptoms, n=37), and high symptom burden (≥ 13 symptoms, n=24). Analyses demonstrated all symptom burden categories were significantly related to patient-reported HRQoL (F=24.18, p <.0001), physical function (F=25.59, p<.0001), role function (F=25.40, p<.0001), and social function (F=47.74, p<.0001), where higher symptom burden was associated with lower HRQoL and function scores. The study findings support that the ePVA may be useful in establishing cutpoints of symptom burden for patients with HNC. However, stakeholder involvement, including oncology clinicians and patients, is vital to establish and implement meaningful symptom burden cutpoints that yield actionable information and time-saving workflows to improve patient outcomes. Use of symptom burden cutpoints may help trigger time-sensitive interventions, preventing hospitalizations and treatment complications.

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USING SMART HEALTH TECHNOLOGY TO EXPLORE ENVIRONMENTAL CORRELATES OF BREAKTHROUGH CANCER PAIN

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Cancer pain affects over 90% of patients with advanced disease and is primarily managed in the home setting. 'Breakthrough' cancer pain (i.e., acute pain events) can be particularly difficult, negatively impacting quality of life for both patients and family caregivers. Smart health technology offers unique opportunities to better understand factors that contribute to breakthrough cancer pain. The purpose of this project was to deploy a smart health remote sensing system developed by our team (Behavioral and Environmental Sensing and Intervention for Cancer, BESI-C) to understand environmental factors that may influence cancer pain in the home context. Dyads of adult patients with advanced cancer pain and their primary family caregivers were recruited from an outpatient palliative care clinic. BESI-C was deployed in dyad homes for approximately 2 weeks and collected data via smart watches and environmental sensors. Smart watches allowed participants to mark and describe patient pain events from their own perspective, and also collected basic physiological data. Environmental sensors passively collected data related to light, ambient noise, barometric pressure, temperature, and humidity. Anonymized data streams were integrated, cleaned, and Python software used to explore relationships between environmental factors and reported pain events. 5 deployments (n=10 participants; 5 dyads of patients and caregivers) were completed; over 300 patient pain events were recorded. Between, and within, each dyad we found significant variability in the degree and direction of correlation between environmental variables and pain reports with severity >5/10 on the numeric rating scale. For individual participants, moderate positive associations were found between pain and humidity (r=0.43, patient) and pain and temperature (r=0.33, caregiver); a moderate negative association was found between pain and light (r= –0.36, patient). The strongest positive correlation was found between pain and ambient noise (r=0.53, caregiver). Understanding individual and dyadic 'profiles' related to how environmental factors influence cancer pain can inform targeted interventions deployed in real-time to optimize symptom self-management. This is especially relevant as environmental factors in the home context may be particularly amenable to high impact, low intensity modifications that can improve patient and caregiver quality of life. BESI-C offers exciting opportunities to remotely support patients and caregivers, improve equitable access to quality pain management, and provide critical data to oncology clinicians to guide pain management treatment plans.

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GAINING INSIGHT INTO USING THE GERIATRIC ASSESSMENT FOR FUNCTIONAL STATUS INTERVENTIONS

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Older adults with cancer are at risk of vulnerabilities including a decline in physical function during chemotherapy treatment. The geriatric assessment (GA) is recommended in the oncology clinical setting and a functional assessment is a key component. Based upon GA results, a recommendation for referral to Physical Therapy (PT) and/or Occupational Therapy (OT) may be warranted. The Geriatric Assessment-Driven Intervention (GAIN) randomized clinical trial (RCT) included patients age ≥65 with a solid tumor malignancy beginning a new chemotherapy regimen. All patients completed a GA and were randomized in a 2:1 ratio to either the GAIN (intervention) or the standard of care (SOC) arm. The Nurse Practitioner reviewed results and implemented the interventions in the GAIN arm. The top recommendations in the GAIN RCT found that needs identified in the GA Functional Status components generated the most recommended interventions. We evaluated the patients who triggered a referral to PT or OT and percentage of patients who accepted the referral in both the GAIN and SOC arms. A total of 605 patients were enrolled between 2015 to 2019 with an average age of 71 years (65-91), 59% female, and 71% with Stage IV cancer. Common cancer types were gastrointestinal (33%), breast (23%), lung (16%), and genitourinary (15%). With functional status needs identified as the top recommendation starting a new chemotherapy regimen, recognizing barriers and opportunities to accepting and completing a referral to PT/OT is key. The total number of recommendations and referrals in each arm will be reported and the association between GA variables and acceptance of referrals will be explored. The GA identified functional status needs with a recommendation for PT and/or OT. Functional status is an important indicator of an individual's ability to perform normal activities and fulfill basic needs. The GA as an evidence-based tool is used to identify needs of the older adult with cancer and is recommended by the National Comprehensive Cancer Network, the American Society of Clinical Oncology, and the International Society of Geriatric Oncology to improve the care of OA with cancer. A review of the top approaches including functional status will further provide an understanding of the GA's utility as an innovative tool.

