

The Role of the Pediatric Nurse Practitioner in the United States

O Papel do Enfermeiro Pediatra de Prática Avançada nos Estados Unidos da América

El Rol de la Enfermera Pediátrica de Práctica Avanzada en los Estados Unidos de América

Jessica L. Peck DNP, APRN, CPNP-PC, CNE, CNL, FAANP, FAAN  <https://orcid.org/0000-0003-1831-3040>

Abstract

This thematic article addresses expert opinion on the role of the Pediatric Nurse Practitioner in the United States of America. The publication highlights the historical context, the specific scope of advanced practice for pediatric nurses, the paths to Pediatric Nurse Practitioner certification, the education, accreditation, and licensing system, as well as the practice of this professional and its current challenges. The text offers insights into the multifaceted nature of the role, showing the diversity of clinical, educational and research activities involved, to improve understanding of the contributions made by Pediatric Nurse Practitioner in providing quality care to children in the North American healthcare system.

Resumo

Este artigo temático aborda a opinião especializada sobre o papel do enfermeiro pediatra de prática avançada nos Estados Unidos da América. A publicação destaca o contexto histórico, o escopo específico da prática avançada dos enfermeiros pediatras, os caminhos para a certificação do *Pediatric Nurse Practitioner (PNP)*, o sistema de educação, acreditação e licenciamento, bem como a prática desse profissional e seus desafios atuais. O texto oferece *insights* sobre a natureza multifacetada da função, mostrando a diversidade de atividades clínicas, educacionais e de pesquisa envolvidas, para melhorar a compreensão das contribuições feitas por enfermeiros pediatras de prática avançada na prestação de cuidados de qualidade às crianças no sistema de saúde norte americano.

Resumen

Este artículo temático aborda la opinión de expertos sobre el papel de la Enfermera Pediátrica de Práctica Avanzada en los Estados Unidos de América. La publicación destaca el contexto histórico, el alcance específico de la práctica avanzada de la enfermería pediátrica, los caminos hacia la certificación de Enfermera Pediátrica de Práctica Avanzada, el sistema de educación, acreditación y licencia, así como la práctica de este profesional y sus desafíos actuales. El texto ofrece información sobre la naturaleza multifacética del rol, mostrando la diversidad de actividades clínicas, educativas y de investigación involucradas, para mejorar la comprensión de las contribuciones realizadas por las Enfermeras Pediátricas de Práctica Avanzada para brindar atención de calidad a los niños en el sistema de salud de Estados Unidos.

Keywords

Advanced practice nursing. Pediatric nurse. Nurses' role. Education.

Descritores

Prática avançada de enfermagem; Enfermeiro pediatra; Papel do enfermeiro; Atividades educativas.

Descriptores

Práctica avanzada de enfermería. Enfermera pediatra. Rol de la enfermera. Educación.

How to cite:

Peck JL. The Role of the Pediatric Nurse Practitioner in the United States. Rev Soc Bras Enferm Ped. 2023;23:eSOBEP20230300.

¹Louise Herrington School of Nursing, Baylor University, Dallas, United States.

Conflicts of interest: none to declare.

Corresponding author: Jessica L. Peck | E-mail: jessica_peck@baylor.edu

DOI: 10.31508/1676-3793202303000i

Introduction

The emergence and evolution of the pediatric nurse practitioner (PNP) role has transformed the healthcare landscape irrevocably, leveraging innovative pathways to practice serving children and their families with high quality, accessible, affordable healthcare. The sheer magnitude of the PNP role uptake with overwhelmingly positive health outcomes provides opportunity for international adaptations for global adoption. In the United States, nurse practitioners conduct more than one billion patient encounters annually and the public demonstrates overwhelming support for increased access to NP-delivered care.⁽¹⁾ This paper will discuss the history of the PNP role, pathways to PNP practice, and challenges facing the profession today.

