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ORIGINAL RESEARCH

A Qualitative Analysis of Postgraduate Training Programs for Family Nurse Practitioners

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- Introduction:** Family nurse practitioners (FNPs) are registered nurses who are trained at the master's level and manage the care of patients in the primary care setting. FNP postgraduate training programs further prepare them and ease their transition from education to practice. Although these programs are emerging and relatively new, they are becoming more common as graduates and employers seek further preparation to practice in the primary care setting.
- Methods:** Interview questions were developed using guidelines from the Consolidated Framework for Implementation Research. Participants were selected using convenience sampling. Fourteen semi-structured interviews with key informants were conducted between July 2021 and August 2021. Interviews were recorded and transcribed using Zoom. Data were analyzed using thematic analysis, and key themes were identified.
- Results:** Key informants had similarities in their responses. Themes identified through analysis included program implementation, resident selection, funding sources, and program evaluation.
- Discussion:** The network of FNP postgraduate training programs is growing. Program directors are eager to share their progress with others and willing to collaborate with those seeking to implement programs. Given the evolving complexity of patients in the primary care setting, the increasing responsibility of FNPs, and the rise in postgraduate training opportunities, FNP postgraduate training programs are emerging as a means of bridging education to practice.
- Conclusions:** The findings of this research indicate commonalities between programs and suggest long-term program standardization. The unique combination of emerging federal grant funding, accreditation options, and a stronger support network among participants suggest potential for future program creation and expansion.
- Keywords:** training program, nurses, family nurse practitioners, internship and residency, fellowships and scholarships
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Family nurse practitioners (FNPs) are advanced practice registered nurses, educated at the graduate level, who specifically train to provide services in the primary care setting. FNPs fill a critical clinician shortage in primary care as they can diagnose conditions, prescribe medications, make referrals, and manage the overall care of patients. As a profession, the history of the NP role dates to the early 1960s and was developed by Drs. Loretta Ford and Henry Silver at the University of Colorado.¹

Although many new graduates transition directly into the workforce, the increasing complexity of patient care calls for a higher level of training than that endowed in graduate training and clinical precepting. Some trainings require as few as 500 hours.² NP graduates are seeking more opportunities for enriched training, as many feel underprepared entering the workforce immediately after training.³ NP postgraduate training programs for NPs are a way of bridging the gap between graduation and clinical practice to instill confidence, build skills, and allow participants to learn in a safe and supervised setting.

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FNP postgraduate training programs [referred to as residencies, fellowships, transition-to-practice programs, or advanced practice provider (APP) residencies/fellowships] are non-required opportunities for FNPs to gain more experience and aid in their transition to practice. Typically, programs are 1 year in length, incorporate didactic sessions that focus on both primary care and specialty topics, and involve a gradual increase in patient volume.

These programs are becoming more common as health care leaders seek to better train NPs as they transition from graduate education to practice.⁴ These programs are relatively new, with the most established program accepting its first cohort in 2007.⁵ Akin to other health professions, NPs and other APPs (eg, physician assistants) formerly had very few ways of engaging in postgraduate training programs. Margaret Flinter, an FNP from Connecticut, saw this need and created the first program at Community Health Center, Inc., in 2007.^{5,6}

FNP postgraduate training programs are not required of new graduate NPs, but the expanding number of programs in the United States indicates a shift in the practice approach that mirrors similar health professions. Other health care disciplines (medicine, physical therapy, pharmacy) have well-established and accredited training programs that prepare new graduates for transition into the workforce. Conversely, FNP postgraduate training programs vary in length, curriculum, accreditation, affiliation, and level of preparation.⁷ With the evolving complexity of patient care, increasing scopes of practice for NPs, and existing shortages in primary care clinicians, FNP postgraduate training programs must be assessed as health care institutions seek to better prepare new graduate FNPs.⁸ Although these programs may continue to be optional, new graduate FNPs can benefit from additional training in health care before engaging in full practice.

NP postgraduate programs have exponentially grown in number between recent environmental scans and evaluations. Both Bush (2014) and Harris (2014) independently estimated that as few as 20 to 30 programs exist.^{9,10} Also, Martsof et al. (2017) identified 68 active programs in the United States, but did not describe data on the number of accredited programs.⁸ These programs were primarily clustered in the Northeast, South, and

West. The predominant specialty area was primary care, with 38.2% of programs offering training in family practice.⁸ Within a 4-year timeframe, Kesten et al. (2021) identified 88 programs, nearly a 30% increase in the number of programs since Martsof et al.'s (2017) environmental scan.^{4,8}

Although the number of programs is growing, the United States has few accredited FNP postgraduate training programs. Assessing what other institutions have done to successfully launch, maintain, and evaluate their training programs will aid others as they navigate the process of implementing their own. Although many studies qualitatively assessed the perceptions of new FNP graduates as they transition to practice,¹¹⁻¹⁶ and several quantitatively examined the content of FNP postgraduate training programs,^{4,8} none qualitatively assessed program characteristics. The purpose of this research was to conduct a qualitative analysis of FNP postgraduate training programs to inform program directors in their future implementation efforts.