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ORAL MEDICATION ADHERENCE, ATTITUDE, AND QUALITY OF LIFE IN OLDER ADULTS WITH CANCER: THE IMPACT OF MOTIVATIONAL INTERVIEWING

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Oral medication adherence in the older adult with cancer, age 65 years and older, is a significant clinical problem. Adherence rates are estimated at only 50%, which can lead to suboptimal treatment efficacy, poor symptom control, and reduced survival. This clinical problem is of interest due to the growing, vulnerable population of older adults with cancer and the increasing number of oral medications for cancer treatment. Patient attitudes and beliefs can improve oral medication adherence and quality of life, while reducing unnecessary emergency room visits, and hospitalizations. Motivational interviewing (MI) is a communication intervention that has been shown to improve oral medication adherence in persons with chronic illness, including cancer. The purpose of this evidence-based practice (EBP) project was to explore the influence of MI on adherence and attitudes to oral oncology medications, and the impact on health-related quality of life in the older adult with cancer. The advanced practice registered nurse (APRN) applied the MI intervention via telehealth during 3 encounters: 1) baseline, within 1–12 months after starting an oral oncology medication, 2) 2 weeks after the baseline visit, and 3) 4–6 weeks following the initial encounter. Enrolled participants (n=15) were predominantly white, non-Hispanic women with advanced cancer, on multiple oral medications. Five qualitative themes were identified: Access to Medication, Taking the Medication, Side Effects, Psychological Aspects/Coping, and Health-Related Quality of Life. Quantitative data identified: 1) all participants (100%) in the "action" and "maintenance" Stages of Change; 2) treatment beliefs and medication-taking behaviors improved with the MI intervention, with little change in attitude, inconvenience, and forgetfulness; 3) physical quality of life remained unchanged; however, mental health quality of life improved over time. This EBP project addressed a gap in care with follow up and communication with older adults with cancer, particularly during the Covid-19 pandemic. Education and patient-provider relationships are essential for

oral therapy management; however, continued virtual assessment of symptoms and adherence following the start of oral medication therapy may be critical for improved patient outcomes. MI is an intervention that may promote continued communication, better quality of life, and improved oral adherence.

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EXPLORATORY ANALYSES OF SYMPTOM CLUSTER CHANGE DURING CHEMOTHERAPY IN WOMEN WITH BREAST CANCER RECEIVING CHEMOTHERAPY

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Symptom management aims to reduce symptom burden to improve quality of life of people affected by cancer through prevention and early detection. In cancer, patients experience multiple occurring symptoms that are related to each other. Most research focus on single symptom, however, there is a need to define characteristics of symptom clusters, priority symptom clusters and underlying mechanisms to develop targeted interventions, and new strategies. The study aimed to identify symptom clusters (SCs) and their change over time during chemotherapy (CTX) among women with breast cancer. This secondary analysis of a pilot study consisted of women with breast cancer receiving CTX in a medical oncology outpatient clinic between November 2019–January 2021 in Turkey. Participants were assessed three times: at first (Time1), third (Time2), and last (fourth) chemotherapy (Time3). Data were collected using the Edmonton Symptom Assessment System. As this is an exploratory study, a principal component analysis (PCA) was used to identify symptom clusters based on the severity dimension with direct oblique rotation. The best fit of symptom clusters was evaluated based on the following criteria: 1) simple structure; 2) total variance explained by the SCs; and 3) internal reliability of the SCs measured by Cronbach's alpha. The symptoms with a factor loading less than .40 were excluded from a cluster. A symptom cluster was accepted if it had a Cronbach's alpha of .70 or greater; with symptom-total correlations greater than .30. Three SCs were identified at the first, third, and the last CTX: Psychological (Psyc) Gastrointestinal (GI) and Skin-related (Sr). The SCs, the number, and the type of symptoms in each SC changed over time during chemotherapy. Only the Psyc SCs, consisting of pain, tiredness, depression, anxiety, drowsiness, and wellbeing, was consistent over the chemotherapy with additional symptoms including lack of appetite and constipation at the third and last CTX. As symptoms' severity changes over chemotherapy, symptom clusters change in particularly number and type of symptoms. Further research is needed to evaluate how each symptom effects each other and factors effecting these SCs during the chemotherapy.