Historical Background

The origins of modern nursing are generally attributed to Florence Nightingale and her work in the Crimean War, beginning in 1853. Although she is widely recognized as the “Lady with the Lamp” who traversed darkened hallways of embattled hospitals with unspeakable conditions to care for wounded soldiers, it is important to note that she was also a gifted statistician and scientist.⁽²⁾ After gathering data from military hospitals, she discovered nearly seven times as many British soldiers died of disease rather than combat-related injuries. Under Florence’s leadership in guiding 38 nurse volunteers to implement scientific principles of public health with statistical analysis as a guide, death rates in the wards dropped from 42.7 percent to just 2.2 percent.⁽³⁾

Clara Barton is broadly acknowledged for bringing a similar model of nursing care to the United States (U.S.) during the Civil War in the 1860s, where she helped lead more than 20,000 nurse volunteers. This experience inspired her to help establish the American Red Cross.⁽⁴⁾ In the aftermath of these wars, demand for formal training and recognition among nurses ensued. The Women’s Hospital of Philadelphia was among the first formal training programs to open in the US (called Nightingale Schools), beginning in 1869. By 1900, there were somewhere between 400-800 US programs.⁽⁵⁾

The Children’s Hospital of Philadelphia was established in 1855 and generally marks the beginning of formally recorded history of pediatric nursing as a specialty. Although the hospital provided care to children, it did not open its own school of nursing until 1895, notably the same year in which children with communicable diseases were first permitted admission to the hospital.⁽⁵⁾ Pediatric nurses played a critical role in health promotion and prevention in the early 20th century in the US. Early nursing leaders included Lillian Wald, who opened the Nurse’s Settlement House in New York’s City’s lower East side and employed 27 nurses in public health for care of families.⁽⁵⁾ This early established pediatric public health model created foreshadowing for what would be the origins of the advanced practice nursing role.

The onset of World War I in 1914 amplified a critical demand for specialized nursing skills.⁽⁵⁾ In the shadow of this global conflict, approximately 23,000 American nurses served in the military, caring for patients both in the US and abroad. During this time, membership in the American Red Cross grew from 17,000 to more than 20 million.⁽⁶⁾ Nurse midwives and nurse anesthetists began providing services at the battlefield and emerged as an organized discipline after the war.⁽⁷⁾ The year 1917 denotes the first time there were published standards on pediatric nursing as demands for more stringent education increased.⁽⁵⁾ As World War II began in 1941, another pediatric nursing leader began to emerge, one who would change the face of the profession permanently.

Born in 1920, Loretta C. Ford began her nursing career at the age of 16 as a hospital aide in Brunswick, New Jersey. She received her diploma in nursing in 1941 at the age of 18. After the death of her fiancée in World War II, she was inspired to join the United States Air Force as a nurse. At the conclusion of the war, she used military funding provided to her as a veteran to obtain a bachelor’s degree in nursing, a master’s degree in public health, and a doctoral degree in education before accepting a faculty appointment at the University of Colorado in 1961. In 1965, Dr. Ford collaborated with pediatrician Henry K. Silver to create the first pediatric nurse practitioner (PNP) training program at the University of Colorado Medical Center.⁽⁸⁾

In her academic role as professor, she began to give serious consideration to what she called “one of

our most valuable national human resources... our children".^(9:5) Her perspective as a public health nurse fueled her belief that nurses could do more to "preserve, promote, and protect the health and wellness of children".^(9:6) She also believed advanced training for nurses through a public health lens would help provide health services more directly at the point of care in homes, schools, county clinics, and other places children aggregate.⁽⁹⁾ The first cohort graduated twelve students and the pediatric nurse practitioner advanced practice nursing model was born.⁽⁸⁾

It is interesting to note that the only pediatric-specific nursing professional organizations established prior to the emergence of the PNP role were the National Association of School Nurses (1969) and the Association of Child and Adolescent Psychiatric Nurses (1971),⁽⁵⁾ of which the latter is no longer an independent organization but instead a Council housed within the American Psychiatric Nurses Association after it was founded in 1986.⁽¹⁰⁾ The National Association of Pediatric Nurse Practitioners (NAPNAP) was established in 1973 as the first and still the only national organization in the world focused on equipping pediatric-focused advanced practice registered nurses (APRNs) to promote child health.⁽¹¹⁾

NAPNAP has more than 8,000 members who identify themselves as "experts in pediatrics, advocates for children." NAPNAP's mission is to "empower pediatric-focused APRNs and key partners to optimize child and family health".^(11:2) NAPNAP also asserts it is "recognized as the global leader, trusted authority, and indispensable resource on pediatric advanced practice nursing".^(11:2) NAPNAP provides high quality continuing education through virtual and in-person formats; issues position statements, white papers, and press releases to guide PNP practice; supports advocacy initiatives and legislative influence for laws and regulations impacting children and their families; and generally supports PNP members to positively impact child health.⁽¹¹⁾

