

Bridging the Oncology Practice Gap



Discovery of an enhanced orientation process

A *practice gap* is defined as the education, knowledge, and skills of a generalist advanced practice provider—who completed his or her advanced education in specific foci such as family, adult, geriatrics, women’s health, or pediatrics—practicing oncology with little or no oncology education, knowledge, or skills.¹⁻⁴ A new advanced practice provider (APP) in oncology is defined as an APP practicing within one year of entry into specialty.¹

The need for well-prepared advanced practice providers to enter the oncology workforce and practice safely involves more than graduating from an advanced practice program.⁵⁻⁷ The national consensus model defines specific population foci for advanced practice providers but does not include specialty education.⁸ Adding to the practice gap are more issues such as:^{9,10}

- A shortage of oncology providers
- The continued increased growth in numbers of an aging population
- A great surge in cancer treatment options
- A larger cancer survivorship population
- Expanded access to healthcare through the Patient Protection and Affordable Care Act.

Taken in combination, these factors require healthcare organizations to create APP orientation, residency, or fellowship programs to bridge the gap from education to practice in oncology (see Table 1, page 54).^{10,11}

Several primary care APP residency and fellowship programs exist in the United States to address this practice gap phenomenon.¹²⁻¹⁷ These residency and fellowship programs have increased

In Brief

This original research project examined the national clinical issue of a practice gap by advanced practice providers (APPs) new to the oncology specialty as part of a continuous quality improvement (QI) project to discover how best to close this practice gap by enhancing existing orientation processes. Review of results in phase one of this continuous QI process identified many opportunities for improving current processes. APPs entering the oncology workforce need more than graduation from an advanced practice program; formal training is necessary to assist the new APP to practice safely in the complex field of oncology.

in number largely due to the enactment of the 2010 Patient Protection and Affordable Care Act, which allowed more people to receive healthcare services. However, within specialties such as oncology, these residency and fellowship programs are still in their formative stages. In addition, no best practices are yet established for addressing the practice gap in oncology.

The purpose of this original research project is to discover the essential components of an established oncology orientation program for APPs and identify additional orientation needs in

Table 1. Glossary of Terms^a

Term	Definition
Fellowship	A planned, comprehensive program through which currently licensed APPs can acquire the knowledge, skills, and professional behaviors necessary to deliver safe, quality care that meets defined (organizational or professional society) standards of practice; may include organizational orientation; must include practice-based experience and supplemental activities to promote professional development.
Orientation	The educational process of introducing individuals who are new to the organization or department to the philosophy, goals, policies, procedures, role expectations, and other factors needed to function in a specific work setting.
Residency	A planned, comprehensive program through which currently licensed providers with less than 12 months of experience can acquire the knowledge, skills, and professional behaviors necessary to deliver safe, quality care that meets defined (organizational or professional society) standards of practice; must be at least six months, encompassing organizational orientation, practice-based experience, and supplemental activities to promote professional development.

^aData from the American Nurses Credentialing Center's 2016 Application Manual: Practice Transition Accreditation Program.¹²

order to further close the practice gap for APPs new to oncology. This effort is considered the first phase of a continuous QI process at a large oncology institute.

Setting the Stage: The Clinical Issue

There are several ongoing issues specific to the oncology specialty:¹

- The increasing number of cancer diagnoses each year
- The increasing number of people living with or surviving cancer
- The impact of the healthcare system and its ongoing changes
- The location of available oncology clinics and providers across the nation.

In 2016 the American Society of Clinical Oncology (ASCO) estimated a 48 percent increase in oncology service need by the year 2020 with only a 14 percent increase in additional oncology providers in that same time,² resulting in a projected shortage of up to 4,000 oncology providers.¹ Additionally, fewer providers—specifically physicians—are opting to specialize in oncology.¹⁸

Thirty-six percent of practicing APPs in oncology have received oncology-specific content in their training program; among certified oncology APPs, 21 percent have received a graduate education focused in oncology.¹ According to an unpublished ASCO survey, even with minimal training, it takes an estimated 12 to

24 months before a new oncology APP begins to feel competent.³

It is unrealistic to require academic universities to meet the specific and comprehensive education needed for all types of medical specialties. This expectation is especially unrealistic considering the rapidly changing environment of healthcare and technology. Specialty knowledge can be obtained through specialty certification within graduate education or as a postgraduate effort¹⁹; thus, the burden of additional specialty education for APPs falls on the hiring oncology organizations. Specific oncology knowledge is needed within the first year of practice to avoid errors, near-misses, patient harm, or poor patient outcomes. APPs new to oncology need close supervision and a dedicated mentor to ensure patient safety.