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RELATIONSHIPS BETWEEN SYMPTOMS, SYMPTOM CLUSTERS, POSITIVE PSYCHOLOGY, AND QUALITY OF LIFE AMONG COLORECTAL CANCER SURVIVORS DURING ACUTE CANCER SURVIVORSHIP: A CROSS-SECTIONAL STUDY

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Colorectal cancer (CRC) survivors, persons diagnosed with cancer of the digestive tract, colon, or rectum, are living longer, well beyond 20-years post-diagnosis. However, CRC survivors continue to report adverse outcomes (symptoms), contributing to a reduced quality of life (QoL). Strategies that improve QoL, like positive psychology (positive changes associated with a cancer diagnosis), are increasingly important. Therefore, this study examined CRC survivors' symptom and symptom cluster characteristics (occurrence, frequency, and severity), positive psychology (the sum of benefit-finding and post-traumatic growth), and QoL, and determined whether positive psychology moderates the relationship between symptoms and QoL during acute cancer survivorship, time from diagnosis to treatment completion. A cross-sectional study of 117 CRC survivors (age M=55, 66% male, colon cancer 66%, post-diagnosis month M=25) completed questionnaires on demographic, symptoms (Therapy-Related Symptom Checklist), QoL (Quality of Life Inventory), and positive psychology (sum of Carver Benefit Finding Scale and Post-Traumatic Growth Inventory). Descriptive statistics, multiple linear regression, and moderation analyses (SPSS PROCESS macro (Model 1)) were performed. CRC survivors reported high QoL (94%, M=5.15) and moderate-high positive psychology (75%,

M=3.21) during acute cancer survivorship. Nineteen symptoms and five symptom clusters were inversely related to QoL. Positive psychology (M=~≥3.40) moderated the relationship between QoL and (a) occurrence of 10 symptoms (fatigue, pain, dizziness, difficulty concentration, depression, painful defecation, and abdominal cramping), (b) severity of dizziness, and (c) the daily and almost daily occurrence of generalized symptom cluster (weakness, fatigue, dizziness, drowsy, sleep disturbances, and pain). Positive psychology could impact symptom management and QoL during acute cancer survivorship; understanding factors that enhance positive psychology is necessary to improve health-related outcomes. Nurses are poised to identify, prevent, promote, and advocate self-management skills to foster positive adjustment among survivors. Nurses that identify survivors that are not adjusting well to cancer can intervene and direct the survivor to psychosocial care to help improve positive psychology. Nurse researchers should investigate whether positive psychology levels vary across cancer populations, survivorship, and symptom trajectories. Moreover, nurses-led interventions need to address positive psychology; nurses are at the forefront of screening and implicating self-management strategies to promote positive psychology and health-related outcomes.

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THE IMPACT OF LIVING WITH ADVANCED OR RECURRENT CANCER ON COMMUNICATION AND SOCIALIZATION FOR ETHNICALLY DIVERSE OLDER ADULTS IN AN URBAN SETTING

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The purpose of this project was to explore the impact of advanced or recurrent cancer on socialization and communication in ethnically diverse older adults. The number of older Americans is projected to double by 2030. Cancer is primarily a disease of older adults. People aged 60 and older comprise most new cancer cases. Minorities are more likely to present with advanced cancer. In low-income neighborhoods minority patients with cancer have reported power imbalances between themselves and providers, and lack of social support resulting in poorer outcomes. Semi structured interviews were conducted, audiotaped, and transcribed. The interview guide included stem questions and secondary probing questions to explore the impact of advanced or recurrent cancer on lifestyle, coping, patient experience, and communication with the multidisciplinary healthcare team. ATLAS.ti was used to facilitate coding and analysis. This is the qualitative component of a mixed methods study which included 31 community dwelling participants. The demographics were 64.5% male, 52% African American 23% Caucasian, 19% Hispanic and 6% mixed/other. Mean age was 70. The most common diseases were 32% prostate, 29% head and neck, 10 % breast and 29% various diseases. Patients identified a broad range of experiences when describing the impact of cancer on their lives (e g. "nothing is different", "little has changed" and "changed dramatically"). The initial grand tour questions sometimes prompted responses that cancer did not have much effect but probing questions elicited responses showing feelings of loneliness, and isolation due to physical and emotional limitations (e.g. inability to take part in activities, see grandchildren, family, and dating). They reported providers listened to their concerns and offered encouraging words but patients also expressed frustration communicating with providers (e.g. "he never told me anything", "buttering me up or something", "I'm not sure", "Dr X is hard to read"). Our findings demonstrated socialization losses for several of our participants which resulted in negative experiences. With communication the power imbalances found in the literature were identified in our findings. Patients felt providers were not honest or forthcoming with details on treatments, diagnosis, or prognosis. These perceived obstacles caused patients to limit interactions with providers. Nurses should facilitate communication by providing accurate information to promote a therapeutic relationship with the patients and acknowledge patient informational and supportive needs.