NAPNAP also founded NAPNAP Partners for Vulnerable Youth as an advocacy and education initiative addressing children in special risk groups including the Alliance for Children in Trafficking, the Alliance for Children in Foster Care, and the Alliance to Prevent Youth Suicide.⁽¹²⁾ The NAPNAP Foundation is an affiliated charitable organization with a mission

to "support the improvement of the quality of life of children and their families by awarding and administering funds for advanced practice nursing education, research, clinical projects, and special initiatives".^(12:1) NAPNAP is a critical resource and valuable community for PNPs practicing in the U.S. today.

The PNP Role Today

Today the nurse practitioner (NP) role has expanded to include other population specialty foci including adult, adult-gerontology, family, neonatal, psychiatric and mental health, and women's health. A recently emerging credential includes an emergency subspecialty certification for family nurse practitioners. As of 2021, there were approximately 385,000 certified nurse practitioners licensed in the United States, 88% of whom provide primary care services.⁽¹³⁾ In 2023, U.S. News and World Report ranked the NP role first on its list of jobs that help people after also achieving the designation of first on the list of "Best Health Care Jobs," second on the list of "100 Best Jobs of 2023," and second on the list of "Best STEM Jobs".⁽¹⁴⁾ The average median salary for an NP in the U.S. was reported to be \$113,000 in 2021.⁽¹³⁾

Although the first NP specialty was pediatric, currently only approximately 2.4% of NPs provide care as PNPs, resulting in general shortages and increasing demand for pediatric specialty care.⁽¹³⁾ In fact, a critical shortage of pediatric nurse practitioners was predicted by NAPNAP in a white paper published in 2019. There were approximately 18,000 PNPs licensed to practice in the U.S. at the time of the report, with 85% certified to practice in primary care, 10% in acute care, and only 5% certified to practice in both (dual certification). The demand for NP workforce has grown exponentially, but the PNP profession has not grown at the same rate as other NP specialties. Although family nurse practitioners (FNPs) are certified to deliver pediatric primary care, most of these providers report very low clinical interaction with children. Children's healthcare systems are increasingly recognizing the importance of seeking providers with specialized pediatric training and experience. The NAPNAP white paper warns of increasing shortages occurring over the next decade and issues specific recommendations

to bolster and support PNP workforce development to ensure optimal care for children.⁽¹⁵⁾

Pathways to Pediatric Nurse Practitioner Certification in the United States

Nursing is an innovative profession that rapidly evolves to effectively problem solve and meet real people with real needs in real time. Creating pathways for NP education accelerates the ability of qualified healthcare providers to complete the required training and certification and provide high quality, affordable, accessible care at the point of need.⁽¹⁶⁾ While most medical schools are brick and mortar institutions that require students to relocate in concentrated populations for training (if there is not a medical school nearby or the student is not accepted to a local school),⁽¹³⁾ NP training is more flexible and innovative with online and hybrid models to allow nurses to remain in their community during and after training.⁽¹⁷⁾

It is important to distinguish terms before further exploring educational pathways. The term APRN encompasses four advanced practice roles: clinical nurse specialist, nurse anesthetist, nurse midwife, and nurse practitioner (NP).⁽¹⁸⁾ This scope of this article will cover professional pathways specific to PNPs. PNPs are APRNs who meet regulatory requirements for licensure, accreditation, certification, and education. This is commonly referred to as the LACE model, established in 2008 by the Advanced Practice Consensus Work Group and the National Council of State Boards of Nursing, to define APRN practice, describe the APRN regulatory model, identify nomenclature for titling, define specialty practice, and identify the development of new roles and population strategy with suggestions for strategy in implementation.⁽¹⁹⁾ This body of work has helped set standards and regulation to ensure consistency across NP preparation and practice.

