From New Nurse Practitioner to Primary Care Provider: Bridging the Transition through FQHC-Based Residency Training

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Abstract

Community Health Center, Inc. (CHCI), a multi-site, federally qualified, health center (FQHC) in Connecticut, implemented a one-year-residency program for new nurse practitioners (NPs) in 2007. This residency program is specifically designed for family nurse practitioners intending to practice as primary care providers in federally qualified health centers. These centers comprise the nation's largest safety net setting; they are commonly referred to as community health centers. Supported in part by the Health Resources Service Administration, health centers are private nonprofit or public organizations serving populations with limited access to healthcare. They are located in designated, high need communities; governed by patient-majority boards of directors; and provide comprehensive, primary healthcare services. The author begins by reviewing the background and context for a nurse practitioner residency program, the importance of NP residency programs, and the recruitment and selection of NP residents. She explains how the residents are trained to a model of care and the content of care. She furthers the discussion by addressing program evaluation and outcomes and costs. Implications for national health policy, clinical practice, and nursing and areas for further research are presented. This article is timely in light of recent recommendations in the Institute of Medicine's 2010 report on the future of nursing recommending the development of residency programs for new, advanced practice registered nurses.

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The United States (US) today faces a crisis in access to primary healthcare. Millions of newly insured people will soon seek additional healthcare. They will confront the current and projected shortfall of primary care providers to deliver that care. This shortage is most apparent in the nation's largest primary care system, the network of more than 1,100 federally qualified health centers (FQHCs), also known as community health centers, or simply health centers. These centers are currently serving 18 million people in medically underserved and health-professional-shortage areas across the US. These numbers are expected to double by 2040.
I will begin by reviewing the background and context for a nurse practitioner residency program, the importance of NP residency programs, and the recruitment and selection of NP residents. Next, I will explain how the residents are trained to a model of care and to the content of care. I will conclude by discussing the program evaluation and outcomes to date; implications for national health policy, clinical practice, and nursing; and areas for further research.

In this article, I will focus on a particular FQHC, Connecticut’s Community Health Center, Inc. (CHCI), a comprehensive, statewide, primary care system with 130,000 patients. Established in 1972 with a mission of healthcare as a right, not a privilege, the center focuses on improving health outcomes of special populations and building healthy communities. CHCI has three central drivers: clinical excellence; research and innovation; and training the next generation of healthcare providers. CHCI’s Weitzman Center is its research, development, and innovation arm. In 2007 the Weitzman Center piloted the country’s first formal, post-graduate residency training program for new family nurse practitioners. CHCI took this step after years of observing the difficult transition experience of new nurse practitioners (NPs). Their challenges included caring for a totally new panel of patients representing an enormous range of health conditions and needs that often included problems of behavioral health, substance abuse, low health literacy, and lack of access to specialists. These observations are supported in the literature (Bosch, 2000; Brown & Olishansky, 1997, 1998; Hart & Macnee, 2007; Huffstutler & Varnell, 2006; Kelly & Mathews, 2001). The NP residency program accepts four residents annually for the one-year, full-time program. As the Senior Vice President and Clinical Director of CHCI, and the Director of the Weitzman Center, the NP Residency is under my organizational leadership but has the strong, collaborative support of the entire executive team. CHCI anticipates that the NP residency graduates will develop careers as primary care providers in community health centers across the country; we have no implicit or explicit expectation that they will remain at CHCI.

Background and Context

The Patient Protection and Affordable Care Act (PL11-148) (An act, 2010) has made a significant investment in expanding the number and capacity of federally qualified health centers to deliver high quality, lower cost, primary care to underserved and special populations. The health reform debate now focuses on improving quality, increasing safety, and controlling cost while ensuring access to both health insurance and healthcare. Nationally we are seeing a new policy focus on prevention, care coordination, chronic disease management, health information technology, and patient-centered medical homes. The call for a blending of expertise in individual health, population health, and public health into the role of the primary care provider has never been louder. Against this backdrop is the acute need for an expert primary care workforce that is prepared and motivated to practice a model of primary care appropriate to our 21st century healthcare system. We recognize the importance of asking not only “Why aren’t more physicians choosing primary care?” but also “Who does want to be a primary care provider and what strategies are necessary to support them?” We believe post-graduate residency training for new nurse practitioners is a promising answer to the latter question.
Importance of the FQHC-Based Residency for New Nurse Practitioners

Our FQHC organization recognizes and values the unique contributions of nurse practitioners serving as primary care providers. We recognize that they provide a nursing perspective to the challenges of a vulnerable population and nursing’s commitment to health promotion, prevention, patient education, and community engagement. We also recognize that the current and future shortage of primary care providers demands that we think creatively and strategically about how to build on education, talent, and commitment in creating satisfying and long-term career opportunities for nurse practitioners within community health centers.

