

Development of a Hematology-Oncology Advanced Practice Provider Fellowship Program

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Authors' disclosures of conflicts of interest are found at the end of this article.

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<https://doi.org/10.6004/jadpro.2020.11.4.7>

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Abstract

New graduate advanced practice providers (APPs) who accept jobs within the hematology-oncology field face many challenges when beginning their careers. Specific challenges include a lack of specialty-specific training, expedited orientation periods, and a large patient volume. These challenges can lead to dissatisfaction within the role, unsafe patient care, and ultimately costly job turnover. In order to better prepare APPs for the specialty workforce, the hematology-oncology fellowship program at Levine Cancer Institute has worked to develop and cultivate a comprehensive curriculum to meet the many needs identified. The hematology-oncology APP fellowship program is a 12-month curriculum that includes both didactic as well as clinical requirements. The fellowship program provides guidance in a structured practice setting and has ultimately offered APPs the opportunity to successfully transition into their specialty care role.

Oncology care is a topic of great interest given its ever-growing complexity. In the United States, the population is living longer, cancer care is increasingly accessible, and there has been an overall expansion of oncologic services, creating a triad of demands for providers (American Society of Clinical Oncology [ASCO], 2017). With both the impending retirement of seasoned oncologists in the coming years and escalating care requirements, the need for oncology-trained providers will undoubtedly expand (Alencar, Butler, MacIntyre, & Wempe, 2018;

Morr, 2019a). Advanced practice providers (APPs) are uniquely positioned to fill the gap of provider shortages across the United States (Morr, 2019a, Thomassen, 2018). However, specialty training is variable among different nurse practitioner and physician assistant educational programs (Hart & Bowen, 2016).

Few APPs report receiving specialized training for the oncology population within graduate programs (Thomassen, 2018). In fact, a prospective web-based survey sent to oncology APPs at three Mayo Clinic sites reported their graduate school education consisted of hav-

ing less than 5% of hematology focus (Hwa et al., 2019). According to Hwa and colleagues (2019), “Over 90% of APP participants reported they did not feel ready to practice with the limited hematology education they received in school curricula, and structured fellowship training could better prepare graduates to practice confidently within this specialty and positively impact APP job satisfaction.” Without adequate onsite hematology and oncology training, APPs report feeling overwhelmed and lack confidence, ultimately contributing to job turnover and education resource waste (Hwa et al., 2019; Thomassen, 2018).

Hematology-oncology APP fellowships serve to provide comprehensive specialty training, professional development, practice opportunities with mentorship, and integration of academic education as well as individualized projects (Sanchez, 2018; Thomassen, 2018). They assist in meeting unmet educational needs and ultimately allow for APPs to seamlessly transition into oncologic specialty care. In this article, the development of a hematology-oncology-specific APP fellowship program at a single institution in the metro Charlotte area will be reviewed.

GETTING STARTED

Atrium Health Center for Advanced Practice (CAP) initially designed an APP fellowship in October 2013, becoming one of the first in the country of its kind (Taylor, Broyhill, Burris, & Wilcox, 2017). To date, there are 16 total fellowship tracks offered at Atrium Health (Taylor et al., 2017). The CAP within Atrium Health, in collaboration with each service line, determines the amount of allotted APP fellow positions per cohort each year (Taylor et al., 2017). The CAP also onboards APP fellows, including the coordination of credentialing and privileging responsibilities (Taylor et al., 2017). Therefore, it is important to note that the hematology-oncology APP fellowship in this article had both system-level academic as well as financial support.

The hematology-oncology APP fellowship track was planned for and developed in 2016 by a team of two MD directors as well as two APP directors. The first APP fellow started in early spring 2017. This cohort included one APP fellow as a pilot to determine the program’s acceptance and effectiveness within

Levine Cancer Institute (LCI). The hematology-oncology APP fellowship quickly gained credibility and was able to subsequently accommodate additional APP fellows in the following cohorts. Cohort candidates are rigorously interviewed on a biannual basis for spring and fall enrollment periods. All applicants are carefully reviewed, and several are selected for in-person interviews based on credentials, recommendations, statement of interest, and volunteer experience. Oncology experience is not mandatory; in fact, a diversity of experiences is welcomed for the applicant pool. In the fall of 2019, the hematology-oncology APP fellowship welcomed their sixth cohort of two APPs.

DEVELOPMENT OF CURRICULUM

A 12-month APP clinical fellowship curriculum was established to assist fellows in learning all aspects of the hematology and oncology care divisions. Given the vast amount of information APP fellows are expected to learn in a 1-year period, APP fellow productivity is not the primary emphasis of this fellowship; instead, emphasis is placed on knowledge attainment and overall preparedness for an APP role.

The APP fellows begin their clinical rotations within the inpatient setting to provide additional preceptorship and oversight as they learn a new hospital system, electronic medical record, and specialty medicine. After 5 to 6 months, the APP fellows transition to specialty clinics such as infusion, pathology, radiology, radiation oncology, and continue to subspecialty outpatient clinics. Clinical experiences take place mostly on the main campus but are also completed at satellite locations to provide more generalized hematology-oncology practice. Involvement of satellite clinics also engage new and veteran APPs across the system to unify knowledge and decrease preceptor burnout. Table 1 shows a curriculum outline.