Education and Accreditation

To become a PNP in the U.S., one must successfully graduate from an accredited master's, post-master's, or doctoral degree program specific to the pediatric

population specialty. PNP students can receive education in a primary care track, an acute care track, or both as a dual role eligible for dual certification in acute and primary care. There are specific requirements for core curriculum across all NP specialties including pathophysiology, pharmacology, and physical assessment. In addition, the PNP track requires content related to pediatric-specific health promotion, disease prevention, and diagnosis and management of common pediatric illnesses.⁽¹¹⁾

The Pediatric Nursing Certification Board (PNCB) requires students to graduate from a program specifically accredited by the Accreditation Commission for Education in Nursing or the American Association of Colleges of Nursing. These agencies have additional regulatory requirements for accrediting PNP education programs including but not limited to number of clinical hours (500 supervised hours are a minimum requirement), required qualifications for faculty, requirements concerning precepted educational experiences, and many others.⁽²⁰⁾ The National Organization of Nurse Practitioner Faculty (NONPF) has traditionally set the National Taskforce on Quality Nurse Practitioner Education (NTF) criterion for NP education programs although following revisions in 2022 there is uncertainty about how these will be implemented or if there are viable alternatives from other organizations which offer separate but comparable criterion.⁽²¹⁾

The original model of NP education required master's level preparation. However, in 2018 the NONPF voted to recommend moving entry to the profession to the doctoral level. This is attained through a Doctor of Nursing Practice (DNP) degree, which is considered a professional, clinical degree as opposed to a research or medical doctorate.⁽²¹⁾ Doctoral preparation is consistent with other clinical disciplines moving to doctoral entry including pharmacy and physical therapy. This vote was reaffirmed by NONPF in 2023 with a target date of implementing DNP education in all programs by 2025. Currently, students with master's level preparation are still eligible to sit for certification boards and can practice and it is generally understood that previously licensed PNPs will be grandfathered in under their master's preparation. However, future NP students should give serious consideration to doctoral preparation.⁽²¹⁾

The first DNP program was opened at the University of Kentucky College of Nursing (UKCON) in

2001⁽²²⁾ but growth has been astronomical since. There are currently 426 DNP programs in the U.S. with an active enrollment of over 41,000 students and another 70 in the planning stages⁽¹³⁾. There are currently 96 accredited programs that offer primary care PNP education, 46 accredited programs that offer acute care PNP education, and 21 accredited programs that offer dual certification. The PNCB offers a directory of accredited programs for students to peruse. These programs are a mixture of master's level preparation for registered nurses who have obtained a baccalaureate degree (although some programs will accept an associate degree with Registered Nurse licensure for admission with the requisite educational pathway needed to progress), post-master's education (for students who already have a master's degree but not in a PNP program), and doctoral programs transitioning students from a bachelor's degree straight to a doctoral degree in lieu of a master's degree.⁽²⁰⁾

Certification

All PNPs must be certified by a national examination that designates credentials as a pediatric nurse practitioner. Prior to 2018, there were two organizations that offered PNP certification. The American Nurses Credentialing Center (ANCC) provided the Pediatric Primary Care Nurse Practitioner Board Certification (PPCNP-BC) but retired the exam at the end of 2018 because of persistently low numbers of exam takers. PNPs who hold the credential are able to retain it indefinitely but there will be no new PNPs certified and the credential will eventually be retired.⁽²³⁾

Currently the only certifying body for PNPs in the U.S. is the PNCB. Completion of an education program alone is insufficient to begin practice. PNPs must take the certification exam for the Acute Care Pediatric Nurse Practitioner (CPNP-AC), or the Primary Care Certified Pediatric Nurse Practitioner (CPNP-PC). For PNPs who take both exams, they can reflect their dual certification by using the credentials CPNP-AC/PC. Of note, PNCB offers an additional certification exam opportunity for PNPs who successfully pass one of the credentialing exams above and meet additional training requirements. The Pediatric Primary Care Mental Health Specialist Certification (PMHS) is designed to further prepare and credential PNPs to meet

pediatric mental health needs in light of a currently declared crisis among youth and shortage of mental health providers.⁽²⁰⁾ All certified PNPs must meet designated requirements for recertification, which runs in seven-year cycles with customized, flexible options for maintaining active credentials including continuing education activities, clinical practice hours, and other professional activities.⁽²⁰⁾

Licensure and Scope of Practice

Education and certification are the foundational building blocks to prepare NPs to practice, but NPs must also be currently licensed in their state of residency or U.S. territory to actively practice. Each state has variations in the application requirements, renewal process, and regulations for publicly displaying or charting credentials, generally established by each state Board of Nursing. Each PNP is responsible to know and abide by the regulatory requirements for state licensure, including but not limited to supervisory requirements, practice hours and continuing education requirements, signature authority, and others.⁽²⁴⁾