As a senior organizational leader across all clinical disciplines as well as a family nurse practitioner, I have observed over many years the difficulty of the transition from new NP to primary care provider and the stress that the transition places on the new NP, the practice team, and the organization. I have seen a significantly less difficult transition of new physicians entering practice after a residency-training program in a primary care discipline. After testing various approaches for supporting this transition for the new NP’s, including intensive orientations, assigned mentors, and very slow assumption of responsibilities, I have concluded that a structured, formal residency training program would be the approach most likely to support the transition from new NP to competent primary care provider.

In 2005 the CHCI executive team began the process of planning a residency program for new NPs. Our review of the literature and discussions with national colleagues within the FQHC community led to the publication of an article citing the need for FQHC-based residency training for nurse practitioners and discussing the desirability of basing such training in community health centers (Flinter, 2005). We accepted our first cohort of NP residents in 2007.

The NP residency program prioritizes both training to the complexity of clinical care and training to a model of primary care that is patient centered, team based, and comprehensive. The NP residents are assigned to ‘pods,’ a physical and staffing structure that groups primary care provider-led teams, with each team being responsible for a panel of patients. Each team consists of nurses, medical assistants, and shared personnel resources, including a dietician, behavioralist, pharmacist, and diabetes educator. Each primary care provider (a physician or a nurse practitioner) is ultimately responsible for the care of all patients in his/her panel. Key components of the NP residency program include precepted clinics, specialty rotations, independent clinics, and didactic sessions, supplemented by resident involvement in workgroups and data-driven quality initiatives of the organization. NP residents build their own panel of patients, derived from new patients registering for care at CHCI; they see each of these patients during ‘continuity clinics’ in which the NP resident has the exclusive attention of a CHCI staff NP or physician. Specialty rotations focus on areas that are high risk, high burden, and/or high volume in community health centers. Independent clinics provide an opportunity to focus on practicing independently, but with access to an identified PCP for consultation. A six week ‘snapshot’ of one NP resident’s schedule is shown in Figure 1.
### Figure 1. 'Snap Shot' of Resident Schedule (see full size [pdf])

Weekly didactic and experiential sessions that address specific content, skills, and procedures are shown in Figure 2.

<table>
<thead>
<tr>
<th>First Quarter</th>
<th>Second Quarter</th>
<th>Third Quarter</th>
<th>Fourth Quarter</th>
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</table>
| - Focused history, interviewing, and documenting  
- Immunizations of children and adults, typical and atypical  
- EKG Interpretation: 1st in series of 3 presentations  
- Selecting, ordering, and interpreting laboratory tests  
- Instructing u/s in the diabetic patient  
- Initiating and managing anticoagulation therapy  
- Managing Pain: pharmacologic and non-pharmacologic approaches (1st in series of 2)  
- Chronic Heart Failure: assessment, diagnosis, management, and patient education  
- Pediatric Asthma assessment, diagnosis, management, and patient family education  
- Contraception: methods and options  
- Tobacco Cessation: evidence-based interventions including motivational interviewing  
- Pediatric growth and development: screening, assessment, identification and referral  
- Mindfulness-Based Meditation and Stress Reduction (lecture plus experiential)  
- Chronic Kidney Failure: assessment, diagnosis, management and patient education  
- Chronic Liver Failure: assessment, diagnosis, management and patient education  
- Anxiety and Depression: screening, assessment, diagnosis, management and patient education  
- Pap smear: conducting and managing abnormal results  
- Pediatric growth and development: Part 2  
- HIV/AIDS - Overview Part 1 of series of 2: overview, prevention, screening, testing  
- HIV/AIDS - Pharmacologic management in primary care  
- Pre-Op Physicals  
- Orthopedics, upper and lower extremities and back: 1st in series of 3 presentations  | - Adult Asthma: assessment, diagnosis, management, patient education  
- Caring for patients with a history of trauma (physical, sexual, emotional)  
- ADHD: screening, detection, assessment, treatment: patient-family education  
- Oral Health: prevention, assessment, management, treatment of oral health problems  
- Geriatrics: assessment and management of common geriatric concerns  
- Podiatry: examination and assessment of the foot and common pediatrics problems  
- Stages of change: self-management in primary care setting (series of 2)  
- Suturing: simple closure  
- Being on-call: assessment and management after hours  
- Managing hypotension: assessment, management, counseling, education  | - Hepatitis C: screening, assessment, management, patient education  
- Managing neonatal jaundice and elevated bilirubin  
- Sexually transmitted disease: intensive, 3-day, off-site training  
- Orthopedics, upper and lower extremities and back: 3rd in series of 3 presentations  | - Position Search: The art of negotiating  
- Resident Case Presentations to Sr. VP and CMO |