METHODS

During July 2021 and August 2021, 50 potential key informants were contacted via email. Key informants were chosen using convenience sampling and identified through the list of training programs and sites by the National Nurse Practitioner Residency and Fellowship Training Consortium (NNPRFTC).¹¹ Key informants held many positions within their respective organizations. Each key informant was either a program director/co-director (n = 14) or clinical coordinator (n = 5). Most program directors were FNPs (n = 14); 1 program director was a family physician, 2 were physician assistants, and 2 were clinical/educational coordinators who did not hold a clinical degree.

Program directors spent various years in clinical practice, but all were previous clinicians. Most (n = 15) key informants were actively practicing clinicians who were seeing patients, with clinical time allotted into their full-time position. Four key informants (2 program directors; 2 clinical coordinators) were strictly administrative and did not see patients; however, they were direct preceptors to the residents/fellows. Sites that offered training disciplines other than family practice (eg, critical care, pediatrics, psychiatry) were also included for consideration. Of the key informants contacted, 14 confirmed a scheduled interview date in July 2021 or August 2021 via Zoom. One program director

declined as they considered their program too new for consideration; another responded and was unavailable during the allotted research timeframe. One key informant was actively seeing patients the day of the interview and misunderstood the time commitment required of the process. After answering half of the questions, the director abruptly left and was unable to complete the interview. The results of the incomplete interview were included in the final data analysis but with consideration of its limitations.

Fourteen semi-structured interviews with 19 key informants were conducted. Two interviews included 3 participants consisting of program directors, co-directors, and clinical coordinators; 1 interview included a program director and clinical coordinator. Informed consent was received from participants before beginning the interview. This study was deemed exempt by the University of Southern Maine Institutional Review Board.

Eleven semi-structured, open-ended interview questions were developed using guidelines from the Consolidated Framework for Implementation of Research. The questions inquired about general program information, implementation, challenges, program evaluation, and recommendations for new programs (Figure 1).¹⁸

Data analysis

The nearly 1-hour long interviews were conducted, recorded, and transcribed using Zoom's internal features and then saved to a secured drive. A coding structure based on the interview guide was developed and used in thematic analysis of the data.

RESULTS

Program naming, funding, and length

In reviewing the NNPRFTC program list, most programs are designated as FNP residencies (n = 8) and "APP fellowships" (n = 5), with 1 program being named a "postgraduate nurse practitioner fellowship" (Table 1). Most (n = 6) APP fellowships accepted both NPs and physician assistants, but 1 program was designated as an APP fellowship that only accepted NPs.

Funding was primarily driven by reimbursement for services provided by FNP residents. All programs included in this study require an active, board-issued NP license from each resident's respective

state of practice. Of non-grant-funded programs, key informants affiliated with academic health institutions indicated that their programs were part of the larger overall budget. Other key informants spoke of difficult first years in which the program lost their health systems money. Because there patient volume is gradually ramped up as part of the program curriculum, each resident is not seeing the maximum number of patients that they possibly could, greatly limiting program revenue. Informants spoke of their programs as an investment in their residents and shared that they had support of key stakeholders (eg, chief executive officers, chief financial officers, other clinicians).

Half of the key informants (n = 7) indicated that they received some form of grant-based funding. Regardless of grant funding, all informants reimbursed for services provided by residents. Four key informants disclosed that they received grant funding through the Health Resources and Services Administration; 1 informant received an endowment from a partnering non-profit; 1 informant received funding through their state primary care association; and 1 informant received money through an initiative to reform delivery service through their state's Medicaid program.

Nearly all programs (n = 12) were 1 year in length; 1 was 13 months long, and another was 2 years long (Table 1). One key informant spoke to efforts to implement a 6-month program but realized that residents were not as well-prepared to transition to practice. Another key informant offered cohorts with 3 different start dates (fall, spring, summer) for their 1-year program. This informant also alluded to the idea of consistency and continuity of patient care as important drivers of adopting this framework. Similarly, another program implemented biannual start dates (fall and spring), with 2 different cohorts consisting of 2 fellows beginning each date.

