

Career Choices and Experiences in Role Transition: A Multistate Survey of Pediatric-Focused Hospital-Based Nurse Practitioners

Alexandra Blumenthal Armstrong, MSN, CRNP, CPNP-AC,
Ashleigh Bowman, DNP, RN, CPNP-AC,
Michelle Goreth, DNP, CPNP-AC,
Tammy Trabosh, MSN, APRN, CPNP-AC/PC, &
Kristin Hittle Gigli, PhD, RN, CPNP-AC

ABSTRACT

Introduction: We examined factors influencing pediatric hospital-based APPs' career decisions and described the transition to practice experiences.

Method: We conducted a cross-sectional, descriptive electronic survey using a novel instrument to examine APP career decisions and transition to practice experiences among APPs in four South-eastern children's hospitals.

Results: There were 158 respondents composed of family nurse practitioners (NPs) (30%), primary care pediatric NPs (24%), and acute care pediatric NPs (18%). APPs chose their career to further their education (46%) and because of interest in pediatrics (18%). Most APPs had experience in pediatrics on APP graduation and were well prepared for the role (47%) and to care for pediatric patients (56%). Nearly two-thirds of APPs had an orientation.

Alexandra Blumenthal Armstrong, Pediatric Nurse Practitioner, Division of Pediatric Endocrinology, Children's of Alabama; Instructor, Acute Care Pediatric Nurse Practitioner Track, UAB School of Nursing, University of Alabama at Birmingham, Birmingham, AL.

Ashleigh Bowman, Assistant Professor, College of Nursing, University of South Alabama; Nurse Practitioner, Pediatric Emergency Department, USA Health Children's & Women's Hospital, Mobile, AL.

Michelle Goreth, Pediatric Nurse Practitioner, Pediatric Neurology, University of Mississippi Medical Center, Jackson, MS.

Tammy Trabosh, Pediatric Nurse Practitioner, Neurocritical Care, Nicklaus Children's Hospital, Miami, FL.

Kristin Hittle Gigli, Assistant Professor, College of Nursing and Health Innovation, University of Texas at Arlington, Arlington, TX.

The authors obtained Institutional Review Board approval from the University of Texas at Arlington before beginning data collection.

Conflicts of interest: None to report.

Correspondence: Alexandra Blumenthal Armstrong, MSN, CRNP, CPNP-AC, 4990 Reynolds Lane, Vestavia, AL 35242; e-mail: Blumenthalam@gmail.com.

J Pediatr Health Care. (2022) 00, 1–9

0891-5245/\$36.00

Copyright © 2022 by the National Association of Pediatric Nurse Practitioners. Published by Elsevier Inc. All rights reserved.

<https://doi.org/10.1016/j.pedhc.2022.12.005>

Discussion: Early exposure to pediatrics influenced APP career choices and increased career preparedness. Although most APPs had an orientation, future studies should assess the impact of orientation on patient, professional, and organizational outcomes. *J Pediatr Health Care.* (2022) XX, 1–9

KEY WORDS

Pediatric nurse practitioner, advanced practice provider, career choices, transition to practice, orientation

INTRODUCTION

For more than 60 years, nurse practitioners (NPs) have provided care to children (Silver, Ford, & Day, 1968). In the past decade, there has been tremendous growth in the number of NPs, as the workforce has more than doubled in size (Auerbach, Buerhaus, & Staiger, 2020). Furthermore, forecasts anticipate continued robust growth in the NP workforce (Auerbach et al., 2020). It is important to note that as health care evolves, the roles of NPs change to meet these dynamic health care needs. As a result, the number of NPs working in hospital settings is increasing (Auerbach et al., 2020).

Pediatric physicians, health care systems, and policy-makers consistently report a desire to incorporate NPs on interdisciplinary hospital care teams (Freed, Dunham, Moran, Spera, & Research Advisory Committee of the American Board of Pediatrics, 2012; Freed et al., 2011; Gigli, Dietrich, Buerhaus, & Minnick, 2018; Vinci, 2021; Vinci, Degnon, & Devaskar, 2021). Patients and families report high levels of satisfaction with the care they receive from NPs (Budzi, Lurie, Singh, & Hooker, 2010). The increased inclusion of NPs in pediatric hospital care is imperative, as there is increasing concern about the size and sustainability of the pediatric physician workforce (Freed et al., 2010; Gigli et al., 2018; Vinci, 2021; Vinci et al., 2021). Furthermore, as hospitalized children have increasing chronicity and acuity of illness, the availability of specialized pediatric NPs becomes critical to ensure these patients have access to high-quality care and achieve optimal health outcomes.

