The Future of Oncology Nursing Research: Research Priorities and Professional Development

Ida M. (Ki) Moore, PhD, RN, FAAN, and Terry A. Badger, PhD, PMHCNS-BC, RN, FAAN

The Oncology Nursing Society's (ONS's) mission is to improve cancer care and the lives of individuals with cancer by funding oncology nursing research, scholarships, awards, and educational programs (Berger, Cochrane, & Mitchell, 2009). To that end, the ONS research agenda intends to provide investigators with strategic priorities for advancing oncology nursing knowledge and improving the quality of cancer care (Berger et al., 2009). Those priorities include health promotion, cancer symptoms and side effects, late effects and survivorship, end-of-life issues, psychosocial and family issues, nurse-sensitive patient outcomes, and translational science. The National Cancer Institute ([NCI], 2007) Translational Science Working Group defined translational science as basic research discoveries transformed into drugs, treatments, or methods for prevention, as well as scientific discoveries transformed into clinical applications to reduce disease incidence, morbidity, and mortality.

One translational science priority for ONS is to identify cognitive-behavioral, psychoeducational, rehabilitative, and self-management interventions (individual and multilevel) with demonstrated effectiveness in target populations (Berger et al., 2009). Of particular interest are interventions addressing symptoms such as pain, sleep, fatigue, and mood disturbance (Berger et al., 2009). The National Institute of Nursing Research ([NINR], 2013) published four major themes to help operationalize and implement its strategic plan.

- Symptom science: improving quality of life for individuals with chronic illness
- Wellness: preventing illness and promoting health
- Self-management: promoting personalized health strategies
- The science of compassion: enhancing end-of-life and palliative care

The ONS priorities and NINR themes are synergistic. Nurse scientists must articulate how their programs of discovery scholarship are aligned with these priorities and themes, generating knowledge that enhances health, lengthens life, and reduces illness and disability (National Institutes of Health, 2013).

Biobehavioral Research and Oncology Nursing Science

One strategy for building science is integrating biologic and behavioral sciences, referred to as biobehavioral research. Biobehavioral research encompasses the interactions among biologic, behavioral, and social factors, and their effect on health outcomes (Moore, 2004). Nurse scientists are well positioned to use biobehavioral research methods to study human health phenomena, implement behavioral interventions to achieve biologic outcomes, or intervene in biologic processes to influence behavior. Biobehavioral measures can advance knowledge by informing interventions for symptom management, adherence, and self-management, as well as response to treatment and treatment toxicity. Potential targets for biobehavioral research include health promotion, quality of life and well-being, disease progression and response, symptoms and symptom management, treatment decision making, and treatment-related toxicity. Biobehavioral research also is an NCI priority (NCI, 2007). Initiatives are to identify biologic, sociocultural, and psychological factors associated with cancer-related risk, protective behaviors, and behavioral genetics research, as well as to identify psychological processes in decision making relevant to cancer screening, risk assessment, prevention, and treatment (National Institutes of Health, 2013).

Biobehavioral research is an effective strategy for advancing the ONS research priorities. Areas of oncology nursing science that would benefit from a biobehavioral approach need to be identified, and concepts and measures throughout studies should be shared whenever possible. For example, use of the Patient Reported Outcomes Measurement Information Systems (PROMIS) (Cella et al., 2010) may strengthen nursing science by allowing comparisons of study findings in commonly studied patient-reported outcomes. Examples of PROMIS instruments include mood disturbance, sleep, fatigue, and pain. PROMIS instruments are reliable and valid and have been tested with oncology populations (Cella et al., 2010). Measures have been translated into other languages for use in populations with health disparities. For example, measures have been translated into Spanish through an iterative process of forward- and back-translations with multiple expert reviews and sample testing from the target population to ensure they are well understood, conceptually equivalent, and culturally appropriate (Correia, 2011). In addition, any research approach needs to demonstrate coherent theoretical links among biologic and behavioral concepts and measures, the ability to apply basic science methods to clinical and human studies, feasibility of data collection methods, and a sound plan for data analysis. Synergy among the research priorities and themes of ONS and NINR is an exciting opportunity to advance oncology nursing science.

Professional Development Strategies

With the retirement of senior faculty members and the inability to prepare and recruit a sufficient pool of new faculty to replace retirees, the current shortage of doctorally prepared nursing faculty is projected to increase (Robert Wood Johnson Foundation, 2007). According to the Robert Wood Johnson Foundation (2007), about half of the current nursing faculty is likely to retire by 2016. In addition to the adverse impact on the number of educators, many retiring nurse faculty also are funded nurse scientists. A decrease in the pool of nurse scientists could hamper a generation of new knowledge.

According to Glasgow and Dreher (2010), the next generation of oncology nursing knowledge will be harmed if retiring nurse scientists are not replaced. In addition, if nurses who earn a doctor of nursing practice (DNP) degree are not prepared to conduct empirical clinical research, the evidence base for advancing cancer nursing care will remain stagnant. Professional career development is an urgent need. As noted by Given (2009), patients with cancer continue to have unmet needs, and the knowledge base for practice must be strengthened and fortified to meet those needs.

