The field of oncology nursing is continually changing. New drugs to aid in the fight against cancer are being developed, complementary therapies to ease symptoms are gaining prominence, and survivorship care is becoming a welcome yet challenging area of subspecialty. For oncology nurses to provide quality care and to develop improved care delivery systems, they must not only have access to the most current knowledge in the field, but also be equipped with the skills necessary to integrate that knowledge into practice for the benefit of patients and families (LoBiondo-Wood et al., 2014). The importance of nursing research and its relationship to the practice of oncology nursing cannot be minimized (Moore & Badger, 2014). Oncology nurse researchers advance knowledge and, consequently, improve the quality of care for patients with cancer and their families. For example, the Oncology Nursing Society (ONS) regularly surveys its membership to identify key areas of research focus that then guide the work of nurse investigators (LoBiondo-Wood et al., 2014; ONS Research Agenda Team, 2009). Unfortunately, the shortage of nurse scientists, particularly in oncology nursing, continues to increase as senior doctoral faculty reach retirement age and doctoral education program development remains stagnant (Glasgow & Dreher, 2010; LoBiondo-Wood et al., 2014). This shortage has and will continue to lead to gaps in the generation and implementation of new knowledge, negatively affecting the quality of patient care. As a result, an urgent need exists for innovative and quality doctoral educational programs to develop nurse scientists (Moore & Badger, 2014).

The growing need for oncology nurse scientists is well documented, but debate persists about how to best address this need (Moore & Badger, 2014; ONS Research Agenda Team, 2009). Two available options for earning a doctoral degree in nursing are the Doctor of Nursing Practice (DNP) and the Doctor of Philosophy in Nursing (PhD) programs. From 2006–2011, the number of DNP programs offered at U.S. colleges and universities has increased from 20 to 184, with an additional 101 programs in the planning stages (American Association of Colleges of Nursing, 2014). In 2012 and 2013, the number of students enrolled in DNP programs increased by 29%, whereas the number of students in PhD programs increased by 7.5% (American Association of Colleges of Nursing, 2014).

Although DNP programs are growing rapidly in number and in enrollment, the educational preparation for the DNP degree has typically not readied students to conduct the empirical research that is so vital to meeting the needs of the oncology population (Glasgow & Dreher, 2010). The traditional PhD program prepares nurse scientists to conduct empirical research but falls short in helping them to translate research findings into actual practice (Edwardson, 2010). Despite the growing numbers of doctorally prepared nurses, the gap from research to bedside can be as much as 17 years (Edwardson, 2010), which is far too long a period of time for new knowledge to reach the people who will benefit most: patients and their families.

However, options do exist to meet the ever-growing need for nurse scientists and the demand for translation of new findings into practice. One option is to develop complementary DNP and PhD programs, and another is to combine the two programs into a dual degree. The purpose of this article is to discuss the relative benefits and potential challenges of each option that may help to close the knowledge-practice gap and make available the highest quality cancer care.

Complementary Program

Historically, DNP programs have prepared advanced practice nurses to be providers of care at a beginning level within their specialty. In addition, DNP students are prepared as scholarly clinicians who use research and research methods to improve healthcare quality and patient safety for their selected specialty population (American Association of Colleges of Nursing, 2006; Apold, 2008). However, the PhD program has prepared nurse scientists to generate and disseminate knowledge to advance nursing science and facilitate the translation of knowledge into practice (Edwardson, 2010). Moore and Badger (2014) suggested that developing a complementary DNP and PhD program can bridge the gap that exists for research scientists in oncology nursing. This complementary model would foster professional collaboration, and it would help to satisfy the need for future nurse scientists by enrolling DNP and PhD students in core research courses, such as translational research, research and theory, clinical phenomena, and evaluating and building evidence for practice. In particular, translational research requires collaboration between nurse experts in research methods and nurse experts in clinical practice; it is a vital component of the development of a complementary DNP and PhD program (Edwardson, 2010).
DNP and PhD students could also develop collaborative relationships through participation in joint projects that focus on applying research evidence in a practice setting, research evaluation and synthesis (e.g., application to clinical practice), team-based scholarly paper development, and scholarly writing and presentations (Edwardson, 2010). The complementary DNP-PhD model represents the vision that DNP- and PhD-prepared nurses share high professional expectations, a scholarly approach to the discipline, and a commitment to advance nursing. The objective of the complementary DNP-PhD model is to expand collaborative research and the subsequent translation of findings into practice (Edwardson, 2010). This would develop nurse leaders who are empowered to generate, explore, and apply nursing knowledge for evolving healthcare environments (Edwardson, 2010) (see Figure 1).

**Combined Program**

One emerging role that may help to fill the gaps in nursing science and advanced nursing practice is that of the nurse with a combined DNP and PhD degree. The dual curriculum provides broad research skills that may be applied to clinical practice. In addition, the nurse scientist with a combined DNP and PhD degree is prepared at the highest level of nursing practice and with advanced skills for engaging in research to create, apply, and translate knowledge to improve care and outcomes for a select patient population.

The combined DNP and PhD degree includes leadership development for the advanced nurse practitioner, along with the skill development necessary for a nurse scientist (Thorne, 2014). The integrated clinical and research approach of the DNP and PhD program enables students to develop a solid, in-depth understanding of the theory and research essential to engaging in the process of discovery while also acquiring fundamental knowledge needed to advance the practice of nursing.

Unlike the traditional DNP program, the first semesters of the combined program focus on developing students’ ability to conduct clinical research. Students enrolled in the combined program take courses from the DNP and PhD programs concurrently. In addition, the dual DNP and PhD student typically completes two research projects over the course of the program. The DNP program is usually three years in length, whereas the PhD program is often a minimum of four years with a completion deadline of seven years. However, in many instances, the combined program is five years long and must be completed in seven years.

The goal of the combined DNP and PhD program is to produce graduates who are ready to assume the role of practice scientist. Graduates are expertly positioned to advance nursing knowledge, serve as stewards of the nursing profession through practice, and participate in the education of the next generation of nurse scientists (Thorne, 2014). The multifaceted preparation offered by a combined DNP and PhD program could be one needed solution to offset the increasing lack of nurse scientists in oncology nursing.

**Conclusion**

Although DNP and PhD programs differ in their goals, coursework, and outcome competencies for graduates, each program represents the highest level of educational preparation in nursing and, as such, must demand the highest rigor in terms of expectations for its graduates. To address the knowledge-practice gap, the curriculum for each program must be clearly defined, allow for concurrent and integrated coursework between DNP and PhD students, and support research collaboration. The implementation of complementary DNP and PhD programs and the expansion of combined DNP and PhD degree programs may support the necessary empirical and translational research and professional practice needed to provide quality care and improved outcomes for patients with cancer and their families.

As noted by Glasgow and Dreher (2010), “a doctorate degree should stand for advancing and translating knowledge” (p. 394). Clinical nursing practice should drive knowledge development in cancer care because the true essence of nursing is found in clinical practice. Without the evidence to support clinical practice, the struggle to provide the highest quality care will continue. Failing to move forward and neglecting to develop and support doctorally prepared oncology nurses who are expert clinicians skilled in empirical research may impede knowledge development and, ultimately, prevent quality health care from being provided to patients and families.

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