Despite the demand for pediatric NPs, there is concern that the current supply and pipeline of pediatric NPs to care for children is adequate (Freed et al., 2014; Gigli, Beauchesne, Dirks, & Peck, 2019). Although other NP specialties have doubled the number of graduates, the number of NP graduates specializing in pediatrics has remained unchanged (Freed et al., 2014). Without an increase in the number of certified pediatric NPs to meet care demands, more NPs (e.g., family NPs, adult certified NPs, psych/mental health NPs) and physician assistants (PAs) without pediatric specialization are delivering care to children in hospital settings (Gigli et al., unpublished data, 2022). These two specialties, NPs and PAs, are referred to in combination as advanced practice providers (APPs).

Understanding the motivations around decisions to become an APP is important for developing interventions aimed at increasing the future supply of pediatric APPs.

Little is known about how APPs make career decisions, including what APP specialty to pursue and what may encourage a nurse to choose a career as a pediatric-focused APP (Freed et al., 2014). However, given the stalled growth in pediatric APPs entering the workforce, it is apparent that changes are needed to improve recruitment and support the retention of pediatric APPs in the workforce (Freed et al., 2014).

The experience of new graduate APPs during their transition to practice plays an important role in their successful transition. APPs increasingly report interest in institution-specific, post-licensure clinical training programs (Martsof & Sochalski, 2019; Martsof, Nguyen, Freund, & Poghosyan, 2017). There are indications that these programs support an APP's transition to practice, as well as improve patient safety and clinical outcomes (Barnes, 2015; Dillon, Dolansky, Casey, & Kelley, 2016; Martsof et al., 2017; Sanchez, 2018; Scholtz, King, & Kolb, 2014; Stojadinovic et al., 2019). Despite this, little is known about the post-licensure clinical training experiences of APPs as they transition into pediatric hospital-based roles. The purpose of this paper is to examine factors that influence the career decisions of APPs who work in pediatric hospital-based roles, describe their experiences with the transition to practice as new graduates, and compare the experiences of pediatric APPs and nonpediatric APPs who work in pediatric hospital-based settings as an opportunity to identify areas for future interventions that support growth in the pediatric APP pipeline.

METHODS

We conducted a cross-sectional, descriptive electronic survey of APPs working in four children's hospitals in the Southeastern United States. All survey responses were anonymous and could not be connected to any participants. Institutional review board approval was obtained from the University of Texas at Arlington before beginning data collection.

Sample

All APPs caring for children in four children's hospitals in the Southeastern United States were eligible to participate. We categorized these APPs into three groups: (1) pediatric hospital-based APPs, any APP which provides care in a pediatric hospital setting; (2) certified pediatric NPs, any APP which has education and national certification as a pediatric acute and/or primary care NP; and (3) pediatric-focused APPs, any APP which provides care to children (e.g., a family NP, PA) but does not hold certification as a pediatric NP. An APP from each site coordinated recruitment, including identifying eligible APPs and gathering their names and e-mail addresses. APPs who worked in the hospitals and did not care for children were not eligible for participation. We administered the survey in February and March 2021. Three hundred thirty-four APPs were deemed eligible to participate and received survey invitations.

TABLE 1. Characteristics of pediatric hospital-based advanced practice provider respondent in the Southeastern United States

Respondent Characteristics (<i>n</i> = 158) ^a	<i>n</i> (%)
Advanced practice certification	
Family nurse practitioner	48 (30.4)
Neonatal nurse practitioner	21 (13.3)
Pediatric nurse practitioner—acute care	29 (18.4)
Pediatric nurse practitioner—primary care	38 (24.1)
Pediatric nurse practitioner—acute/primary care	15 (9.5)
Physician assistant	5 (3.2)
Adult/gerontology nurse practitioner	2 (1.3)
Practice area	
Medical specialty	72 (45.6)
Surgical specialty	25 (15.8)
Critical care	39 (24.7)
Emergency medicine/urgent care	17 (10.8)
Primary care	5 (3.2)
Highest degree	
Masters	140 (89.7)
Doctorate	16 (10.3)
Gender	
Female	146 (92.4)
Male	12 (7.6)
Race	
White	142 (89.9)
Other	16 (10.1)
Ethnicity	
Hispanic	16 (10.7)
Non-Hispanic	134 (89.3)
Age ^b	40 (34–50)
Years as advanced practice providers ^b	9 (5–23)

^aTotals do not always add up to *n* because of variations in response rate per item.
^bValues are median and 25% to 75% interquartile range.

Survey Instrument

We developed a novel survey instrument to (1) describe the professional background and roles of pediatric APPs caring for children in hospitals, (2) understand APPs' experiences during their transition to practice, and (3) evaluate the effect of state-level and hospital-level regulations on practice. A modified Dillman approach was used to develop and test a 61-item survey instrument examining these concepts (Bowman, Goreth, Armstrong, & Gigli, 2022; Dillman, Smyth, & Christian, 2014).