A residency or fellowship program approach may be a viable option when constructed and supported with a process, team, and revenue stream.^{16,20} Many oncology physicians are not familiar with the role of an APP and therefore may be unable or unwilling to provide basic oncology knowledge in a traditional one-on-one, on-the-job manner.²¹ Further, physicians are no longer expected to provide all of the professional education and interaction when it comes to onboarding a new member to the oncology practice team. A few organizations have started their own oncology residency or fellowship programs for APPs or are in the process of creating their own program (see Table 2, page 56).

APPs continue to be one of the answers to address the healthcare provider shortage in oncology, and it is important to recognize how bridging the practice gap in oncology with a new APP will benefit not only the APP and oncology team but also the patient. The complexity of providing oncology services is supported further by the fact that a cancer diagnosis can encompass more than 200 different diseases.²² A 2016 ASCO survey determined APPs in oncology believed that additional training is required before beginning their practice in oncology.

As leaders, all healthcare professionals are charged with setting the stage to optimize practice in any capacity possible. These include capacities outside direct patient care, such as orientation, training, and supporting fellowship or residency programs for new practitioners to ensure that all needs are being met. Just as medical students participate in residency programs and fellowships to build their experience and practice their skills, these same opportunities would benefit APPs.

Economic constraints, workforce shortages, and increasing pressure from regulating bodies for high-quality oncology care require a higher level of preparation for new APPs. The Institute of Medicine's *The Future of Nursing* report recommends that APPs (e.g., nurse practitioners) practice at the full capacity of their scope and recommends transition to practice programs to meet the growing needs of oncology patients.²³

QI Clinical Setting and Target Population

The setting for this continuous QI project was Norton Healthcare in Louisville, Ky., a leading and innovative not-for-profit U.S. healthcare system. This system encompasses an oncology program, Norton Cancer Institute, with a presence at five large hospitals, seven oncology outpatient clinics, two oncology prompt care clinics, and three oncology radiation centers. Norton Healthcare encompasses a metropolitan area spanning two states and a population of more than 1,475,000. Norton Cancer Institute is made up of more than 30 oncology board-certified physicians, 35 APPs (33 nurse practitioners and two physician assistants), nurses, and ancillary staff.

Project Methodology

The planned intervention for this QI project was the use of a custom-designed survey. Surveys conducted for similar reasons from other oncology practices, academic, and national membership institutions were gathered for review and some survey questions were adapted and/or revised for this project with permission from the respective organizations.

A pilot effort with the new survey was conducted with two oncology APPs from a separate local oncology practice and a factor analysis was conducted to validate questions and content. Revisions to some survey questions and content were made for clarification and necessary changes were identified from this first pilot. A second pilot survey was sent to seven unique oncology APPs (nurse practitioners and physician assistants) who no longer worked at the same local oncology practice to ensure that clarifications on questions were addressed. Of the seven invitations sent to the second pilot survey group, five surveys were completed

Through this research process, it was determined that no existing instrument or tool exists to evaluate, measure, or provide best practices or guidelines on how to orient and train APPs new to oncology. In the past, oncology organizations evaluating this issue developed their own unique survey through workshops or taskforces. A mixed-methods approach for this study was used to obtain and assess quantitative and qualitative data.

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The survey contained 47 questions and included demographic information, characteristics of roles, and functions of roles and facilitated open-ended questions and selectable answer questions. Reliability and validity were already determined by the two prior pilot efforts.

Results

The data collection process began in March 2018 and ended in April 2018. The survey was sent via electronic mail to 35 APPs practicing at a local, large oncology program that had an initial orientation process in place since 2014. A total of 17 surveys were completed, resulting in a 48 percent response rate.

The data analysis consisted of qualitative and quantitative methods used to draw inferences from the data.²⁴ Ongoing consultation with Dr. Suzette Scheuermann, a statistician at Spalding University, and Doctor of Nursing Practice (DNP) Faculty Lead Dr. Nancy Kern assisted to garner other data points on a regular basis during this process. I conducted several data analysis reviews with the raw data, narrative comments, and statistics to verify the common themes and final recommendations drawn from this effort.