In addition to clinical rotations, APP fellows are required to complete educational deliverables through both the CAP as well as the hematology-oncology track. The following requirements must be completed to graduate from the APP fellowship. CAP requirements include:

- A 6-week CORE curriculum to acute care services within the hospital
- Quality improvement (QI) project to be

completed as a group within the APP heme-onc cohort

- Interprofessional Education Rotations (IPEs) and accompanied written reflections of each experience
- Monthly case studies presented to other acute care track APP fellows as well as MD directors and CAP faculty with feedback provided
- Presentation of clinical case scenarios
- Quarterly self-reflections and fellowship program evaluations

In addition to the CAP requirements, the hematology-oncology APP fellowship program requires:

- 7 days of LCI-specific onboarding
- Oncology-specific 6-week CORE curriculum that includes 15 lectures specifically designed for APP fellows and given by seasoned APPs (including pharmacists), as well as physicians. Examples include “Introduction to Oncology,” “Pain Management,” and “Understanding Research Studies.”
- 1-month didactic education series alongside MD fellows every July
- Completion of American Society of Clinical Oncology (ASCO) Advanced Practitioner Certificate Basics 101 Program by end of year
- Four to five presentations per year at journal club
- Once yearly clinical case presentation at general tumor board
- Attendance at monthly clinical pearls and hematology-oncology board questions review
- CITI training for participation in clinical trials research
- Bone marrow biopsy credentialing
- Chemotherapy credential certification

The hematology-oncology APP fellowship fulfills an intermediary training step between graduation from school and employment, much like that of medical doctors (Lackner, Eid, Panek, & Kisuule, 2019). The APP and MD fellowship directors meet monthly to reevaluate the most up-to-date oncology and hematology information and integrate this into the ever-evolving APP hematology-oncology program. Exit interviews are conducted at the completion of the APP fellowship to further enhance future cohort learning. Table 2 shows quality measure metrics for the fellowship program.

Table 1. Summary of Hematology-Oncology Curriculum

Clinical trials	Pathology
Hospitalist medicine	Pulmonary
Infectious disease	Radiation oncology
Infusion	Radiology
Inpatient hematology consult	Sickle cell disease
Inpatient malignant hematology	Specialty rotations if requested
Inpatient palliative medicine	Solid tumor outpatient subspecialties
Inpatient solid tumor	Supportive oncology

LESSONS LEARNED

Throughout the nearly 3 years the hematology-oncology track has been in existence, curriculum adjustments have been made based on both fellow and preceptor feedback, as well as the need to integrate novel oncologic breakthroughs into the program. After the pilot program with one fellow in spring 2017, it was determined that a desirable minimum quantity of APP fellows would be two fellows. This allows collegiality as well as collaboration among fellows and has been shown to produce better quality work, such as QI projects, at year’s end.

On the other hand, increasing the number of fellows with each additional cohort should be a slow and thoughtful process, taking into consideration the hiring needs of the institution upon graduation. Additional APP fellows incur added

Table 2. Quality Measure Metrics for Hematology-Oncology APP Fellowship

- Hematology-oncology-specific metrics
 - » Monthly preceptor evaluations
 - » Pre- and post-test hematology-oncology test scores given at the beginning and end of APP fellowship
 - » Case study workup and evaluation
 - » Monthly pop-quiz question score
 - » Quarterly case presentation within LCI
- System
 - » Overall retention rate: 1, 2, and 3 years post fellowship
 - » Publication of quality improvement projects
 - » Patient satisfaction scores
- Efficiency
 - » Relative value unit per month or quarter
 - » Leadership roles post fellowship

strain on preceptors, finances, and the overall institution. This fellowship has had the advantage of allowing expansion to the satellite locations throughout the region. Ultimately, this allowed the fellowship to take on more fellows from a resource standpoint and ultimately offer additional jobs at the conclusion of the fellowship by virtue of additional site opportunities. To date, this fellowship has hosted a maximum of four fellows in a cohort.

FUTURE CONSIDERATIONS

Many APP fellowship programs cite “training and retaining” as the main driver for their creation (Klimpl et al., 2019, p. 1). While this remains the undercurrent for this APP fellowship program, both within the CAP as well as LCI, there has also been additional focus on training APP fellows to the best of their abilities, with the expectation that they continue on professionally within the hematology-oncology specialty area upon graduation, whether it be through employment within LCI, outside the system, or in advanced education (Dains & Summers, 2015). However, there is no argument that APP fellows who go on to gain employment through the same facility benefit both the system financially with their abilities to “get up and go” from day 1, as well as benefit themselves from increased overall job satisfaction. At the 2019 American Association of Nurse Practitioners (AANP) Annual Meeting, research was presented that demonstrated that 68.8% of NPs who had completed postgraduate education reported feeling satisfied with their current job role, while only 50.5% of NPs who had not completed postgraduate education reported the same (Morr, 2019b).

The hematology-oncology APP fellowship within LCI has become fully integrated within the facility and is a part of everyday practice. The APP fellows who have graduated thus far have gone on to work in the oncology field, mostly within LCI and some elsewhere. The feedback that has been received from the fellows who have gone elsewhere has been highly commendatory regarding their level of training. The focus of the fellowship program will remain on educating the next generation of APPs to help continue to advance the oncologic field. ●

Disclosure

Ms. Kramer has served on the speakers bureau for Amgen. Dr. Petraitis Valente has no conflicts of interest to disclose.

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