There were nine questions related to the transition to practice: seven about APP qualifications, two about APPs' prior experiences relevant to their transition to practice, and 11 demographic questions. Multiple choice questions asked about factors that motivated a respondent to pursue APP education, their pre-APP clinical experiences, and experiences during their transition to practice. We also examined APPs' perceptions of preparedness for their role and to care for their patient population using a 5-point Likert-like scale from 1 (very unprepared) to 5 (very prepared).

Data Collection

The survey was administered via QuestionPro, a secure web-based platform hosted at the University of Texas at Arlington. Eligible participants received up to five e-mails requesting survey participation (Dillman et al., 2014), with each

participant able to complete the survey once. Participants who completed the survey could choose to participate in a drawing for a \$100 gift card as an incentive for participation.

Data Analysis

Descriptive statistics were used to analyze participant responses. Frequency distributions summarized the nominal and ordinal study data; median and interquartile range (IQR) were used for continuous data. We compared certified pediatric NPs to pediatric-focused APPs using a χ^2 test of independence to test differences between groups. To examine factors contributing to an APP's formal orientation, we used logistic regressions with exponentiated coefficients to interpret results as odds ratios. In the unadjusted model, the report of formal orientation was the dependent variable, and years in the current APP position (a proxy for years of experience) was the independent variable. Next, we added the three covariates, the number of APPs in the specialty, the type of APP supervisor, and the APPs' hospital. The threshold for statistical significance was set at $\alpha = 0.05$. We performed all data analyses using Stata SE (version 17, StataCorp LLC, College Station, TX, 2021).

RESULTS

There were 158 survey respondents (Table 1). A plurality of APPs who responded were family NPs (30.4%), followed by

TABLE 2. Factors that influenced pediatric hospital-based APP's decision to pursue a graduate nursing education and certification in the Southeastern United States

Factors	All APPs (n = 158)	Certified PNPs (n = 82)	Pediatric-Focused APPs (n = 76)	p Value
Primary motivation				
Exposure to role during undergraduate education	7 (4.4)	3 (3.7)	4 (5.3)	0.09
Exposure to role of a registered nurse	26 (16.5)	10 (12.2)	16 (21.1)	
Personal experience (e.g., family member has similar certification)	6 (3.8)	2 (2.4)	4 (5.3)	
Availability of educational program	11 (7.0)	6 (7.3)	5 (6.6)	
Interest in patient population	28 (17.7)	17 (20.7)	11 (14.5)	
Interest in furthering personal education	72 (45.6)	43 (52.4)	29 (38.2)	
Marketability	8 (5.1)	1 (1.2)	7 (9.2)	
Other factors influenced decision				
Yes	115 (72.8)	63 (76.8)	52 (68.4)	0.24
No	43 (27.2)	19 (23.2)	24 (31.6)	
Additional factors that influenced education decision ^a				
Exposure to role during undergraduate education	17 (14.8)	6 (9.5)	11 (21.2)	0.08
Exposure to role of a registered nurse	49 (42.6)	29 (46.0)	20 (38.5)	0.41
Personal experience (e.g., family member has similar certification)	11 (9.6)	1 (1.6)	10 (19.2)	0.001
Availability of educational program	59 (51.3)	28 (44.4)	31 (59.6)	0.11
Interest in patient population	52 (45.2)	28 (44.4)	24 (46.2)	0.86
Interest in furthering personal education	52 (45.2)	25 (39.7)	27 (51.9)	0.19
Marketability	49 (42.6)	25 (39.7)	24 (46.2)	0.49

Note. Values are shown as n (%). APPs, advanced practice providers; PNPs, pediatric nurse practitioners.
^aPercentages are calculated on the basis of those who reported other factors that influenced their decision.

primary care pediatric NPs (24.1%) and acute care pediatric NPs (18.4%). Respondent's primary practice areas were medical specialties (45.6%), critical care (24.7%), and surgical specialties (15.8%). Most of the respondents were White (89.9%), non-Hispanic (89.3%), and female (92.4%). Most respondents had a master's degree (89.7%), whereas 10.3% were doctorally prepared.

Many factors influenced pediatric hospital-based APPs to pursue graduate nursing education and certification (Table 2). The respondents indicated that their interest in advanced education was the leading factor in pursuing a graduate degree (45.6%), and certified pediatric NPs reported this factor more often than pediatric-focused APPs (52.4% vs. 38.2%). The second and third most listed primary influences were interest in the patient population (17.7%) and exposure to a role as a registered nurse (16.5%). Most respondents (72.8%) reported other factors also led to their decision to pursue NP education. The most commonly reported secondary factors were the availability of an education program (51.3%), interest in the patient population (45.2%), and their interest in furthering their education (45.2%).