Accreditation and curriculum development

Most programs were either in the process of becoming accredited (n = 7) or already accredited through the NNPRFTC (n = 3) or another accrediting agency (n = 4). All 7 informants that were becoming accredited were doing so through the NNPRFTC. They spoke to the benefits of getting accredited through the Consortium; several (n = 5) key informants were already using content from the NNPRFTC and stated that becoming accredited would help them further align with the Consortium.

Nurse Practitioner Residency Program Qualitative Interview Guide

Introduction

You are either directing or coordinating a nurse practitioner residency program at your healthcare organization and have indicated your interest in participating in a series of questions as part of a qualitative interview process through the Muskie School of Public Service at the University of Southern Maine. This process is part of a final capstone research requirement for partial fulfillment of the Master of Public Health degree. The purpose of this research is to better understand the implementation and evaluation of nurse practitioner residency programs that program leaders experienced. As part of this work, we are reaching out to program coordinators and directors to learn more about your experience implementing and evaluating nurse practitioner residency programs.

Preliminary questions

1. Could you tell me a little bit about your role at your organization? How long have you been involved with the NP residency program?
2. How many staff does your program have, and what is your FTE allotment?
 - a. Are the program coordinators/directors also seeing patients?
3. How is your program funded?
4. On average, how many candidates does your program receive for consideration annually? What factors into your decision-making process?
 - a. Does your program offer opportunity for conditional employment post-residency?
5. Do you use a set curriculum in your program?
 - a. Does your program offer continuing education opportunities?

Implementation

6. Are key stakeholders (i.e. board members, senior administration officials, front-line providers/supervisors) supportive of your efforts in both implementing and strengthening your NP residency program?
7. How has implementation been going? What were your biggest surprises?
 - a. What are your primary accomplishments?
8. What challenges have you encountered in implementing your residency program?
 - a. Are any of these challenges unique to the specific clinical services delivered?
 - b. What steps have you taken to tackle the challenges or barriers to program implementation? Were they effective (or successful)?
 - c. What resources would help overcome the implementation challenges you have faced?

Evaluation and Recommendations:

9. How and with what frequency have you evaluated your nurse practitioner residency program?
10. How have you evaluated your residents; have you given them opportunities for feedback on the program?? What have you gained from their feedback?
 - a. Do residents feel more confident post-residency to care for patients?
11. What recommendations do you have for those interested in implementing a nurse practitioner residency program?
 - a. Knowing what you know now, what would you have done differently?



Figure 1.

Table 1. Residency Program Characteristics*

Characteristics	Number of programs (N = 14)
Affiliation	
University/Academic medical center	4
Federally Qualified Health Center	10
Accreditation	
NNPRFTC	3
Other	4
In progress (with NNPRFTC process)	7
Accepts physician assistants or other clinicians (ie, certified nurse midwives)	
Yes	4
No	10
Program length	
1 year	12
13 months	1
2 years	1
Program training discipline	
Family NP residency	10
LGBTQ+ NP fellowship	1
APP critical care fellowship	2
Pediatric acute care fellowship	1
Program region	
Northeast	6
Midwest	4
Northwest	4

Abbreviations: APP, advanced practice provider; LGBTQ, lesbian, gay, bisexual, transgender, queer; NNPRFTC, National Nurse Practitioner Residency and Fellowship Training Consortium; NP, nurse practitioner.

*These quantitative data were collected as part of routine data collection from residency program websites, independent of the qualitative interview process.

Of the 4 other organizations that were accredited through other agencies, 2 key informants stated that their accreditation was through the Joint Commission, and they were not seeking further accreditation at the time. One informant stated that their Federally Qualified Health Center was accredited through the Accreditation Association for Ambulatory Health Care. The final informant was accredited through the Higher Learning Commission.

Curriculum development varied across programs. Most interviewees self-developed elements of their curriculum, but those who were either accredited or working to become accredited through the NNPRFTC used content provided by the Consortium. One key informant developed their own lectures and curriculum with modules from the American Academy of Family Physicians and curriculum available through the Society of Teachers of Family Medicine. Incorporation of didactics into clinical experiences varied across all key informants. Most informants spoke of integrating content into each week, and some had bi-monthly, full-day didactics with a specific clinical focus. Programs offered variations in either continuing education credits or continuing medical education credits. Although most programs (n = 10) offered some form of these credits through didactics, national conferences, or completion of web-based modules, a notable number of programs (n = 4) did not.

