

## ORIGINAL RESEARCH

# Informing innovative models of nurse practitioner education: A formative qualitative study

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## ABSTRACT

Despite major changes in health care, the one- to- one model of nurse practitioner (NP) clinical education programs has changed little in 50 years contributing to a lack of preceptors for NP education programs. More efficient models to educate NPs and are needed to ensure a sustainable primary care NP workforce. The purpose of this formative evaluation study was to assess barriers and facilitators to precepting NP students and adopting new models of NP education in clinical academic partnerships. Eight participants provided rich data from which to better understand the barriers and facilitators to precepting multiple NP students. Two major themes emerged; the student-academic-practice partnership and the health care system. Systems factors pertain to those not modifiable by NP programs such as time available, scheduling and space. Implications for development of a NP attending clinical model and academic curricula models are discussed.

**Key Words:** Advance practice nursing education, Models of nurse education, Formative research, Program development

## 1. INTRODUCTION

More than 189,000 Nurse Practitioner (NPs) are practicing in the United States, and of these more than 87% practice in primary care settings.<sup>[1]</sup> It is estimated that the primary care workforce will need to increase by 29% by 2025 in order to meet the growing demand.<sup>[2]</sup> While the number of physicians entering primary care and family medicine is decreasing, the number of NPs in these areas continues to grow, but not at a rate rapid enough to meet the demand for primary care providers.<sup>[2]</sup> NPs can provide the ideal solution and provide high-quality, cost-effective patient care.<sup>[2,3]</sup>

In 2012, nursing graduate programs turned away 43% of qualified applicants.<sup>[4]</sup> NP education programs have been forced to limit their number of students and deny admission to many well-qualified applicants due to a lack of clinical

sites and preceptors.<sup>[2]</sup> There are several reasons for the shortage including: preceptor challenges in productivity, lack of incentives, inadequate compensation, and a lack of formal teaching experience.<sup>[3]</sup> Many NP preceptors report that their patient schedules are not reduced, with some even reporting being assigned more patients on the days they are acting as preceptors.<sup>[5]</sup> A survey conducted by The National Organization of Nurse Practitioner Faculties (NONPF) found that NP preceptors worked an average of two additional hours beyond scheduled work time on the days they precepted. Another barrier to precepting may be discomfort with teaching<sup>[3]</sup> although Wiseman (2013)<sup>[5]</sup> found that many preceptors report they are confident in their abilities as preceptors and are comfortable evaluating students. Currently, there are no federal funds allocated to NP preceptors and precepting is done on a volunteer basis which is not sustainable.

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Barker and Pittman (2010)<sup>[6]</sup> discuss preceptor strategies aimed at alleviating barriers such as focused half days and wave-scheduling, which allow the student to spend time during a visit with a patient while the preceptor continues to see other patients on the schedule. Sroczynski and Dunphy (2012)<sup>[2]</sup> note the importance of faculty involving preceptors with expectations and clinical placements, reporting that this may lead to improved relationships, communication, and availability of opportunities. Research regarding nurse practitioner preceptor models are limited and do not offer educational models and systems solutions to the NP preceptor shortage, but rather strategies to improve the current model.

### New models of clinical education programs

Clinical preparation of NPs has been largely unchanged in more than 50 years.<sup>[7]</sup> The current model is as it has been and consists primarily of a one-to-one volunteer practicing NP preceptor often without compensation or training. This model worked when NP programs were limited and preceptors abundant. Things have changed and there is clearly a need to address the NP clinical education models currently in place, as the sustainability of the current model is in question. The need to re-envision clinical education for NPs has also been recognized in national dialogues with NP leaders<sup>[7]</sup> who give seven recommendations to re-envision clinical education for NPs. These recommendations inform curriculum and innovative clinical education models.

The NP Attending (NPA) model was first introduced as a doctorate of practice scholarly project by Ellie<sup>[8]</sup> and piloted in a community health center in an academic-clinical partnership with a publicly funded university and a community health center. The pilot consisted of the NP precepting two students simultaneously and has demonstrated a positive financial and productivity effect and overall positive educational efficacy in practicum education.<sup>[8]</sup> While this model was promising, there are other factors to consider such as replication, sustainability and measurement of outcomes for NP preceptors and faculty. Therefore, the purpose of this formative evaluation study was to assess barriers and facilitators to precepting NP students and adopting new models of NP education in clinical academic partnerships.