The two main factors that led to APPs attaining their first APP position were exposure to available APP positions and experience with the patient population before attaining the position (Table 3). A third (35.9%) of APPs reported working in their hired specialty as registered nurses, further giving

them prior exposure to the available APP position. Completing an APP clinical with a specialty (23.3%), having a colleague referral (25.8%), and using the job board or a professional recruiter (24.5%) were the next common ways providers learned about the position.

Most (65.4%) APPs reported working with the patient population as registered nurses. More than a third (35.2%) of APPs indicated they worked with the patient population during APP clinicals, and a quarter (26.4%) reported prior APP experience working with the patient population. There were no statistically significant differences between certified pediatric NPs and pediatric-focused APPs concerning their prior experience with the pediatric population.

Pediatric hospital-based APPs perceived preparation for their first APP position (Table 4). Of all the APPs, 38.9% reported being somewhat prepared for their APP role, and 36.9% said they were well prepared. When asked how prepared they were to care for the patient population, fewer (31.4%) said they were somewhat prepared, and 34.6% said they were well prepared. Certified pediatric NPs and pediatric-focused APPs reported similar levels of preparedness for the role ($p = .22$). However, certified pediatric NPs were more likely to report they were very well prepared to care for the patient population, with a statistical significance of $p = .05$.

Of the 158 respondents, 100 (63.7%) reported having an orientation when starting their first APP position

TABLE 3. Factors that contributed to pediatric hospital-based APP's attainment of their first APP position in the Southeastern United States

Factors	All APPs (n = 158) ^a	Certified PNPs (n = 82) ^a	Pediatric-Focused APPs (n = 76) ^a	p Value
Exposure to available APP position				
Worked in specialty as a registered nurse	57 (35.9)	27 (32.9)	30 (39.0)	0.43
Completed APP clinical with a specialty	37 (23.3)	19 (23.2)	18 (23.4)	0.98
Job board position or professional recruiter	39 (24.5)	20 (24.4)	19 (24.7)	0.97
Colleague referral	41 (25.8)	21 (25.6)	20 (26.0)	0.96
Professional association	8 (5.0)	8 (9.8)	0 (0)	0.01
Experience with patient population before assuming APP position				
Worked with population as a registered nurse	104 (65.4)	52 (63.4)	52 (67.5)	0.59
Worked with population as an APP	42 (26.4)	19 (23.2)	23 (29.9)	0.34
Worked with population during APP clinicals	56 (35.2)	32 (39.0)	24 (31.2)	0.30
Research experience working with population	4 (2.5)	1 (1.2)	3 (3.9)	0.28
No prior experience with population	24 (15.1)	17 (20.7)	7 (9.1)	0.04

Note. Values are shown as n (%). APPs, advanced practice providers; PNPs, pediatric nurse practitioners.

^aTotals do not add up because respondents could select more than one method.

TABLE 4. Pediatric hospital-based advanced practice provider perceptions of preparedness for initial advanced practice provider role in the Southeastern United States

Variables	All APPs (n = 157)	Certified PNPs (n = 81)	Pediatric-Focused APPs (n = 76)	p Value
Preparation for APP role				
Very well prepared	19 (12.1)	11 (13.6)	8 (10.5)	0.22
Well prepared	58 (36.9)	28 (34.6)	30 (39.5)	
Somewhat prepared	61 (38.9)	31 (38.3)	30 (39.5)	
Minimally prepared	17 (10.8)	9 (11.1)	8 (10.5)	
Very unprepared	2 (1.3)	2 (2.5)	0 (0)	
Preparation for patient population				
Very well prepared	37 (23.7)	24 (29.6)	13 (17.3)	0.05
Well prepared	54 (34.6)	25 (30.9)	29 (38.7)	
Somewhat prepared	49 (31.4)	21 (25.9)	28 (37.3)	
Minimally prepared	15 (9.6)	10 (12.4)	5 (6.7)	
Very unprepared	1 (0.6)	1 (1.2)	0 (0)	

Note. Values are shown as n (%). APPs, advanced practice providers; PNPs, pediatric nurse practitioners.

(Table 5). Most respondents who reported having an orientation (n = 89, 89%) had a unit-specific orientation. A fellow APP typically developed (70.8%) and served as the preceptor for unit-specific orientation (78.7%). Beyond unit-specific orientations, most (67.5%) of APPs attended postgraduate training conferences, and 46.1% participated in simulations.

There was no significant change in APPs' report of having an orientation based on how long they were an APP, specifically there are not more APPs who receive orientation today compared to prior periods (odds ratio [OR], 0.98; IQR, 0.92–1.03; p =.33) (Table 6). However, when we looked at other factors that might influence whether an APP had an orientation, we found as the number of APPs in the specialty increased, there were greater odds of the APP having an orientation (OR, 1.06; IQR, 1.01–1.11; p =.02), and if the APPs' supervisor was a physician, there was a

significantly lower odds of the APP having an orientation (OR, 0.34; IQR, 0.11–0.99; p =.05; Table 6).