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THE GERIATRIC NUTRITIONAL RISK INDEX (GNRI) AND HIGH-SENSITIVITY MODIFIED GLASGOW PROGNOSTIC SCALE (HS-MGPS) IN LUNG AND UPPER GASTROINTESTINAL CANCERS

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Cachexia, characterized by unintentional weight and muscle losses and systemic inflammation, is prevalent in lung and UGI cancers resulting in decreased quality of life and increased mortality. The GNRI and hs-mGPS

may have clinical utility using commonly available data to predict cancer prognosis. The purpose of the study was to describe GNRI and hs-mGPS scores in UGI and lung cancers and investigate how these values impact cancers with high-risk cachexia differently. Descriptive, comparative, cross-sectional analysis utilizing the 2015-2016 and 2017-2018 National Health and Nutrition Examination Surveys (NHANES) data. Inclusion criteria: diagnosis of UGI (Esophageal, liver, pancreas, stomach) or Lung cancer. Measurements: demographics, GNRI, hs-mGPS. GNRI calculated using Lorentz formula for ideal weight (WLo): men:H –100-[(H -150)/4]; women:H-100-[(H - 150)/2.5]. GNRI=[1.489 x albumin(g/L)] + [41.7 x (weight/WLo)]. Lower GNRI score indicates higher nutritional risk. Hs-mGPS scores: assigning a score of 2 (hsCRP >3mg/L and albumin<35g/L), 1(hsCRP>3mg/L and albumin ≥35g/L), and 0 (hsCRP ≤3mg/L and albumin ≥35g/L). Statistical analysis: t-tests and chi-square. Higher hs-mGPS indicates worse prognosis. Twenty-one participants were diagnosed with UGI and 22 with lung cancer. Mean age of 43 participants was 67.5 years, 51% were male, and 58% were non-Hispanic white. Mean GNRI was 100.3. Hs-mGPS showed 41.86% scored 0, 51.16% scored 1, and 6.98% scored 2. The mean GNRI scores were 100.6 for UGI and 100.0 for lung cancers. In UGI, the hs-mGPS showed 9.52% scored 2, and 42.86% scored 1. In lung cancer, the hs-mGPS showed 4.55% scored 2, and 59.09% scored 1. No significant differences were found in age (p=0.1038), sex (p=0.3660), race (p=0.7597), mean GNRI (p=0.7460), and hs-mGPS (p=0.5631) between two cancer groups. More findings will be available at the presentation. Clinical variables such as albumin, weight, and CRP are valuable indicators to examine the nutritional status and prognosis in patients with cancer. Findings indicated similarities between UGI and lung cancers because both cancers cause high-risk cachexia. Further research is warranted to calculate the GNRI cut-off score to predict the nutritional risk group associated with developing cachexia. It is innovative to use clinically available data to evaluate the metabolic status, which helps develop early intervention and prevent weight loss in patients with UGI and Lung cancers for better quality of life and decreased mortality.