Data revealed that approximately 82 percent of APPs had received an orientation for their oncology role. Just over 41

Table 2. Oncology APP Fellowship Programs in the United States^a

Florida University of Miami Sylvester Comprehensive Cancer Center	No degree offered; one year long
Illinois Loyola University Chicago, University of Chicago	Degree offered; four-year program (part-time)
Missouri Children’s Mercy Kansas City; Pediatric Hematology-Oncology Fellowship for Advanced Practice Nurses	No degree offered; three-year program
New Jersey Rutgers Cancer Institute of New Jersey; Oncology Nursing Fellowship	No degree offered; three-year program
New York Columbia University	Subspecialty program degree offered only to those re-enrolled in a master of science or doctor of nursing practice program
North Carolina Carolinas HealthCare System	No degree offered; one year long
North Carolina Duke University	Degree offered; one year long
Ohio The Ohio State University Comprehensive Cancer Center-Arthur G. James Cancer Hospital and Richard J. Solove Research Institute	No degree offered; one year long
Texas University of Texas MD Anderson Cancer Center	No degree offered; one year long
Texas Texas Children’s Hospital	No degree offered; three months long

^aData from Alencar et al.⁹

percent of these same participants had an orientation process that lasted three months or less. The majority agreed that being knowledgeable in oncology was important to the oncology advanced practice role. Participants believed that an orientation process increased patient safety, increased confidence, and improved retention of APPs. Documentation involving three separate multi-page, hard-copy forms currently used in the existing orientation process was viewed as helpful but burdensome.

More than 50 percent of participants found the following aspects of the current orientation process to be most helpful:

- Rotating through the various clinic areas
- Precepting in the acute care setting (inpatient rounds in the hospitals)
- Observing care received by the cancer patient in the radiation oncology departments
- Formal online oncology education (such as the Oncology Nursing Society’s Post-Masters Foundations in Cancer Care online course or the American Society of Clinical Oncologists’ Advanced Practice Provider Oncology online courses).

Survey responses identified three top reasons why this orientation program is most helpful to the new APP:

1. It helps establish a foundation of oncology knowledge.
2. It builds skills and experience for safe care.
3. It creates an atmosphere for teamwork, including rapport-building with primary and ancillary staff.

The top 10 topics to include in the *initial* orientation process (defined as being within the first three months of the orientation process) were identified as being “important” to “very important” in the survey and are listed below in order of weighted importance:

1. Recognizing and managing cancer complications
2. Recognizing and managing oncology emergencies
3. Recognizing and managing drug toxicities
4. Developing critical thinking skills
5. Communicating with team members and others
6. Presenting case to team and/or primary oncologist
7. Ordering and interpreting procedures

8. Ordering and interpreting imaging
9. Ordering and interpreting lab tests
10. Ordering and interpreting bone marrow biopsies.

In addition, the top nine topics to include *after* the initial orientation process are listed below in order of weighted importance:

1. Work-up for possible progression of cancer
2. Ordering needed items (labs, imaging, etc.) for new cancer diagnoses
3. Assessing for cancer recurrence
4. Drug class knowledge
5. Using the electronic health record
6. Using the oncology treatment interface software
7. Prognostic indicators
8. Working up a new patient
9. Staging cancer.

It is important to note that the first 10 items ranked as most important in the initial orientation period were also ranked as being just as important after the initial orientation period. To reduce redundancy, these 10 items were excluded from the second list above.

The top three orientation topics cited as being most important to include were identified as:

1. Recognizing and managing oncology emergencies
2. Ordering and interpreting lab tests (such as pathology)
3. Ordering and interpreting imaging.

In addition, when asked whether there were elements to improve in the current orientation process, responses identified the following themes:

- More time with preceptors
- Creation of a fellowship program
- More physician involvement
- More structure during orientation
- Availability of mentors.

Overall, 94 percent of participants agreed that improvements and/or enhancements could be made to the existing orientation process. Themes from narrative comments to support their answers were compiled by identifying frequently repeated key words and concepts (see Table 3, right). The data revealed that 69 percent of the participants believed that they still needed additional training in oncology. This finding validated the importance of knowledge in oncology because the APPs in this target audience reported a mean of five years of experience in their current role as an oncology APP. Finally, 19 percent stated that they still are not confident in their current oncology role (see Table 4, page 58).