DISCUSSION

Given the stalled growth of pediatric APPs entering the workforce, changes are needed to improve recruitment and support the retention of pediatric APPs. This study surveyed pediatric hospital-based APPs to examine factors influencing career decisions and describe their experiences transitioning to practice as new graduates. We believe this is the first study to compare the experiences of certified pediatric NPs and nonpediatric APPs who work in pediatric hospital-based settings. We anticipate these results can guide decisions surrounding the hiring, onboarding, and practice of pediatric APPs in the future.

TABLE 5. Pediatric hospital-based APP report of onboarding experience at hospitals in the South-eastern United States

Elements of Onboarding (<i>n</i> = 158) ^a	<i>n</i> (%)
APPs who had an orientation	100 (63.7)
Hospital orientation	29 (18.2)
Hospital-wide APP-focused orientation	7 (4.4)
Specialty, unit-specific orientation	89 (56.0)
Length of orientation (weeks) ^b	12 (6–12), 1–36
Primary preceptor ^c	
Nurse Practitioner	70 (78.7)
Physician Assistant	1 (1.1)
Physician	18 (20.2)
Orientation developed by ^c	
Self-developed	3 (3.4)
Fellow APP	63 (70.8)
Physician	14 (15.7)
Other	9 (10.1)
Additional postgraduate training	
Fellowship/residency program	5 (3.4)
Mentorship program	12 (8.2)
Conference attendance	104 (67.5)
Simulation	70 (46.1)

Note. APPs, advanced practice providers.

^aTotals do not always add up to *n* because of variations in response rate per item.

^bValues are median 25% to 75% interquartile range.

^cPercentages are calculated on the basis of those who reported a specialty, unit-specific orientation.

TABLE 6. Multivariable logistic regression analyses examining associations between receipt of a specialty-specific orientation and organization and practitioner characteristics

Characteristic	Base model			Full model		
	Odds ratio	95% CI	<i>p</i> Value	Odds ratio	95% CI	<i>p</i> Value
Specialty-specific orientation						
Years in current APP position	0.98	0.92–1.03	0.33	0.95	0.89–1.01	0.11
Number of APPs in specialty				1.06	1.01–1.11	0.02
Supervisor ^a						
Advanced practice manager				0.67	0.22–2.02	0.48
Director of advanced practice				0.80	0.12–5.47	0.82
Physician				0.34	0.11–0.99	0.05
Hospital				1.27	0.89–1.82	0.18

Note. APPs, advanced practice providers; CI, confidence interval.

^aSupervisor compared with a unit-level, registered nurse manager.

Certification Background

The pediatric hospital-based APP workforce has diverse educational backgrounds, represented by multiple APP certifications. An NP has an aligned practice when they are educated and certified in caring for a specific patient population and subsequently treat patients in that population group (Hudspeth & Klein, 2019). An example of an aligned role would be an acute care certified pediatric NP working as an inpatient pediatric NP. A primary care certified pediatric NP working within a critical care setting is an example of a misaligned role. Although national recommendations support alignment, little is known about the implications of the aligned practice; specifically, it is unclear if alignment is associated with differential patient or

organizational outcomes (APRN Consensus Workgroup & National Council of State Boards of Nursing APRN Advisory Committee, 2008; Kaplan & Klein, 2020; Kaplan & Klein, 2021). Furthermore, NP role alignment has implications related to the availability of pediatric-focused APP education and the recruitment of APPs into pediatric specialties, APP hiring, onboarding needs, and role satisfaction and retention (Brown, Reyes, Zeno, & Whited, 2022). Given the diversity of the workforce in pediatric hospital-based roles, future research among this APP population can advance our understanding of alignment and the effects of a diverse pediatric APP workforce on outcomes (Gigli, Davis, Martsof, & Kahn, 2021; Gigli et al., Under review).

Pipeline Influence

This study has shown that early exposure to the pediatric nurse practitioner's role matters in multiple ways. In response, efforts to grow the pediatric hospital-based APP workforce are needed at the entry point of the future APP into their professional practice role. Early exposure to the role during undergraduate registered nurse education and roles as an RN working with pediatric APPs positively influences pediatric APP career choices. One way to effectively increase early exposure includes ensuring dedicated undergraduate pediatric content, often limited in nursing schools (Chesney, Andrews, Fry-Bowers, & Hiltz, 2021). The number of pediatric experiences students receive in their undergraduate RN education and exposure to pediatric clinical experiences can drive students toward a later career as a pediatric APP. As nurses consider APP careers, career counseling about the roles and needs of pediatric APPs versus generalists is essential (Gigli et al., 2019). Furthermore, given the limited availability of pediatric programs in the country, the creation of new pediatric NP programs, specifically acute care pediatric NP programs, allows nurses to pursue careers as hospital-based pediatric APPs (Gigli, Kahn, & Martsof, 2020).

