

Mentorship for Nurse Scientists: Strategies for Growth From the Oncology Nursing Society Research Mentorship Task Force

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PROBLEM STATEMENT: To describe research mentorship strategies needed to strengthen oncology nursing science and ensure that a cadre of nurse scientists are available to carry out the research mission of the Oncology Nursing Society (ONS).

DESIGN: Multimethod consensus-building approach by content experts of the ONS Research Mentorship Task Force and approval by the ONS Board of Directors was employed.

DATA SOURCES: Expert opinion, surveys, notes from an all-day research mentorship retreat, and literature review were used.

ANALYSIS: Content analysis was used to synthesize notes from the research mentorship retreat.

FINDINGS: Various strategies were identified to strengthen the pipeline of oncology nurse scientists and promote development across the career trajectory.

IMPLICATIONS FOR PRACTICE: Mentorship is essential to advance the growth and impact of oncology nursing science and requires support throughout the career trajectory.

KEYWORDS nurse scientist; mentorship; oncology nursing science; career development

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Research that focuses on patients, families, and communities across the cancer care continuum is a central component of the mission of the Oncology Nursing Society ([ONS] n.d.-a). The core values of innovation, excellence, and advocacy are dependent on the creation of new knowledge to advance oncology nursing science. ONS-supported research influences cancer care delivery and positively affects patients and families. These gains are from the work of oncology nurse scientists responsible for a history of rigorous, patient-focused research (ONS, n.d.-b). Current oncology nurse researchers are committed to mentoring the next generation of nurse scientists.

All the roles in oncology nursing are important and require resources, attention, and expertise. The role of the oncology nurse scientist can be wide ranging. Traditionally, most research is developed, funded, implemented, analyzed, and disseminated through the PhD-prepared academic scientist in an institution with research capabilities and within a tenure-track position.

The fledgling oncology nurse scientist working in academic research requires time, institutional and individual support, and skill building through mentorship and socialization to be successful. Although this need is widely recognized in academic settings, the availability of skilled mentors may be lacking in the priority research areas of oncology nursing. Nurse scientists who have experienced some initial success in their research careers also confront significant challenges at each subsequent career phase. The need for later-stage targeted mentorship may not be recognized or facilitated in academic or cancer center settings; mentorship, which has the potential to advance the growth and impact of

oncology nursing science, requires support throughout the career trajectory of a nurse scientist.

ONS recognizes and supports the unique role of the oncology nurse scientist and, in support of this

goal, convened a research mentorship task force in fall 2018. The goal was to discuss the optimal path to ensure that a cadre of nurse scientists is available to carry out the research mission of ONS (Von Ah et al.,

FIGURE 1. Challenges and Strategies Along the Oncology Nursing Research Continuum

PhD Student

Challenges

- Formulate cancer-focused research questions.
- Work with a mentor and mentorship team.
- Acknowledge, develop, and adhere to realistic timelines.
- Determine funding sources for oncology research, as well as how to write a focused application.
- Choose optimal postdoctoral training in oncology.

Strategies

- Oncology training for researchers
- Electronic matching for mentorship
- Assistance with realistic timeline
- Assistance with forming and nurturing supportive cohorts according to level
- Research portal
- Research intensives according to developmental needs
- Funding for PhD students
- Annual gathering (e.g., academic research meeting)

Postdoctoral Research Fellowship

Challenges

- Develop and lead research team.
- Disseminate and grow dissertation findings.
- Acknowledge, develop, and adhere to realistic timelines.
- Determine funding sources for oncology research, as well as how to write a focused application.
- Choose optimal postgraduate faculty position in oncology.

Strategies

- Assistance with realistic timeline
- Assistance with forming and nurturing supportive cohorts according to level
- Research portal
- Research intensives according to developmental needs
- Funding for specific levels along career trajectory
- Annual gathering (e.g., academic research meeting)

First Position: Assistant Professor

Challenges

- Determine research plan.
- Develop and lead research team.
- Develop and adhere to tenure timeline (teaching and service).
- Determine funding sources for oncology research, and produce larger, more focused applications.
- Learn to mentor.