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IMPLEMENTATION OF A TAILORED PHYSICAL ACTIVITY PROGRAM IN ADULTS WITH ACUTE MYELOID LEUKEMIA DURING POST-INDUCTION TREATMENT

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Acute myeloid leukemia (AML) is an aggressive and debilitating cancer that is associated with prolonged and frequent hospitalizations, multiple symptoms, poor quality of life (QoL), and decreased physical function. Decreased physical function is strong independent risk factor for adverse events and poor survival. Despite this knowledge, there are no physical activity (PA)-focused clinical interventions routinely used to assist adults in their recovery from initial induction treatment. Given that PA programs have been shown to improve and reduce symptoms in many other medically complex clinical/disease contexts, the purpose of this study is to assess the effects and implementation of an evidence-based, individually tailored, and progressive multidomain PA program adapted for adults with AML during post-induction treatment. In this prospective two group randomized controlled trial (RCT) conducted at two National Cancer Institute's designated Comprehensive Cancer Centers over 12 weeks, participants are randomized to either the nurse-led tailored PA intervention with regular coaching or attention-control. The intervention group receives PA education and regular coaching calls for multidomain exercise prescriptions. The control group also receives PA education and regular calls but only for general health and well-being. Physical and cognitive function and patient-reported outcomes for fatigue, sleep, anxiety, depression, and cognition are assessed at baseline, 6 and 12 weeks. Participants (N=40, 67% of target) have been enrolled to-date. Data collection is ongoing. Findings detailing the feasibility and acceptability of conducting and participating in a tailored multidomain PA RCT during a global pandemic will be presented. The cumulative experiences of the research team and the study participants will help to inform future research strategies and approaches while also informing clinical care. This is the first study, to our knowledge, to use a tailored multidomain PA intervention to improve the physical function, symptoms and QoL of adults with AML during post-induction treatment. Importantly, this intervention can facilitate interprofessional collaborations among oncology nurses, physical therapists, and occupational therapists to support patients with AML.

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NURSING INTERVENTION STRATEGIES TO PROMOTE PATIENT ENGAGEMENT (PE) IN CANCER PATIENTS: A QUALITATIVE STUDY

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The active involvement of the patient in the oncology setting is considered fundamental to more effective care and to achieve a satisfactory quality of life. The nurse has a key role in promoting PE through communication and the therapeutic relationship. The aim of the study was to explore patients' experiences of care regarding nursing behaviours/strategies that made them feel engaged in their healthcare process and nurses' perceptions of those behaviours that they felt were engaging. A qualitative study was performed. Data was collected through semi-structured interviews with patients and focus groups with oncology nurses. Interviews and focus groups were digitally recorded and transcribed verbatim. A thematic analysis was conducted. Six patients were interviewed and two focus groups performed with a total of 17 nurses during April-May 2021. From the interviews with patients, several themes emerged regarding aspects influencing engagement: knowledge and information as facilitators for engagement, the importance of choice, encouragement from nurses, help to overcome despair and relieve anxiety, active listening, and personalised care. From the focus groups with nurses, themes identified to aid engagement included: tailored information provision with theoretical and practical components, linking with 'expert patients', motivating patients, having a holistic understanding of the person outside of the disease, building trust and actively listening, personalising care pathways, involving caregivers and the importance of the team in terms of communication and peer support. The emerging themes from both interviews and focus groups reflect the cognitive, emotional and behavioural components which when activated give rise to the engagement process. Some themes were considered relevant for both nurses and patients: information, patient motivation, the nurse-patient relationship and personalised care. It was concluded that the results highlighted the use of several behaviours by nurses which are perceived by both nurses and patients as promoting PE. Educating healthcare professionals regarding strategies reported to be effective in promoting PE may encourage a "culture of engagement", thereby facilitating the education of patients, in order to foster an active role in his or her health pathway, awareness and empowerment.

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EVALUATING VINCRISTINE INDUCED PERIPHERAL NEUROPATHY OUTCOMES IN PATIENTS WITH LYMPHOMA

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Chemotherapy induced peripheral neuropathy (CIPN), including vincristine neurotoxicity, is a high priority research area for the National Cancer Institute (NCI). This progressive, debilitating side effect of cancer treatment potentially negatively impacts both disease outcomes as well as the long-term quality of life of cancer survivors. Vincristine is thought to cause neuropathy by interfering with microtubule formation, critical components of nerve fiber axons, leading to mitotic arrest and cell death. Neurofilament light chains (NF-L) are released in response to axonal damage and is emerging as a sensitive blood-based biomarker of axonal degeneration. This prospective pilot study is enrolling up to 23 patients with lymphoma receiving vincristine containing regimens. Patient reported outcome (PRO) measures include the European Organization for Research and Treatment of Cancer-Quality of Life Questionnaire–CIPN-20 (EORTC QLQ CIPN 20) and the Brief Pain Inventory- Short Form (BPI-SF). Clinician-rated outcomes (ClinROs) include the NCI–Common Terminology Criteria for Adverse Events (CTCAE v 5.0). NF-L will be assessed as a possible serum biomarker. Spearman's correlation will be used to test the associations

between NF-L level and future CIPN 20, CTCAE, and BPI scores. Linear and ordinal regression models will be used to test the prediction effects on future CIPN. This pilot study is the first characterize vincristine induced neuropathy with PROs, ClinROs and NF-L. Results include the identification of at-risk patients and will inform future pharmacologic and nonpharmacologic strategies to prevent and/or minimize CIPN through early intervention.