Additional information is needed on financial implications and the long-term career flexibility and marketability associated with choosing a career as a pediatric nurse practitioner versus a broader NP certification. Although the notion that nurses preferentially choose a family nurse practitioner certification to increase marketability is widely spread, our findings did not show this to be true. It could be speculated that if an NP desires to care for a pediatric population, then passion for that population could be prioritized over marketability during career decision-making. We quantified factors that influence NP career choice. Future qualitative research will provide a richer context to understand how NPs make career decisions and may better inform strategies that will support the increase of the pediatric NP workforce.

Factors That Influence First Position Decision

Many factors influence an APP's first position decision. However, prior exposure to the specialty or patient population significantly influences decision-making. This may be related to the comfort level with the position or general awareness of position availability. Exposure levels appear to have tremendous effects on confidence as an APP which likely plays a role in the successful transition to practice. We found that although new APPs report they are prepared to care for the patient population at hand, they feel less prepared for their role as an APP. This was particularly applicable to certified pediatric NPs, creating an opportunity for potential employers to better partner with nursing schools for clinical placements that demonstrate the clinical and nonclinical roles APPs play in pediatric hospital care. As required clinical hours increase in response to recent policy changes, additional hours spent on role preparation could better support NP professional development (National Task

Force, 2022). These opportunities to increase an NP student's role exposure may increase as clinical hour requirements change and should be a focus of the clinical experience (NTF, 2022).

Need for Role-Focused Orientation

Given the predominance of family nurse practitioners providing pediatric hospital-based care in this study, it is postulated that many participants were RNs with previous pediatric experience and feel more prepared to care for pediatric patients. Findings suggest many of these new NPs were employed in the same hospital system before becoming NPs, and for the hospital, internal retention of these nurses in new NP roles is important. Furthermore, employers are vested in supporting new APP's transition to practice to increase APP satisfaction and retention and its associated role in patient safety and quality outcomes (Brown et al., 2022). APPs consistently report interest in orientation as part of their transition to practice; however, APPs were not consistently provided a specialty orientation. It is important to note that there may be different onboarding needs based on variations in certification, and a more refined understanding of those needs is unclear (Speight, Firnhaber, Scott, & Wei, 2019). To increase APPs' opportunities to have an orientation, specialty-specific orientation models based on existing models from large, well-established specialties need to be designed for those who do not currently have orientations. More research is needed on how to tailor orientation to the needs of an educationally diverse pediatric hospital-based APP workforce. In addition, cost-effectiveness analyses that include postorientation APP retention and satisfaction may provide information to hospital administration demonstrating organizational benefits. Given the institutional variation in the availability of orientation, future studies can assess the effect of orientation on safety, quality, and transition within one institution, across specialties.

Building a Diverse Workforce

Finally, as we consider strategies to increase and support the hospital-based APP workforce, it is important to address the demographic composition of the workforce. Respondents in this survey reflected the lack of racial and gender diversity in the NP workforce, predominantly White, non-Hispanic, and female (Health Resources and Services Administration, 2018). Racial concordance between patients and providers improves outcomes and is one important factor in addressing systemic racism in health care (National Academies of Sciences, Engineering, and Medicine et al., 2021). As the pediatric population is the most diverse segment, this makes diversification of the pediatric hospital-based APP workforce even more urgent to impede further inequities (Millman, Kates, & Rudowitz, 2022). Programs to introduce underrepresented minorities to APP careers before entering college provide vital early exposure to the roles and can lead to meaningful mentor relationships (Weyand, Nichols, & Freed, 2020). Mentors increase

entrance to the profession and are essential to retaining diverse workforce members (Weyand et al., 2020).

Recent efforts by professional organizations to support diversity, equity, and inclusion initiatives provide important leadership and raise awareness (National Association of Pediatric Nurse Practitioners, 2020). However, although these strategies can support building a more diverse workforce, a recent national NP education policy increased the hours of clinical education required for NP students to graduate (NTF, 2022). This change will increase the time and cost of education and maybe a greater barrier for those in underrepresented groups to pursue NP education. The effects of this policy change will be important to evaluate over time.

Limitations

There are several limitations to our study. First, our sample included a small number of hospitals in a single region of the country. Although this sample is multisite and multistate, it is a sample of convenience and limits our ability to generalize information to other geographic areas. The NPs in our survey reside in restricted and/or reduced scope of practice states and may have similar experiences when answering questions. They may also have attended the same schools or worked within the same hospital settings, which further limits the generalizability of their responses to other areas. We also cannot be certain the population of APPs who did not respond is similar to the survey respondents, therefore, introducing the possibility of nonresponse bias. However, responses were similar across the four hospital settings despite variations in site response rates which increases the reliability of our results.