Resident selection

Program directors all followed a standard application process that consisted of an electronic application, academic transcripts, letters of recommendation, statement of purpose, background screening, and interviews. Several key informants discussed using scoring tools, metrics, and spreadsheets to further differentiate their potential candidates. All informants used a panel of reviewers to better gauge who would move forward in the application process. One key informant required 3 years of previous experience as a registered nurse as a prerequisite to applying. Key informants indicated that interest in their programs had ballooned within the past year, with several directors noting nearly double the applicants from the previous cycle. Of the program directors interviewed, most spoke to the importance of potential residents' interest and buy-in to their mission. Training discipline was predominantly oriented to family medicine (n = 10). Two key informants were directors or co-directors

of a critical care fellowship; 1 key informant was the director of an NP fellowship for LGBTQ+ (lesbian, gay, bisexual, transgender, queer) participants; and 1 key informant was the director of a pediatric acute care fellowship (Table 1).

Implementation

Key informants offered several recommendations for new program directors. One informant spoke specifically to accreditation and the importance of beginning the process early. Three informants discussed the importance of having a "planning year," during which the foundation of the program is prepared. Several recognized that when fostering buy-in from administration, it is important to pitch the program as an investment that might incur losses during its first 1 to 2 years. One informant stated that "there's going to be chaos at the beginning," and that is to be expected within the first year.

Similarly, one key takeaway that was consistent across all interviewees: have a plan in place and be willing to innovate as that plan unfolds. Other informants spoke to the importance of recruiting the right candidates for the program, as these are potential future employees for one's practice. Another informant spoke to the importance of having practicing NPs involved in program and curriculum development. Another mentioned the critical need to have clinical preceptors who are invested in educating and training residents from the start. One informant offered the following advice: "Number one: make sure there's good sponsorship and that everyone's on the same page of what you're going to do and what you hope to get out of it... Number two: develop a good structure, have a foundation and commit to ongoing change, whatever that might be. Whatever you learn, keep getting feedback. Number three, I would say, is just do it, because you could honestly plan forever."

Successes, challenges, and evaluation

All key informants spoke to many program successes, as many interviewees were in their first or second years of program implementation. Successes included: cultivating interest and buy-in among senior administrative officials, potential clinical preceptors, and other care team members; getting the program officially started and welcoming the first cohort of residents; being creative and innovative in training residents in using telehealth as a response to COVID-related challenges; offering specific training and experience in completing

procedures (eg, Nexplanon placement, biopsies, pelvic exams); and graduating their first classes.

Challenges encountered by key informants varied. The most ubiquitous challenge to program implementation was the COVID-19 pandemic. Other challenges were related to implementing telehealth, as several key informants indicated that they previously had not used telehealth in their daily practice. Two key informants specifically spoke of the challenges related to taking over as program director and the learning curve associated with being the program director. Both of these informants spoke of necessary changes to ensure resident competency and engagement throughout the training process.

Key informants evaluated their programs and residents in various ways, with several noting that evaluation was “constant,” “ongoing,” and “an every-day process.” Two noted that they used official evaluation platforms (1 used myevaluations.com, and 1 used the ‘New Innovations’ evaluation program) for their respective processes. Most others indicated that they self-developed quarterly and end-of-program evaluations for each cohort that were distributed via email. Residents could offer feedback on themselves, their preceptors, and the entire program. Specific to key informants who used the NNPRFTC curriculum was resident journaling of their experiences. One informant spoke to the growth experienced by residents in reviewing their journal entries from the beginning of their program to the end as an indicator of their growth and knowledge gained throughout the training period.

DISCUSSION

FNP postgraduate training programs are still considerably new. As clinicians and health care leaders seek innovative ways to train tomorrow’s workforce, it is important to recognize how the health care landscape and training methods are evolving to meet patient-care demands.

The themes that were identified suggest the future potential of postgraduate training programs for FNPs and other APPs. The key informants in this study were eager to contribute to this research and felt that the potential findings held promise in contributing a better understanding of the characteristics of FNP postgraduate training programs. The findings of this study are part of a

larger effort to reform training in a way that leads to more efficient and actionable provision of health care services, particularly in areas with underserved and marginalized patient populations. Flinter (2011) alludes to this distinction and the importance of supporting people who pursue careers in primary care by creating a specific training pipeline for them.¹⁹ Overall, there was a sense of camaraderie and cooperation among informants to help others succeed in creating their programs.

Limitations

Some of the inherent limitations of this study include a relatively small sampling and time constraints that affected data collection and analysis. Ideally, following up with non-respondents would have led to more potential interviews being conducted.

CONCLUSIONS

The steep learning curve that occurs during the first year of NP clinical practice is well-established in the literature and further emphasizes the need for a designated training period that supports a smoother transition to practice.^{11,13-14} The findings of this research indicate commonalities between postgraduate training programs and also suggest program standardization. The unique combination of emerging federal grant funding, accreditation options, and a stronger support network are all promising indicators that suggest such staying power. Despite recent challenges to implementation, program directors and coordinators were optimistic that their programs were positively impacting residents and would, ultimately, lead to better patient outcomes for their organizations.

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