One of the limitations of this study was the use of self-reported measures for the responses in the survey. Some of the APPs may have had difficulty remembering the orientation process experienced in detail if much time had passed. The other limitation involved the small sample size ($n = 17$).

Table 3. Narrative Content Analysis: Common Themes Developed from Survey Comments^a

Communication
Fellowship program
Keeping current in oncology knowledge
Mentors
More time with preceptors
Ongoing knowledge is vital
Physician involvement
Safety
Structure
Subspecialty content

^aThemes listed in alphabetical order. The author conducted several data analysis reviews with the raw data, narrative comments, and statistics to verify the common themes and final recommendations drawn from this effort. From this, results were compiled, shared with the Spalding University DNP committee, and summarized. Themes from narrative comments to support survey answers were compiled by identifying frequently repeated key words and concepts.

QI Project Discussion and Conclusion

There is an ongoing national discussion in the oncology specialty for the need to intentionally develop an orientation process for APPs new to oncology.^{3,6,11,25,26} This type of orientation is important for ongoing investigation because the oncology APP is considered a vital part of the oncology team.²⁷ Considering limited resources, a growing provider shortage, and the impact of people living longer with cancer,^{25,26} many oncology programs continue to research and work together to help bridge this gap for all to benefit.^{3,6,11,25,26} This QI project adds to the growing body of evidence for the need of orientation efforts in the oncology specialty to bridge the practice gap for APPs such as nurse practitioners and physician assistants.²⁶

Orientation efforts are commonplace in any facility hiring new people to their team. Training for APPs is not standard practice in oncology programs. Currently, orientation efforts identified in the literature last two weeks or up to a year in total time; no best practices have been established. It is up to each oncology program to determine its needs when considering the orientation and training necessary for APPs new to the oncology specialty. The literature reflects this APP practice gap phenomenon as becoming an important one to address to improve care for oncology patients.

From the data analysis of the QI project, I make three conclusions. First, there was overwhelming agreement that improvements are needed in the existing APP orientation process. Second,

Table 4. Characteristics of Surveyed APPs (n = 17)

Characteristics	Nurse Practitioners (n = 16) Physician Assistants (n = 1)	
	Mean ^a	Range
Current age in years (n = 12)	42	27-56
Years in current role (n = 14)	5	0-14
Total years of experience in oncology (n = 14)	10	1-20
Racial identity	n = 13	Percentage^b
White or Caucasian	12	92
Two or more races	1	8
Responses	Yes	No
Received an initial oncology orientation (n = 17)	14	3
Still in initial orientation period (n = 15)	1	14
Certified in oncology (n = 13)	7	6
Current orientation can be improved (n = 16)	15	1
Currently need additional oncology training (n = 13)	9	4
Reported still not confident in current role (n = 16)	3	13

^aMean of the sample (not all survey participants answered every question).

^bBecause of rounding, not all percentages total 100.

survey respondents identified 10 topics for oncology orientation content as crucial for learning and understanding within the initial first three months. Third, the realization that improvements needed will require more resources in the future led to short-term and long-term recommendations. Initial short-term recommendations include standardizing the process to build a consistent structure and develop a small number of baseline oncology competencies for new APPs to demonstrate by end of initial orientation. One long-term recommendation includes consideration for a feasibility study regarding residency or fellowship programs.

Additional themes emerged from the data: the need for better, proactive, and ongoing communication regarding the orientation process; more time with preceptors; and a more structured orientation process. The next step will be a second phase to continue efforts to improve APP orientation with consideration to the short-term and long-term recommendations previously discussed.



UPDATE: At time of this printing, our organization has now formed a special committee to support an improved onboarding, orientation, and integration program not only within the oncology specialty but also as a new offering throughout the entire organization, which encompasses more than 300 advanced practice providers across multiple specialties.

Monica Key, DNP, BSB-M, ANP-C, APRN, AOCNP, is a hematology-oncology nurse practitioner at the Norton Cancer Institute affiliated with Norton Healthcare as part of the Doctor of Nursing Practice (DNP) Program at Spalding University, Louisville, Ky.

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