### Figure 2: Didactic Lecture Schedule (see full size [pdf])

We recruit nationally through mailings to universities with NP programs; advertisements in a major national print and on-line publications; and via our website, www.NPResidency.com. The application process includes broad...
Qualifications, Recruitment, and Selection of NP Residents

Language competency in a second language, preferably Spanish, is strongly recommended.

Clinical and administrative leaders interview finalists and select the final four candidates for offers of a position in the NP residency program. The NP residents must be licensed (RN and APRN) in Connecticut by the start of the program. Language competency in a second language, preferably Spanish, is strongly recommended. Applications have grown steadily; in 2011, forty five finalist applicants competed for four positions.

Training to a Model of Care and the Content of Care

The NP residents are immersed in training to a model of primary care that CHCI has developed over many years. This model emphasizes a continuous relationship with a primary care provider; coordinated, team-based care; integrated behavioral health services; electronic health records; chronic disease management; prevention and health promotion; and continuous performance improvement. With the development and 2011 update to the National Committee on Quality Assurance (NCQA) Patient Centered Medical Homes Standards (Patient Centered Medical Homes, 2011) we now use the term ‘PCMH’ to refer to this model as this model closely approximates our model. CHCI was recognized as a Level 3 Patient Centered Medical Home by NCQA in April, 2011.

As a community health center, it is essential that our clinicians understand the community in which they practice. Thus, the initial orientation period includes intensive exposure to the service area, target population, community health data, and local resources. Because NP residents care for a very diverse and multi-lingual patient population, they have full access to telephonic medical interpreter services at all times. Health information technology supports all of their activities from a fully integrated electronic health record that is accessible both on-site and remotely, to a patient portal for electronic communication with patients. NP residents are now able to secure electronic consults with specialists internally and externally.

Program Evaluation

The NP residency program collects on-going evaluation data using a commercial, medical-residency-evaluation program adapted for a NP residency. NP residents evaluate each element of the program weekly, monthly, or quarterly. Residents are evaluated in turn by their continuity clinic preceptors, specialty rotation preceptors, and the on-site medical director of their assigned site. We track visit volume, patient panel size and composition, diagnoses addressed, and procedures performed. Each week, NP residents must submit a reflective journal; these journals have provided rich insights into the transition from new nurse practitioner to competent primary care provider, and into the abundant challenges they encounter and overcome.

A multiple case study with cross-case synthesis of the inaugural 2007 class using Meleis’ transition theory (Meleis, Sawyer, Messias, & Schumacher, 2000) as the theoretical foundation for studying the transition from new NP to...
Perhaps their most significant area of mastery is...the ability to pursue one's goals for prevention, health promotion, and health maintenance, no matter how ill the patient...


The cross-case synthesis of the inaugural class provided evidence that a healthy transition occurred, as described below in the responses given by the students. The NP residents allowed CHCI to use their responses for projects related to the residency program. This cross-case synthesis study was approved by CHCI's Institutional Review Board. One NP resident wrote towards the end of the residency, “As time went on, I hit a better stride and arrived at the end of the residency astounded at the difference between where I started and where I finished.” She recalled the satisfaction of arriving on “day one” at her new job post-residency and feeling confident to handle her role and her patients. Another resident marked her confidence in her skills by noting that her very complicated patients were getting better; their “A1Cs and BPs dropping, their asthma controlled.” A year after completing the residency, each of the former NP residents identified that part of being a primary care provider means constantly confronting unknowns. They were sobered by the awareness of how sick patients seen by primary care providers in community health centers can be. As one resident noted, “not everyone with a cough has pulmonary emboli, but some of them do, and one of my patients did.” Perhaps their most significant area of mastery is one that is well known and challenging for all primary care providers in community health centers, namely the ability to pursue one’s goals for prevention, health promotion, and health maintenance, no matter how ill the patient, how numerous the chronic diseases, or how severe the socio-economic conditions.