## 2. METHODS

Two descriptive focus groups were conducted with existing NP preceptors who had precepted for at least one academic year. Two graduate student research assistants (RAs) obtained consent from participants who were recruited from an existing pool of NPs who precepted students from the school. Participants also completed a demographic form. Using a flexible interview guide, questions were asked by the

principal investigator who also facilitated the groups. The flexible interview guide that asked about general barriers and facilitators to precepting students and what motivated them to continue to precept. The NPs were also asked about the theoretical feasibility of precepting multiple students. Finally they were invited to add anything they wanted regarding their experiences with precepting at the end of the interview. Two graduate RAs took field notes. The interviews lasted approximately 90 minutes and were audiotaped and transcribed verbatim. Institutional Review Board approval was sought and obtained.

### Data analysis

Consistent with Krueger and Casey (2008)<sup>[9]</sup> transcript-based analysis was used to analyze data. Audiotapes were transcribed verbatim, read and categories developed based on themes of participant responses to interview questions. Each theme was coded and combined with the field notes. Supporting quotes from participants' responses were included for each category. Data that did not fit original themes were reviewed to consider revision of themes; however no new themes emerged from this process.

## 3. RESULTS

Eight NPs participated in the study with a mean of 13.4 years of practice. There were three males, five females, and the mean age was 44.1 with an age range of 35 to 54. All were certified by the American Nurses Credentialing Center (ANCC) with two in psychiatry, three in family practice, two in adult care and one in pediatrics; all cared for populations within their certification area. Average Years of employment at their precepting institution was 10.75 years with a range of 2 to 22 years.

In general, two broad themes emerged; the student-academic-practice partnership and health systems factors. Systems refer to those factors *t* related to the way a practice is organized; physical space, scheduling, time and productivity quotas. Although it is noteworthy that the academic-practice partnership is only part of the equation and certainly systems issues are important, these factors are not within the scope of nursing education and not modifiable within the partnership and, as such, the focus was on academic-practice partnerships.

The single most important academic partnership variable was that of student preparation and characteristics. All preceptors said students should come to clinical education with nursing experience although when asked there was no consensus on how many years experience should be required. Preceptors also said that it was important for students to be students and prepared to students prepared to work clinically and

culturally with the population at the practice.

“They should have a solid nursing background”

“She went and read and researched, and she came in and already knew so much about [the specialty part of the practice] and that was very helpful because that didn’t slow us down.”

“[Barriers are] a lack of cultural understanding. Some people have never gotten to know the Cambodian culture. There are certain ways you should interact with people.”

An important variable was student motivation and initiative. This was a sentiment that was echoed throughout the groups, and all preceptors said students should come well equipped to work in interdisciplinary groups with core clinical skills such as; assessment, documentation, interviewing and pharmacology, and these preclinical skills be standardized for all students.

“They’re in their last year, and it seems like some of the basic skill sets have not been covered, and so I think that’s an expectation or concern if the academic setting is not setting up the structure chronologically in a way that people are walking into their last year before they’re going to be doing this job officially.”

“I think it is really useful when students come and it is helpful when they’re willing to be part of a team” [Discussing interdisciplinary team education]

“And when they need several reminders. . . ‘Where’s your stethoscope?’ ”

All participants cited motivation and readiness to learn as essential to the educational process. Students should be open to learning and transition to the role. Student readiness to learn was a major theme throughout the groups. Similarly, lack of humility and other the student characteristics were problematic when for preceptors.

“How much are they willing to and really ready to be learning?”

“If they seem like they’re more intent on proving their own knowledge or skills.”

“You come here to learn. Be humble . . . come with an open mind, willing to lean.”

When asked about precepting multiple students all but one said he or she would not be able to precept more than one student at a time and cited space and time as major variables for why more than one was not feasible. However, some were concerned about the demands precepting more than one student at a time placed on them and quality of education and not being able to give students adequate time and most were worried about the workload.

“It’s not good for them. . . someone will always be left out. This is their individual time.”

“I like having one student, any more is not worth it; it’s too stressful.”