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ACTION REQUIRED: ONCOLOGY NURSES CAN DISENTANGLE END-OF-LIFE PROBLEMS REVEALED DURING COVID-19 PANDEMIC

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Nurses at the forefront of the COVID-19 pandemic have been affected in many unknown ways mentally, emotionally, physically, morally, and spiritually through the overwhelming number of deaths. Oncology nurses are rightfully understood to be clinical experts in end-of-life (EOL) and palliative care (PC) with clinical competencies for holistic care across the disease continuum and oncology certifications that include EOL and PC content for nurses and advanced practice nurses. The purpose of this research study was to describe the lived-experiences of nurses who cared for COVID-19 patients. This presentation will provide insight from nurses' experience from the pandemic to emphasize the lack of EOL education, training and skills. How oncology nurses' knowledge and skills can impact EOL care during the global pandemic will be presented. This unique, IRB-approved study used a phenomenological qualitative design with Uncertainty as the theoretical framework. The study population was nurses working for a health system with 17 acute-care facilities and numerous outpatient services. All nurses at any healthcare setting were invited to participate. An innovative format of virtual focus groups with semi-structured interviews were used to capture nurses' voice, stories, and insights while ensuring safety. Data were transcribed and analyzed using Nvivo® software. Nineteen focus groups with 38 interview participants were conducted between November 2020–April 2021. The research-team coded the data independently and reviewed as a group for consensus. There were 648 codes with 11 related to EOL. Thematic analysis was conducted, 4 themes were identified: 1) Paid a Price for Ignoring EOL, 2) Impact of Advance-Care-Planning/Shared Decision-making, 3) Distressed by Unethical Moral Injury, and 4) Nurse Became the Surrogate for Family Connection and Experience. The themes expose the entanglements non-oncology nurses find themselves in providing EOL care. Participants commonly identified a lack of training in providing EOL nursing. This study revealed that nurses from a variety of clinical backgrounds identify a significant deficit in providing high-quality EOL care. Oncology nurses, educators, leaders, and researchers are well positioned to provide expert directions for other healthcare specialties in adopting, implementing, and evaluating strategies including: clinical symptom management, goals-of-care discussions, advance-care-planning, and shared decision-making. Oncology nurses are highly trusted and esteemed for advocating at EOL and are ideal leaders for improving EOL care among all nurses.

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MORAL DISTRESS: EXPERIENCES IN HEMATOLOGY ONCOLOGY NURSING

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The purpose of this study is to examine the unique processes of moral distress in hematology-oncology nurses. There is evidence of high turnover of nurses in the hematology-oncology setting. Various nursing specialty areas have studied moral distress. However, little is known about triggers and how nurses manage moral distress in the hematology-oncology setting. This is a qualitative study using the grounded theory approach to examine the moral distress experiences of hematology-oncology nurses on inpatient units. A purposeful sample and data saturation yielded 15 nurses who agreed to participate in interviews. Clinical and environmental factors were the main categories of moral distress in hematology-oncology nursing. Becoming aware of conflicting values when caring for patients was the first step nurses experienced prior to implementing protective measures such as blocking emotions. Becoming detached from patient care and the clinical setting was a response in the presence of unresolved moral distress experiences. Moral distress may play a role in hematology-oncology nurses changing their job setting and specialty. The high turnover of nurses may affect the quality indicators

of nurse and patient satisfaction. Recognizing triggers of distressful moral events in hematology-oncology nurses creates the opportunity for the development of interventions towards prevention, anticipation, and management of these experiences. Nurse manger involvement in the daily logistics of patient care in hematology-oncology units is important to support nurses who are dealing with devastating moral experiences.