Strategies for professional career development are needed, and the next generation of nurse scientists should be prepared to conduct research from "bench to bedside." To prepare biobehavioral oncology nurse scientists, educational content that exemplifies integration of biologic and behavioral science is needed. For example, students will need content in biologic research methods with hands-on laboratory experiences, symptom science and health promotion theories, behavioral and community interventions, community-based participatory action and transcultural and health disparities research methods, and evaluation methods for evidence-based practice.

Health disparities research with underserved cancer populations is another critical need. One strategy to build this cadre of scientists is to develop complementary doctoral programs where DNP and PhD students share core content in translational science, clinical phenomena, and building evidence for practice. Another is to offer dual-degree programs where students earn both the DNP and PhD degrees, enabling the graduate to be both an advanced practitioner and a scientist.

Conclusion

Given the complexity of health care for patients with cancer, future generations of nurses must build interprofessional teams. To conduct effective biobehavioral research, researchers and practitioners must work together to move the science of cancer care forward. The NINR continues to support the development of a strong cadre of nurse scientists prepared to advance science and improvements in health. This includes development of innovative, diverse, and multidisciplinary research teams. Future researchers need to have educational experiences as part of an interprofessional team to learn team-building knowledge and skills. For example, ONS could develop and offer workforce training that brings together DNP- and PhD-prepared nurses, as well as other interprofessional scientists, who can build new research teams to fully investigate the oncology nursing research priorities and more quickly translate findings to the practice setting. Oncology nurse researchers must show leadership and build, sustain, and grow future research teams to tackle the critical problems of patients with cancer and their families.

Ida M. (Ki) Moore, PhD, RN, FAAN, is the Anne Furrow Professor and director of the Biobehavioral Health Science Division in the College of Nursing and Terry A. Badger, PhD, PMHCNS-BC, RN, FAAN, is a professor and director of the Community and Systems Health Science Division in the College of Nursing, and is a professor in the Department of Psychiatry, both at the University of Arizona in Phoenix. No financial relationships to disclose. Moore can be reached at lmoore@email.arizona.edu, with copy to editor at ONFEditor@ons.org.

References

Berger, A.M., Cochrane, B., & Mitchell, S.A. (2009). 2009–2013 research agenda for oncology nursing [Online exclusive]. *Oncology Nursing Forum, 36,* E274–E282. doi:10.1188/09.ONF.E274-E282

Cella, D., Riley, W., Stone, A., Rothrock, N., Reeve, B., Yount, S., . . . Hays, R. (2010). The Patient-Reported Outcomes Measures Information System (PROMIS) developed and tested its first wave of adult self-reported health outcome item banks: 2005–2008. *Journal of Clinical Epidemiology, 63,* 1179–1194.

Correia, H. (2011). Spanish translations of PROMIS instruments. Retrieved from http://nihpromis.org/measures/translations

Given, B.A. (2009). 2009–2013 Oncology Nursing Society research agenda: Why is it important? *Oncology Nursing Forum, 36,* 487–488. doi:10.1188/09.ONF.487-488

Glasgow, M.E., & Dreher, H.M. (2010). The future of oncology nursing science: Who will generate the knowledge? *Oncology Nursing Forum, 37,* 393–396. doi:10.1188/10.ONF.393-396

Moore, I.M. (2004). Advancing biobehavioral research in childhood cancer. *Journal of Pediatric Oncology Nursing, 21,* 128–131.

National Cancer Institute. (2007). *Transforming translation—Harnessing discovery for patient and public benefit.* Retrieved from http://www.cancer.gov/researchandfunding/trwg/finalreport.pdf

National Institute of Nursing Research. (2013). *Implementing NINR's strategic plan: Key themes.* Retrieved from www.ninr.nih.gov/sites/www.ninr.nih.gov/files/ninr-strategic-plan-2011.pdf

National Institutes of Health. (2013) Mission. Retrieved from http://nih.gov/about/mission.htm

Robert Wood Johnson Foundation. (2007). The nursing faculty shortage: Public and private partnerships address a growing need. Retrieved from http://www.rwjf.org/content/dam/farm/reports/issue_briefs/2007/rwjf13911

Leadership & Professional Development

This feature provides a platform for oncology nurses to illustrate the many ways that leadership may be realized and professional practice may transform cancer care. Possible submissions include, but are not limited to, overviews of projects, accounts of the application of leadership principles or theories to practice, and interviews with nurse leaders. Descriptions of activities, projects, or action plans that are ongoing or completed are welcome. Manuscripts should clearly link the content to the impact on cancer care. Manuscripts should be six to eight double-spaced pages, exclusive of references and tables, and accompanied by a cover letter requesting consideration for this feature. For more information, contact Associate Editor Cindy J. Rishel, PhD, RN, OCN®, at rishelmom@gmail.com.