Strategies

- Research portal
- Research intensives according to developmental needs
- Funding for specific levels along career trajectory
- Opportunities for service and mentorship
- Annual gathering (e.g., academic research meeting)

Mid-Career: Associate Professor

Challenges

- Continue momentum (e.g., funding, publications).
- Balance and comfortably limit faculty responsibilities (e.g., teaching, service).
- Lead initiatives for funded research (e.g., larger, several principal investigators, multisite).
- Develop leadership.
- Provide assistance with teaching expertise beyond research.

Strategies

- Research portal
- Funding for specific levels along career trajectory
- Annual gathering (e.g., academic research meeting)
- Opportunities for service and mentorship
- National Center for Faculty Development and Diversity programs for experienced teachers at research-intensive universities

Full Professor

Challenges

- Lead initiatives for funded research (e.g., larger, several principal investigators, multisite).
- Assume leadership positions (e.g., strategic planning for endowed chairs, leadership positions).

Strategies

- Research portal
- Funding for specific levels along career trajectory
- Annual gathering (e.g., academic research meeting)
- Opportunities for service and mentorship

Concluding a Career and Entering Retirement

Challenges

- Decide when and how to retire.
- Conclude and transmit research program.
- Execute a succession plan.
- Choose retirement activities and level of involvement.

Strategies

- Research portal
- Annual gathering (e.g., academic research meeting)
- Visiting scholars opportunities during retirement

2019). Through a series of conference calls and a one-day retreat in January 2019, the research mentorship task force determined the following priorities:

- Focus on PhD nurse scientist mentorship needs.
- Consider pipeline issues, such as recruitment of baccalaureate-prepared nurses into PhD training programs.

Because each issue is so large, with important budgetary and institutional considerations, the research mentorship task force chose to focus on the specific issue of mentoring PhD-prepared nurse scientists in oncology across their career lifespan. The following recommendations were identified, with the objective of supporting oncology nurse scientists across their research trajectory in a developmental fashion. Issues and possible innovative approaches to oncology nursing research mentorship are presented in Figure 1.

Career Lifespan of Oncology Nurse Scientists **PhD Student**

Developing a pipeline of PhD-prepared nurse scientists requires a lengthy period of acculturation into the researcher role, with strong mentors who are deeply steeped in the content and methods that can advance the impact of oncology nursing science. Given trends that demonstrate declining enrollment in PhD programs in nursing nationally (American Association of Colleges of Nursing, n.d.), as well as inadequate dispersion of oncology nurse scientists in PhD programs, nurturing the next cohort of oncology nurse scientists is of paramount concern. The research mentorship task force recognized that targeted strategies that address the most serious obstacles facing PhD students interested in oncology research careers are needed, and that ONS can serve as a national focal point to network oncology nurse scientists in PhD programs. Matching PhD students with experienced oncology nurse scientist mentors with similar research interests is one strategy to expedite the training timeline while ensuring that students in less research-intensive academic institutions have access and support for optimal science training. Such mentorship requires financial resources for travel, honorariums, and expenses associated with direct research exposures.

Those considering a doctoral degree in nursing face a choice: (a) focus on clinical expertise and implementation of evidence-based practice (Doctor of Nursing Practice, or DNP) or (b) choose a career focused on scientific inquiry and research (Doctor of Philosophy, or PhD) (Trautman, Idzik, Hammersla, & Rosseter, 2018). The future of nursing scholarship may reside in the collaboration and collegiality between nurses with

these varied types of doctoral preparation (Edwards, Rayman, Diffenderfer, & Stidham, 2016). Successful collaboration brings together the strength of practice-based knowledge and that of rigorous research expertise, and it has the potential to facilitate more timely translation of research into practice and improve health outcomes (Murphy, Staffileno, & Carlson, 2015).