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METASTATIC MELANOMA OF THE HEART: RETROSPECTIVE COHORT STUDY OF PREVALENCE, CLINICAL CHARACTERISTICS, AND OUTCOMES

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Melanomas are highly aggressive tumors that can metastasize to a wide array of organs, including the heart. Cardiac metastasis is rare and often diagnosed post-mortem due to the elusiveness of clinical presentation. We performed a retrospective cohort study of cardiac metastasis in patients with melanoma to describe the prevalence, patient characteristics, clinical presentation, management, and outcomes in this patient group. We conducted a retrospective review of electronic medical records of all adult (≥18 years) outpatients with metastatic melanoma who underwent evaluation at a metastatic melanoma clinic within a large, comprehensive cancer center between January 2000 to October 2021. Patients with cardiac metastases were identified by manual chart review based on imaging or histopathologic diagnoses of cardiac metastasis. We extracted data on clinical characteristics, imaging findings, management strategies, and patient outcomes. Overall, 23 of 6,054 (0.4%) patients with metastatic melanoma had evidence of cardiac involvement. The most common presenting symptoms at the time of diagnosis of cardiac metastasis were fatigue (35%), dyspnea (30%), and chest pain (26%). Treatment strategies included surgery (78%), immunotherapy (70%), radiation (48%), and chemotherapy (44%). When compared to metastatic melanoma patients without cardiac metastasis, patients with cardiac metastasis were younger at diagnosis (53 vs 62 years; P=0.004), were more likely smokers (61% vs. 7%, P<0.001), and had a higher prevalence of hypertension (57% vs 36%; P=0.039) and anemia (9% vs 2%; P=0.015). Immune checkpoint inhibitors were more commonly used in the treatment of patients with cardiac metastasis (70% vs 10%; P<0.001). Mortality at 5-years for patients with cardiac metastasis was 43%, compared to 13% for those without cardiac metastasis (log-rank P<0.001). This is the largest cohort study examining the prevalence, clinical presentation, treatment, and outcomes of metastatic melanoma to the heart. Cardiac metastasis occurs in <1% of patients with metastatic melanoma, however, is associated with significantly worse mortality. Patients may present with a wide variety of symptoms and oncology nurses should maintain a high index of suspicion for cardiac metastases when patients present with fatigue, shortness of breath, tachycardia, and a history of melanoma. Survivorship care plans should include a thorough history, physical assessment, and appropriate imaging for focusing the differential diagnosis, confirming clinical suspicion, and accurately planning malignancy management to improve outcomes in this group.

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A SCOPING REVIEW OF WORK-RELATED STUDIES IN NURSES DIAGNOSED WITH CANCER

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The current pandemic along with an aging, retiring workforce magnify the national nursing shortage. Health systems are acutely focused on nurse retention to meet patient care needs. An understudied population, however, includes nurses with cancer who may struggle to return to work following a cancer diagnosis or who may leave the workforce altogether due to overwhelming challenges. A systematic understanding is lacking to understand the challenges nurses with cancer are facing while working. This

scoping review aims to identify key work-related issues in nurses diagnosed with cancer, report gaps in the current research evidence, and identify future research priorities. We searched three electronic databases (PubMed, Ovid APA PsycInfo, and EBSCOhost CINAHL) and extracted articles published through October 2021 following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews checklist. Article inclusion criteria included studies with participants who were: (1) adults and registered nurses; (2) priorly diagnosed with an invasive cancer; (3) employed primarily in clinical settings, including clinical practice and managerial work; and articles describing work-related issues. A total of 1402 articles were identified, and eleven papers met the inclusion criteria. Nine of the eleven included studies were qualitative (82%), and two were quantitative (18%). Most study participants were diagnosed with breast cancer (n=159/295, 53.9%). The number of participants varied from 1 to 130 (Mean=26.8; SD=48). The qualitative themes focused on nurses' role changes from being only nurses to being nurses and patients simultaneously, coping with disease/symptoms, emotional adjustments, and challenges at work. The two cross-sectional survey results suggest that workplace spirituality, fatigue, and job stress impacted nurses' quality of work life. There were no studies to understand nurses' primary concerns about work after being diagnosed with cancer. The results illuminate that nurses who are cancer survivors have many work-related concerns focusing on the concepts of new role adjustment, limitations caused by cancer symptoms, and support from colleagues and the workplace. The extracted articles lacked guiding theoretical frameworks which inhibits the ability to build on research findings or identify clear intervention targets. Therefore, more empirical evidence is needed to define the needs of nurses as cancer survivors and develop evidence-based interventions to support their retention in the healthcare workforce.