## 4. DISCUSSION

### 4.1 Implications for the NPA model

The major recommendations from the results of this study include a careful examination of how students are selected to be preceptees in the NPA model. When selecting students to participate in the NP Attending Model, the process must be competitive; faculty recommendation and the attending preceptor should be part of the decision making process. Super preceptors must have input and opportunity to meet with their students to determine “fit”. Students should have relevant nursing experience, although there is little consensus on how many years. The pilot results suggest optimal success when students are clear about their role in their clinical education as one of an active learner who takes initiative and is motivated. Further, they should understand the model, and as such it is recommended that the training institute include a student-focused curriculum in which students attend parts of the training with their preceptors.

The information from this study will guide the further development of an innovative NPA program<sup>[8]</sup> to prepare, conduct and evaluate a Faculty Institute aimed at the recruitment, retention and development of “super preceptors” who will serve as “attendings” to simultaneously precept two or more students. This formative work is important since some of the themes from this study were not those commonly reported in the literature such as student and academic preparation factors. Time and productivity were mentioned by the majority of the study participants; discomfort with teaching and evaluation was cited as problematic by some and modules will address this and how to use peer education models to precept multiple students so that stress is decreased, time is impacted to a lesser extent and student education is not compromised. All but one of the preceptors in the study stated he or she would not be able to precept multiple students simultaneously. The model allows for students to see two patients per hour with the NP available as a consultant but now includes formal education for preceptors to understand how to make this work, so preceptors are trained to train. Areas such as peer learning, case presentation, the application of general rules and how to apply those principles to patients seen in clinical settings is now included. Educating NPs on how this can be done successfully is essential.

Participants said that the time variable was more intense on the front end with orientation to the facility and electronic medical record (EMR). Some of the stress associated with the EMR was alleviated by having a student for an entire academic year versus only one semester and the NPA model now

includes a one (academic) year practicum. Other solutions include an orientation to the EMR using training software and vignettes prior to the start of clinical practice.

#### 4.2 Implications for academic curricular

Participants in this study cited student preparation as key to successful clinical learning. Some of the preceptors in this study felt as if they had to do “double work” and felt the need to repeat assessments done by the student. This is time consuming and unnecessary and in fact should be explored further as to why they felt this way and is this common among preceptors. Additionally, it is not clear if some students are not prepared, have not mastered skills or do not transfer didactic knowledge into clinical skills, but all preceptors had situations in which students were not prepared. What is clear is that student preparation is essential to the success of the NPA model. All students must enter into clinical education with standardized preparation and an assurance of competencies, a concept referred to in medical education as Core Entrustable Professional Activities (CEPAs). CEPAs are measurable milestones that indicate a skill can be “entrusted” to a student. When this happens, preceptors are offered reasonable assurance of their students’ skills and do not require review and skills are already mastered by the student.<sup>[7]</sup>

Other considerations that were illuminated from the study included; accommodation of immersive clinical experiences for an academic year; an increase in interprofessional education and innovative clinical models and an academic -practice partnership design of these models. Student preparation focused on issues such as motivation, initiation and prior nursing experience are less prevalent in the literature suggesting they are not often variables in quantitative studies or do not come up in exploratory studies. Preparation of students can be improved with curriculum change whereas modifying student behaviors (*e.g.*, initiative) is more challenging. Re-

gardless, both are important findings and are regarded as essential to the success of clinical education. Integrating motivation and accountability into the curriculum is essential to all models of NP education.

#### 5. CONCLUSION

The purpose of this study was to provide formative research that would inform a pilot of innovative NP clinical education. It is important to note that this was a small qualitative study and, as such, lacks generalizability but it is unlikely that the facilitators and barriers faced by the NPs in this study are vastly different from other NP preceptors. Things such as space, scheduling and resources are known barriers. However, a well prepared student with an interest in the population and key clinical competencies are factors not present in the literature. The model further developed from this study includes formal preceptor education, precepting and student selection which is presently being piloted and will be evaluated when complete. Regardless of the outcome of this pilot, continued dialogue is needed on how to move NP clinical education forward from the current model in a way that ensures quality, sustainability, growth and development of NP clinical education as well as the NP profession.

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#### CONFLICTS OF INTEREST DISCLOSURE

The authors declare there are no conflicts of interest to report.

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