Postdoctoral Research Fellow

Postdoctoral research fellowships are an important source of training for future PhD-prepared oncology nursing researchers and faculty. Postdoctoral fellowships offer focused protected time to develop research ideas, build additional skills, and coalesce doctoral training, and they also provide an incubator for professional collaborations and establish supportive networks (Lor, Oyesanya, Chen, Cherwin, & Moon, 2018). The research mentorship task force recognized that postdoctoral researchers rely heavily on mentorship to become successful researchers and that ONS can provide an advocacy role. It is essential that there are an adequate number of postdoctoral fellowships and programs (e.g., T32 training programs) focused on the priorities of oncology nursing research. Individuals considering such programs need guidance in choosing the right fellowship for maximum benefit. Formal mentors within the postdoctoral fellow's home institution may offer feedback on grant applications, strategize funding priorities from different agencies, and set realistic timelines. Informal and institutionally assigned peer mentors help to create a supportive community network that early researchers can use for access to professional opportunities, collaborations across institutions, feedback on works in progress, and faculty openings. An important developmental milestone in this period is the procurement of a faculty position that matches the research and career goals of the novice scientist.

First Position: Assistant Professor

The first independent, nonstudent role for the academic nurse scientist is traditionally at the assistant professor level. The critical tension in this junior role is the need to secure some publication record and internal and external funding through independent research in a specified time period to be promoted and/or conferred tenure versus the time needed to grow and nurture scientific inquiry and manage the other pressing demands of this role. Planned research often does not proceed as expected, causing the junior faculty member to feel the burden of the academic clock. Time pressures include teaching and student mentoring, clinical work, participation in university

committees, and the demands of professional organizations, all of which are superimposed on the balance of family and the need for personal time and relaxation. Strategies for mitigation of these inherent challenges are peer support, helpful guidance and feedback, and funded research opportunities exclusively for junior oncology nurse scientists to help obtain critical first external funding.

To assist with this tension, junior faculty positions require mentors and mentorship plans (Chung & Kowalski, 2012) with two hopefully mutual goals: (a) careful attention and strategic planning focused on the specific promotion requirements of the institution and (b) development of a rigorous and innovative research trajectory in cancer-related research. The research mentorship task force recognized that this intensive mentoring need may not be realized by traditional on-site mentors and that electronic tele-mentoring may be required to best match mentor and mentee in accordance with research interests.

Mid-Career: Associate Professor

In research-intensive academic settings, mid-career nurse scientists may be broadly defined as individuals who have achieved tenure and are in an associate professor position within their institution (Kinser, Loerzel, Matthews, & Rice, 2019). For those in research-intensive, nonacademic institutions, mid-career may be defined by the receipt of funding at the National Institutes of Health R01 or equivalent level (Lauer, Tabek, & Collins, 2017); this achievement signals a nurse scientist's entry into an independent research career. Regardless of the setting and definition, evidence points to a lack of attention paid to the needs of mid-career faculty and scientists, despite research suggesting that they have higher work dissatisfaction and burnout, and are at higher risk for leaving academia (Hershberger et al., 2019; Yedidia, Chou, Brownlee, Flynn, & Tanner, 2014).

Mid-career nursing scholars are faced with many challenges, including the following (Baldwin & Chang, 2006; Hershberger et al., 2019; Kinser et al., 2019; Strange & Merdinger, 2015):

- An increasingly competitive funding environment
- Institutional or organizational barriers, such as lack of formal mentorship
- Inconsistent and often unrealistic expectations for promotion
- Increasing teaching and administrative load
- A lack of support with work-life balance

To address these challenges, it is critical to create supportive communities in academia and oncology

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- Career research mentorship for oncology nurses needs to be thoughtful and considered on a developmental timeline.
 - Oncology-focused research mentorship can assist with career development at any point along the career trajectory.
 - Mentorship is critically important to advance the growth and impact of oncology nursing science.
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nursing professional organizations to foster mid-career professional growth. These communities might be forged between colleagues with similar interests or with experts from other disciplines, or to link faculty/scientists with senior professors for continued mentorship and sponsorship. The collegial interactions might foster confidence and satisfaction, enhance productivity, provide opportunities to enhance research/teaching networks, and promote continued professional development (Baldwin & Chang, 2006; Strange & Merdinger, 2015).