Compact license agreements allowing RNs to simultaneously hold a multi-state license are common, with 41 states or territories participating. This is an asset in times of disaster, allowing RNs to quickly relocate and begin administering care with minimal regulatory barriers.⁽²⁵⁾ However, the APRN Compact is much less developed, with only two states currently participating.⁽²⁶⁾ The patchwork of significant variability in licensure requirements and regulations between states is a deterrent to the Compact with challenges in building consensus to achieve full implementation. NAPNAP and other nursing organizations actually issued an official statement in 2020 opposing the Compact, citing support of the concept but objections to specific measures of implementation. As currently proposed, the Compact would require states with fewer NP practice restrictions to accept more stringent restrictions enforced by other states.⁽²⁷⁾ Advocacy efforts and continued discussion between professional organizations is ongoing.

Scope of practice is a term commonly used to describe the healthcare services an APRN is permitted to deliver with descriptors including who, what, when, where, why, and how of practice parameters.

⁽¹⁸⁾ Although education and certification requirements for PNPs are more generally nationally streamlined, licensure regulations governing scope of practice are much more variable and significantly impact the day-to-day practice of APRNs, including PNPs. While PNPs can be found in almost any care environment across the health spectrum including hospitals, clinics, emergency settings, camps, schools, and others, individual scope of practice results in variations in care delivery. As licensed, independent providers, PNPs can generally assess, diagnose, order tests, manage conditions, and prescribe for patients with acute or chronic conditions in addition to providing health promotion and preventive services. However, individual scope of practice is influenced by specific PNP educational preparation from an accredited institution, successfully passing a national certification exam, state licensure regulations, and organizational policy.⁽²⁸⁾ For example, one PNP may have had education and training to perform newborn circumcisions, and be licensed in a state with no supervision requirements. Another PNP may not have had that specific education or training and may practice in a state requiring supervision or in an organization that does not credential PNPs for this procedure. Each NP is responsible for determining the boundaries of their scope of practice and is accountable to their patients to operate within the complexity of these guidelines, adhering to policies and regulations governing their practice.

Full practice authority (FPA) is a term used to describe the “authorization of NPs to evaluate patients, diagnose, order, and interpret diagnostic tests, and initiate and manage treatments - including prescribing medication – under the exclusive licensure of the state board of nursing”.^(13:1) Essentially, this is a position to support removal of regulatory barriers that prevent NPs from doing what they have been educated and trained to do, and advocating for NPs to practice within their full scope. One barrier often faced by NPs in reduced or restricted practice states is unnecessary requirements for physician supervision whereas NPs with the same education and training may practice freely in another state, although the term “supervision” can be misleading as regulations rarely require direct oversight of or involvement with patient care but rather the oversight of paperwork including forms, chart reviews, or co-signatures, most of

which are minimal. Other barriers include physicians charging NPs exorbitant fees to provide indirect or minimal supervision and added cost from redundant visits for patients who may have to see an additional provider simply because of regulatory requirements.⁽²⁹⁾ For-profit companies that match NPs with MDs quote a \$500 down payment and rates starting at \$600 per month although significant variation is present throughout the U.S.⁽³⁰⁾

Currently, 27 states along with Washington D.C. and some U.S. territories have FPA, meaning NP licensure is not dependent on oversight by a physician or a state medical board. States with FPA generally report better health outcomes such as more access to NP-provided care for patients in rural or underserved areas while states with restricted practice authority report worse outcomes in measures such as geographic healthcare disparities, higher costs of care, greater disease burden from chronic illness, and lower rankings in national healthcare surveys.⁽³¹⁾ FPA has clear benefits including increasing access to care, streamlining care delivery across states, increasing efficiency of care systems and regulatory bodies, decreasing costs by eliminating unnecessary redundancies resulting from regulatory requirements, and increasing patient choice.⁽³¹⁾

The American Medical Association (AMA) and affiliated state medical organizations are vehemently opposed to FPA for NPs, citing largely subjective and anecdotal claims of fear for patient safety with NP-provided care along with the assertion that patients are best served in teams led by medical doctors. The AMA dedicates significant financial and people resources each year for legislative efforts to squelch any expansion of the NP role.⁽³²⁾ Although the AMA is vocal in its criticism of NP education models and often amplifies singular studies with negative implications for NP practice, a growing body of credible, high-quality research fully demonstrates positive health outcomes associated with NP practice including lower cost, increased access, and improved measures of health. These outcomes are generally equal to or in some cases superior to physician-delivered care.⁽³³⁻³⁷⁾