Additional data gathering needs to occur to see the differences in career decision-making and orientation availability based on different geographic locations. In the surveyed NPs, it was difficult to isolate the role of institutions in supporting NP education and hiring practices, resulting in misaligned NP practices. Our average length of working as an NP was approximately 9 years; therefore, we would also need to consider recall bias relative to how prepared they were considering their length of employment as an NP. It is likely that the longer an NP has worked in the APP role, the more likely they are to believe they were prepared.

We conducted a cross-sectional, descriptive electronic survey of APPs working in four children's hospitals in the Southeastern United States. To identify areas for future interventions that support growth in the pediatric APP pipeline, this study outlined factors that influence the career decisions of APPs who work in pediatric hospital-based roles, described experiences with the transition to practice as new graduates, and compared experiences of pediatric certified APP and nonpediatric APP who work in pediatric hospital-based settings. Early exposure to pediatric care during undergraduate education or through employment as an RN influenced providers to continue the pursuit of an advanced practice career in pediatrics. Those with prior exposure generally felt more prepared to care for the pediatric patient

population, but most respondents preferred having an orientation. Future studies are needed to assess the long-term benefits of a successful transition to practice on APPs' confidence, career satisfaction, retention, and patient outcomes.

REFERENCES

- APRN Consensus Work Group, & National Council of State Boards of Nursing APRN Advisory Committee. (2008). *Consensus model for APRN regulation: Licensure, accreditation, certification and education*. Retrieved from https://www.ncsbn.org/Consensus_Model_for_APRN_Regulation_July_2008.pdf
- Auerbach, D. I., Buerhaus, P. I., & Staiger, D. O. (2020). Implications of the rapid growth of the nurse practitioner workforce in the US. *Health Affairs*, 39(2), 273–279.
- Barnes, H. (2015). Exploring the factors that influence nurse practitioner role transition. *Journal for Nurse Practitioners*, 11(2), 178–183.
- Bowman, A. F., Goreth, M. B., Armstrong, A. B., & Gigli, K. H. (2022). Hospital regulation of pediatric-focused nurse practitioners: A multistate survey. *Journal for Nurse Practitioners*, 18(5), 558–562.e1.
- Brown, A. M., Reyes, I., Zeno, R., & Whited, T. (2022). Alignment of pediatric nurse practitioner licensure, accreditation, certification, and education for employers. *Journal for Nurse Practitioners*, 18(3), 316–319.
- Budzi, D., Lurie, S., Singh, K., & Hooker, R. (2010). Veterans' perceptions of care by nurse practitioners, physician assistants, and physicians: A comparison from satisfaction surveys. *Journal of the American Academy of Nurse Practitioners*, 22(3), 170–176.
- Chesney, M. L., Andrews, S. P., Fry-Bowers, E. K., & Hiltz, C. (2021). Safeguarding the future of pediatric care: Challenges and opportunities for educating and expanding the pediatric nursing workforce. Retrieved from https://ipedsnursing.org/sites/ipn/files/resources/IPN_White_Paper_Safeguarding_the_Future_of_Pediatric_Care_03.16.2021.pdf.
- Dillman, D. A., Smyth, J. D., & Christian, L. M. (2014). *Internet, phone, mail and mixed-mode surveys: The tailored design method* (fourth edn.). Wiley.
- Dillon, D. L., Dolansky, M. A., Casey, K., & Kelley, C. (2016). Factors related to successful transition to practice for acute care nurse practitioners. *AACN Advanced Critical Care*, 27(2), 173–182.
- Freed, G. L., Dunham, K. M., Lamarand, K. E., Loveland-Cherry, C., & Martyn, K. K. (2010). Pediatric nurse practitioners: Roles and scope of practice. *Pediatrics*, 126, 846–850.
- Freed, G. L., Dunham, K. M., Loveland-Cherry, C., Martyn, K. K., Moote, M. J., & American Board of Pediatrics Research Advisory Committee. (2011). Nurse practitioners and physician assistants employed by general and subspecialty pediatricians. *Pediatrics*, 128(4), 665–672.
- Freed, G. L., Dunham, K. M., Martyn, K., Martin, J., Moran, L. M., Spera, L., & Research Advisory Committee of the American Board of Pediatrics. (2014). Pediatric nurse practitioners: Influences on career choice. *Journal of Pediatric Health Care*, 28(2), 114–120.
- Freed, G. L., Dunham, K. M., Moran, L. M., Spera, L., & Research Advisory Committee of the American Board of Pediatrics. (2012). Resident work hour changes in children's hospitals: Impact on staffing patterns and workforce needs. *Pediatrics*, 130(4), 700–704.
- Gigli, K. H., Beauchesne, M. A., Dirks, M. S., & Peck, J. L. (2019). White paper: Critical shortage of pediatric nurse practitioners predicted. *Journal of Pediatric Health Care*, 33(3), 347–355.
- Gigli, K. H., Davis, B. S., Martsof, G. R., & Kahn, J. M. (2021). Advanced practice provider-inclusive staffing models and