**Program Outcomes and Costs**
All of the sixteen NP residents who have started the program since 2007 have completed the program. All but one are practicing as primary care providers in federally qualified health centers across the US.

To date, there is no federal source of financial support for residency training for nurse practitioners. Federal graduate medical education funding is not accessible for nurse practitioner residency training. CHCI considers the value of NP residency training of sufficient importance to invest internal resources, supplemented by sporadic external grant funding, while working vigorously to address the legislative and policy issues necessary to develop a structural, sustainable funding model for NP residency programs.

The costs of the NP residency program derive from four major areas: NP resident salary and benefits; compensation for the NP residency program coordinator; lost revenue when the CHCI preceptor is exclusively assigned to a precepting session with a resident versus being assigned to seeing the preceptor’s own patients; and facility overhead and administrative expenses. Most external specialty preceptors have contributed their time without charge. As fully licensed and credentialed providers, NP residents bill for clinical services they deliver, and this revenue is an offset to the expense of the program.

Implications

This Residency Program has implications for national policy, clinical practice, and the nursing profession. Each of these will be discussed below.

National Health Policy

In 1986, Congress created the Council on Graduate Medical Education (Phillips, Dodoo, & Jaen, 2005). This Council is an advisory council. It issues reports and recommendations concerning physician workforce development and training and has made several strong recommendations to address the primary care physician shortage.

The 19th Council on Graduate Medical Education (COGME) report of September 2007 (COGME, 2007) called for aligning Graduate Medical Education (GME) with future workforce needs, broadening the definition of training venues, removing regulatory barriers to executing flexible GME programs, and making accountability for the public’s health a driving force in GME. Unfortunately, residency training for nurse practitioners has not yet been addressed by COGME.

Since 2005, CHCI leaders have collaborated with other stakeholders with an interest in NP residencies and have worked to educate and inform congressional leaders of the need for and benefits of NP residency training. These efforts, and other efforts of many colleagues who have an interest in NP residency training, have led to the inclusion of Section 5316 in HR 3590 (the Patient Protection and Affordable Care Act of 2010), which authorized HRSA to create a three-year demonstration project funding training programs for family nurse practitioners in FQHCs and nurse managed health centers. The details of the amendment are quite specific in describing the elements of the CHCI NP Residency Model and the standards that sponsoring organizations must meet. We continue to work towards securing appropriation funding for this demonstration project.
The Committee on the Robert Wood Johnson Foundation Initiative on the Future of Nursing at the Institute of Medicine, in its landmark report, calls for residency training programs for new APRNs (IOM, 2011). The final report, which references CHCI’s model, establishes a strong basis for further support, evaluation, and development of the model across the country as nursing and other stakeholders move forward with strategic initiatives to implement the recommendations of the Committee.

Clinical Practice

The situations our NP residents have encountered have convinced us of the urgent need to prepare new nurse practitioners to effectively care for the complex, multi-problem, and often undifferentiated (having had no prior evaluation/work-up) patients who are challenged by physical, social, and often behavioral health and substance abuse concerns. NP residents frequently describe the presentation of the unknown, the complex, and/or the undifferentiated patient concerns (a routine part of primary care practice) as the greatest challenge they face and discuss examples such as these:

- The ‘brief’ appointment for a chief complaint of ‘bump on the leg’ that proved to be an aggressive cancer in an uninsured migrant farm worker
- The ‘late medication refill’ for a new pediatric patient who presented with a list of multiple co-morbidities and medications initiated elsewhere.
- The crashing diabetic, newly homeless and contemplating suicide

These are the ‘initial’ patients that appear in the schedule of every primary care provider in the nation’s federally qualified health centers, and who stand to reap enormous health benefits from the expert care of a nurse practitioner over time. Far from rare, these patients are in fact quite representative of the special populations served by health centers. All primary care providers must be ready, able, and trained to thoughtfully, completely, accurately, and compassionately establish a relationship; begin the process of differentiation, management, and treatment; work with a team to coordinate care; and assure that patients and families get the full benefit of prevention, health promotion, treatment, and management.