With more than 50 years of evidence supporting NP-provided quality, accessible, affordable care, there is growing national support from organizations like the National Governors Association, the Federal Trade

Commission, the Bipartisan Policy Center, the Veterans Health Administration (which adopted FPA in 2017), and the National Academy of Medicine as outlined in the *Future of Nursing 2020-2030* to standardize state practice regulations and eliminate current barriers to NP practice.^(16;18)

PNP Practice in the United States Today

PNPs in primary care are unique. While the PNP role started out as a primary care certification, the PNCB began offering acute care certification in 2005 following the emergence of education programs preparing PNPs to practice in critical care environments. There has been much debate within the nursing profession about the regulatory role of designating and regulating new population foci and certifications. There is also much debate in health systems about the scope of practice between primary and acute care certified PNPs (Mudd et al., 2023). For example, if a health system limits hiring to PNP-AC in a hospital setting, how does that impact the ability of PNP-PC to care for healthy newborns delivered there? Conversely, there may be settings in which both certifications may be qualified to practice such as in specialty clinics for children with chronic health conditions. Critical interprofessional collaboration is occurring to make these practice certifications distinct while recognizing the unique skill set and capacity of dually certified PNPs in both acute and primary care.⁽³⁸⁾

The clinician roles of PNP-PCs include settings such as outpatient primary care pediatrics, well child clinics, immunization clinics, school-based health centers, outpatient pediatric specialty care, camps, the newborn nursery, pediatric home health, low acuity emergency departments, developmental/behavioral pediatrics, mental health, nutrition, lactation, medical industry such as pharmaceutical sales or representation, and many others. The clinician roles of PNP-ACs include settings such as inpatient hospital units, surgical services, high acuity emergency departments, specialty clinics, pain management, palliative care, transplant teams, medical flight teams, intensive care units, and many others.⁽³⁸⁾

However, the PNP role extends beyond the clinical. PNPs also serve and work as nurse educators,

nurse leaders, scientists, researchers, policy experts, government consultants, nurse executives, advocates, media consultants, entrepreneurs, and many others. The emergence of the DNP role has accelerated conversation about best preparation for NP clinicians to transition to an academic role in the shadow of severe nursing faculty shortages in the U.S. The AACN asserts that DNP education is in itself insufficient as preparation for a faculty role in a university. Advanced practice clinicians must recognize the art and science of teaching and seek additional preparation. This could include a post-master's degree or doctoral degree in nursing education, seeking pathways for certification as a Nurse Educator from the National League for Nursing, or enrolling in academic development programs offered by professional nursing organizations. Similarly, PhD education in nursing does not specifically prepare nurses for the educator role but as trained researchers, PhD-prepared PNPs may be better situated to thrive in academic research-intensive environments.⁽³⁹⁾ PhD and DNP prepared nurses are best positioned to partner and leverage their respective expertise in research and clinical practice to best prepare the next generation of NP students.

Current Challenges

While the PNP profession has made many strides, there are new and ongoing challenges. Nursing is an innovative and resilient profession that historically rises to the occasion, but the significance of the difficulties ahead should not be diminished.

COVID-19 Impacts

In the aftermath of COVID-19, a commonly adopted public narrative widely touted that children were not significantly impacted by the pandemic. By association, pediatric nurses felt the impact they had felt in caring for the holistic health impacts on children and their families. In March of 2021, NAPNAP surveyed its pediatric APRN membership and found that study participants ($n=886$) reported death of a loved one (19%), feeling anxious or nervous (25%), moderate or extreme concern for professional burnout (34%), and feeling depressed or hopeless (15%). Alarming, 20%

self-reported moderate to extreme concern for their own mental health. Nearly 70% of respondents reported increased concern for mental health presentations from patients. Significant impacts were widely reported across personal, employment, clinical, education, and research spheres.⁽⁴⁰⁾