Formal mentoring programs and career workshops sponsored by professional organizations or individual institutions, in which mid-career scientists can engage in intentional career planning and be held accountable for that plan, could provide career direction (Buch, Huet, Rorrer, & Roberson, 2011; Rees & Shaw, 2014). Programs that include intentional reflection on career choices and critical appraisal of strengths and weaknesses can help nurse scientists ground their research in past successes and set future goals (Mathews, 2014; Strange & Merdinger, 2015). The research mentorship task force recommends that ONS examine opportunities to promote such programs. Focused sabbaticals at mid-career might also facilitate new opportunities and connections, setting up nurse scientists for success in the next phase of their careers. Academic administrators should consider specific support (e.g., funding, course release) for these faculty, who are often overloaded with teaching and service responsibilities, to help them achieve their research goals (Baldwin & Chang, 2006).

Full Professor

Promotion to full professor is a singular achievement and demonstrates recognition of the rate and quality of work beyond tenure. It is not required for a successful academic career, but this designation underscores the national and international stature and impact of the individual. In addition

to a substantive program of research, excellence in teaching and mentorship are generally expected. Professors often are among the academic leadership of a school or college or programs in a cancer center. Although professors have secured the highest rank in academia and, therefore, no longer need to strive for the next rung, their workload expands. They are now expected to continue the impact of their own science while also increasing the breadth of mentoring to bring forward the next generation of nurse scientists, influence the development and inclusion of other disciplines through team science and mentorship, and propose and lead more complex research models (e.g., Program Project Grants; Center Grants; institutional training grants, including T32s). Exceptional mentorship is expected of a professor; however, it is rare that a professor receives mentorship to achieve these expectations. The research mentorship task force recognized this dilemma and recommends the development of a community for professors to discuss issues and find support in navigating the expectations and opportunities present during the years as a full professor.

Concluding a Career and Entering Retirement

Experienced oncology nurse scientists, no matter the rank, come to a point of planning the conclusion of

their careers. Some have picked a date to retire based on age or accomplishment, whereas others continue to work until they feel ready to make the transition. Either way, planning is essential to secure the legacy of the work, retire or transfer grants, and complete support for students and trainees. Faculty often are reticent to share their thinking about retirement with others in their academic setting until close to the date, leaving them unsupported through the process. The research mentorship task force recognized that forums should be available to aid experienced nurse scientists as they take stock of their contributions and plan for retirement.

The research mentorship task force also recognized that retired nurse scientists are a rich resource to continue contributing to the profession and to mentor the next generation. Many of the stellar oncology nurse scientists who provided the foundation for nursing science would be pleased to provide their wisdom and guidance if asked. With respect given to their brief and flexible time commitments, a community of retired nurse scientists could help create a circle of wisdom and continue their generativity toward the advancement of oncology nurse science.

Conclusion

Strong mentorship is recognized as a critical ingredient of a highly successful and productive research career. To address the needs of oncology nurse scientists and strengthen and grow the next generation, a research mentorship task force was convened to examine optimal ways to support membership within ONS. A key finding that emerged from the research mentorship task force was that mentorship needs vary across the research career trajectory and that a tailored approach is necessary to address the diverse needs of nurse scientists. The research mentorship task force created recommendations that were presented to the ONS Board of Directors and were approved for further development in summer 2019 (see Figure 2). A research mentorship program oversight committee will be convened to further develop the key recommendations that were approved by the board. Exciting interventions will go forward to ensure strong and supported oncology nurse researchers across the career trajectory.

FIGURE 2. Recommendations From the Oncology Nursing Society Research Mentorship Task Force

- Create a regular in-person forum for research networking and exchange of information.
- Establish and develop electronic research communities based on the various research career stages that would be engaging and interactive, and provide tailored mentoring.
- Develop and curate a virtual informatics-based repository of key resources for oncology nurse research career development and mentorship.
- Increase policy advocacy for oncology nursing research priorities and funding.
- Communicate with the Oncology Nursing Foundation and other grant-funding agencies about opportunities that would address progress on Oncology Nursing Society research priorities.
- Develop a workforce from retired oncology nurse researchers to use skill sets for mentorship and grant review.
- Provide recognition and awards for exemplary mentorship.

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