The Nursing Profession

CHCI’s program has generated discussion in the nursing community about the need, desirability, and context for residency training, as well as whether the proper term for such a program should be ‘fellowship’ or ‘residency.’ Crabtree (2002) has described NP preparation as rigorous, thorough, and ensuring that new NPs meet the HRSA standards for entry-level competency in the primary care specialties. I stand in full respect of the educational preparation for NPs. In the FQHC setting, however, patients are most often not ‘entry level’ patients. Even the rigorous clinical training hours required for all NP programs is insufficient to begin practice with confidence and mastery as a primary care provider in these settings. Whether residency training is needed in all practice settings for new NPs is a question that requires further discussion, although the report on the future of nursing (IOM, 2011) includes residency training for all new APRNs as one of their final recommendations.

Areas for Further Research

Our CHCI experience to date supports our initial observation that residency training for new NPs is successful in bridging the transition from new NP to confident and competent primary care provider. However, more research is needed into the nature of the transition; facilitating and inhibiting factors; and indicators of outcomes for the NPs who complete the residency. It is essential that research be devoted to understanding primary care practice in community health centers, and specifically NP practice in these settings. Also important is the study of the longitudinal impact of NP residency training on...
and competent primary care provider. retention, leadership, and clinical quality of NPs in FQHCs, along with the true costs and benefits to the sponsoring organization. A particularly interesting area for research would be the study of possible differences in practice between those NPs who have completed a residency program and other primary care providers. Finally, the various elements of the NP residency, including the effectiveness of preceptors; the impact of the residency program on the organization; and the outcomes of various strategies to prepare new NPs to manage complexities, such as behavioral health disorders, trauma, substance abuse, and pain management as a primary care provider, require study.

**Conclusion**

Our CHCI has consulted with many organizations across the county who are now actively developing NP residency training Programs. From Maine to Alaska, FQHC leaders are questioning how to support the transition from new NPs to competent primary care providers. Our experience over the past five years has confirmed the value of NP residency training for new nurse practitioners in supporting the transition to primary care provider. We are committed both to continuing to support our 'first in the country' NP residency program for new family nurse practitioners and also to working with other community health centers and nurse leaders around the country in further developing the model. Meleis et al. (2000) wrote of the 'wisdom' that may be seen at the end of a healthy transition. One of the members of the inaugural class exemplified such wisdom in her remarks at a May 2009 Capitol Hill briefing:

> After the residency, I moved to a health center in one of the poorest towns of my state. My transition to being an independent provider has been smooth. I have a certain level of confidence that enables me to keep my head above water. A list of twelve complaints in one visit no longer paralyzes me; instead I prioritize almost instinctively. I ask better questions. I put the pieces together just a little bit faster. And when I feel like I’m about to crumble from the demands of community health, I remember that there are thousands of primary care providers out there with varying levels of training and experience all facing similar challenges. I am grateful to know that this is the nature of the work, that this is simply what it requires and that I am well prepared to address the needs of the community. (Monica O'Reilly, Capitol Hill Briefing, May 20, 2009, Washington, DC)

Community health centers and nurse practitioners are two innovations, one organizational and one professional, that were born of the same era in American history, the 1960s, now more than forty years ago. Each represents the highest level of commitment to care, to quality, and to individuals and communities most in need of healthcare.

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Dr. Flinter is the Senior Vice President and Clinical Director of the Community Health Center (CHC), Incorporated, a statewide, federally qualified, health center serving 130,000 patients across Connecticut. Prepared as a family nurse practitioner, she has held progressive clinical and executive leadership positions in this organization since joining it as a National Health Service Corps Scholar in 1980. In 2005 Dr. Flinter established the Weitzman Center for Innovation in Community Health and Primary Care as the Research and Development arm of CHC, Inc. She received her Master's Degree from Yale University School of Nursing (New Haven, CT) and her BSN and PhD degrees from the University of Connecticut (Storrs, CT). She has also been a Robert Wood Johnson Executive Nurse Fellow. Dr. Flinter is a former President of the Connecticut Nurses Association; she was appointed by the Connecticut Legislature as Chair of both the HealthFirst Authority and the Statewide Primary Care Access Authority in 2007. She acknowledges the support of CHCI President and CEO, Mark Masselli, and Chief Medical Officer, Nwando Olayiwola, MD, MPH, for their support of CHCI’s NP Residency in Community Health and Primary Care.


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