- patient outcomes in pediatric critical care. *Medical care*, 59(7), 597–603.
- Gigli, K. H., Dietrich, M. S., Buerhaus, P. I., & Minnick, A. F. (2018). PICU provider supply and demand: A national survey. *Pediatric Critical Care Medicine*, 19(8), e378–e386.
- Gigli, K. H., Kahn, J. M., & Martsof, G. R. (2020). Availability of acute care pediatric nurse practitioner education in the United States: A challenge to growing the workforce. *Journal of Pediatric Health Care*, 34(5), 481–489.
- Health Resources and Services Administration (2018). NCHWA nursing workforce dashboard. Retrieved from <https://data.hrsa.gov/topics/health-workforce/nursing-workforce-dashboards>.
- Hudspeth, R. S., & Klein, T. A. (2019). Understanding nurse practitioner scope of practice: Regulatory, practice, and employment perspectives now and for the future. *Journal of the American Association of Nurse Practitioners*, 31(8), 468–473.
- Kaplan, L., & Klein, T. A. (2020). Characteristics and perceptions of the US nurse practitioner hospitalist workforce. *Journal of the American Association of Nurse Practitioners*, 33(12), 1173–1179.
- Kaplan, L., & Klein, T. A. (2021). Nurse practitioner hospitalists: An empowered role. *Nursing Outlook*, 69(5), 856–864.
- Martsof, G. R., Nguyen, P., Freund, D., & Poghosyan, L. (2017). What we know about postgraduate nurse practitioner residency and fellowship programs. *Journal for Nurse Practitioners*, 13(7), 482–487.
- Martsof, G. R., & Sochalski, J. (2019). The need for advanced clinical education for nurse practitioners continues despite expansion of Doctor of Nursing practice programs. *Policy, Politics and Nursing Practice*, 20(4), 183–185.
- Millman, J., Kates, J., & Rudowitz, R. (2022, February 10). Diversity of under-5 age group varies across states. Retrieved from <https://www.kff.org/coronavirus-covid-19/slide/diversity-of-under-5-age-group-varies-across-states/>.
- National Academies of Sciences, Engineering, and Medicine, National Academy of Medicine, & Committee on the Future of Nursing (2021). The future of nursing 2020–2030: Charting a path to achieve health equity. In Flaubert J. L. Le Menestrel, S., D. R. Williams & M. K. Wakefield (Eds.). Washington, DC: National Academies Press, 2020–2030.
- National Association of Pediatric Nurse Practitioners (2020). Diversity, equity and inclusion. Retrieved from <https://www.napnap.org/diversity-inclusion/>.
- National Task Force. (2022). *Standards for quality nurse practitioner education, A report of the national task force on quality nurse practitioner education* (sixth edn.). Retrieved from <https://www.aacnnursing.org/Portals/42/CCNE/PDF/NTFS-NP-Final.pdf>
- Sanchez, C. A. C. (2018). Current status of fellowship programs for advanced practice registered nurses in the nurse practitioner role. *Nurse Educator*, 43(1), 42–44.
- Scholtz, A., King, K., & Kolb, S. (2014). The care model of the future: Supporting APRNs through an innovative transition to practice program. *Journal of Pediatric Health Care*, 28(3), 276–279.
- Silver, H. K., Ford, L. C., & Day, L. R. (1968). The pediatric nurse-practitioner program: Expanding the role of the nurse to provide increased health care for children. *JAMA*, 204(4), 298–302.
- Speight, C., Firnhaber, G., Scott, E. S., & Wei, H. (2019). Strategies to promote the professional transition of new graduate nurse practitioners: A systematic review. *Nursing Forum*, 54(4), 557–564.
- Stojadinovic, B., Schindler, C. A., Callahan, M. F., O'Brien, M., Rice, T. B., & Mikhailov, T. (2019). Creation and implementation of a pediatric advanced practice nurse critical care fellowship program. *Journal of Pediatric Health Care*, 33(5), 595–602.
- Vinci, R. J. (2021). The pediatric workforce: Recent data trends, questions, and challenges for the future. *Pediatrics*, 147(6), e2020013292.
- Vinci, R. J., Degnon, L., & Devaskar, S. U. (2021). Pediatrics 2025: The AMSPDC workforce initiative. *Journal of Pediatrics*, 237(5–8), 5–8.e1.
- Weyand, A. C., Nichols, D. G., & Freed, G. L. (2020). Current efforts in diversity for pediatric subspecialty fellows: Playing a zero-sum game. *Pediatrics*, 146(5), e2020001248.