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A TRAJECTORY EXAMINATION OF PERCEIVED ATTENTIONAL FUNCTION AMONG BREAST CANCER PATIENTS: THE ROLE OF SLEEP DISTURBANCE AND CHEMOTHERAPY

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Changes in attentional function have been reported in approximately 75% of breast cancer patients before, during, and after cancer treatment. Disturbed sleep has been experienced by more patients with breast cancer than those with other cancers. The quality of sleep tends to be reduced from the early stages of cancer treatment, with sleep problems lasting up to one year after treatment. Although sleep disturbance is closely linked to cognitive dysfunction, meaningful associations have not been reported in many studies using common statistical analyses for assessing the effect of sleep on cognition in cancer populations. The latent growth model is a useful approach to tracking changes of longitudinal data over time and testing whether predictors can explain some of the intra-individual variations in initial status and rates of changes. Thus, this study aimed to examine changes in perceived attentional function across a year and to investigate how chemotherapy and disturbed sleep influence these changes in women with breast cancer. One hundred forty women newly diagnosed with non-metastatic breast cancer were recruited from a university cancer center in Korea. The Attentional Function Index and the Pittsburgh Sleep Quality Index were completed before surgery and additional four times through the first 12 months after baseline assessment. The latent growth model using maximum likelihood parameter estimation was performed to examine an unconditional growth curve model including only time and a conditional model with chemotherapy and sleep as predictors in the model. The model has a satisfactory fit to the data (CFI>.90, RMSEA<.08). A significant inter-individual difference in the initial level and the change in perceived attentional function was found. Chemotherapy-treated individuals experienced worse attentional function after chemotherapy initiation, while individuals with disturbed sleep experienced worse attentional function at post-surgery, 6 months, and 1 year later. The present findings showed that the differential trajectories in perceived attentional function were associated with coexisting sleep disturbance and being exposed to chemotherapy for breast cancer. Healthcare professionals may need to consider the effect of individual differences related to disturbed sleep and chemotherapy on attentional function in developing cognitive interventions for cancer patients.

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IMPLEMENTATION OF AN EVIDENCE-BASED PATIENT EDUCATION STOPLIGHT TOOL TO REDUCE CANCER TREATMENT-INDUCED DIARRHEA

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Primary aim was to determine if implementation of a patient education tool for symptom management of chemotherapy-induced diarrhea (CID) reduces 30-day hospital readmissions and emergency department (ED) visits for patients with colon, rectal, gastric, esophageal or pancreatic cancer receiving chemotherapy. CID is a common side effect of chemotherapy treatment for patients with gastrointestinal cancers, which can result in ED visits, hospital admissions and delays in cancer treatment impacting overall survival. Prior research has explored treatment-related symptoms in older cancer patients and supported the need for patient education strategies to promote symptom management. Patient education tools designed in a stoplight format include three areas with green, yellow and red zones with interventions. The tools have improved management of symptoms and reduced readmissions in chronic diseases. No research studies on oncology patients have been done utilizing a stoplight education tool. A quasi-experimental design examined the effect of the CID stoplight tool on participant 30-day hospital readmission and ED visits. Measures included retrospective chart review and a post-survey. A convenience sample of 25 cancer patients received the intervention. Participants identified CID zone prior to initiation of chemotherapy, at each treatment visit, and at home as a guide for symptom management. Nurses assessed CID zone and utilized the Systemic Therapy Induced Diarrhea Assessment Tool (STIDAT), a reliable diarrhea assessment tool to monitor symptoms and CID impact on quality of life. Post-implementation 30-day hospital readmission and ED visit data was collected via chart review. Post-implementation group averaged 8.5 visits and reported average CID stoplight levels: green (no CID symptoms) – 92.42%; yellow (onset of CID with intervention) - 5.7%; red (uncontrolled CID with need for physician or ED visit) - 1.9%. Independent sample t-test compared retrospective and post-implementation 30-day readmission hospital and ED visits. The post-implementation group's 30-day hospital readmissions were reduced ($p<.001$). ED visits were less in the retrospective group ($p< .001$). STIDAT quality of life scores showed bowel changes had the highest impact on activities of daily living averaging 3.79 on a 0–10 scale (no impact to extreme impact). The stoplight tool was effective in reducing 30-day hospital readmissions by empowering patients to manage CID symptoms. Reduction of readmissions is important for immunocompromised patients by decreasing cost and improving satisfaction. Future research with a larger sample is needed.