One year later, the survey was reemployed with even more alarming results. This time, study participants (n=1,087) reported professional burnout (87%), concern for personal mental health (80%), and increased concern for mental health of children and their parents (90%). The study concluded with a call for action from healthcare, governmental, and professional organizations to take immediate action to support the pediatric APRN workforce.⁽⁴¹⁾ The COVID-19 pandemic also illuminated pre-existing fractures within the healthcare system and amplified parental mistrust and uncertainty, leaving PNPs with the daunting task of trying to rebuild.⁽⁴²⁾

Emerging Health Threats

Pediatric practice is rapidly changing with new and emerging health threats for children that PNPs have not been educated and prepared to address, requiring frequent continuing education and additional sources to equip them as clinicians in clinical practice. These health threats include challenges such as human trafficking, vaping, risk taking behaviors through social media, health impacts associated with smartphone use, substances like fentanyl, gun violence, soaring suicide rates, mental health crises, and others.⁽⁴³⁾ Pediatrics is rapidly declining as a specialty with lower reimbursement and fewer clinicians choosing a practice pathway with children while the number of pediatric clinical positions posted for employment is increasing.⁽⁴⁴⁾ Innovation in education delivery to rapidly respond with effective, evidence-based interventions to support prevention and health promotion.

Diversity

Lack of diversity in the nursing workforce is well documented. In the 2020 National Nursing Workforce Survey, 81% of registered nurses identified as White, followed by Asian (7.2%), and Black (6.7%) while 90.% identified as female.⁽⁴⁵⁾ In data specific to NPs collect-

ed from 2011-2015, 84% of the workforce was reported as White, followed by Black (5.7%), Hispanic (4.5%), and Asian (4.1%). In follow-up data from 2019, workforce composition of NPs and midwives was reported as White (77.5%) followed by non-Hispanic Black (8.72%). The general public is approximately 60% White with 40% identifying as racial or ethnic minorities.⁽⁴⁶⁾ Patients report feeling more comfortable seeking care from a provider who shares the same gender or similar racial, ethnic, or cultural background.⁽⁴⁷⁾

Conclusion

The PNP profession has come a long way from twelve students starting at the University of Colorado in 1965. PNPs provide critical healthcare services including health promotion, wellness, and disease prevention to children and their families. Just 50 years young, there is much opportunity for continued growth. With the overwhelming support of the public and half a century of scientific evidence supporting positive health outcomes, there is great potential for elevated impact with global adoption of the role.

Acknowledgements

Dr. Beatriz Rosana Gonçalves de Oliveira Toso, for the translation and cultural adaptation of the text, and Professor. Dr. Larissa Giordani Schmidt, for the spelling and grammatical review of the text translated into Portuguese.

References

1. American Association of Nurse Practitioners® (AANP). Poll Shows Patients Overwhelmingly Support Nurse Practitioners Working to the Full Extent of Their Education. AANP; 2022 [cited 2024, Apr. 10]. Available from: <https://www.aanp.org/news-feed/poll-shows-patients-overwhelmingly-support-nurse-practitioner-working-to-the-full-extent-of-their-education>
2. Taxa E, Garofalo MJ. Florence Nightingale and the crimean war. *Am J Public Health.* 2010;100(9):1591.
3. Martelo J. The defiance of Florence Nightingale. *Smithsonian.* 2020 [cited 2024, Apr. 10]. Available from: <https://www.smithsonianmag.com/history/the-worlds-most-famous-nurse-florence-nightingale-180974155/>
4. American Red Cross. Clara Barton: Visionary leader and founder of the American Red Cross. *American Red Cross: c2024* [cited 2024, Apr. 10]. Available from: <https://www.redcross.org/about-us/who-we-are/history/clara-barton.html>
5. Taylor MK. Mapping the literature of pediatric nursing. *J Med Libr Assoc.* 2006;94(2 Suppl):E128-36.

6. The National Museum and Memorial. The Second Battlefield: Nurses in the First World War. The National Museum and Memorial: 2016 [cited 2024, Apr. 10]. Available from: <https://theworldwar.org/exhibitions/second-battlefield-nurses-first-world-war>
7. Army Nurse Corps Association (ANCA). Contributions of the U.S. Army Nurse Corps in World War I. ANCA: c2024 [cited 2024, Apr. 10]. Available from: <https://e-anca.org/History/Topics-in-ANC-History/Contributions-of-the-US-Army-Nurse-Corps-in-WWI>
8. University of Rochester. Loretta Ford (b. 1920). [cited 2024, Apr. 24]. Available from: <https://www.rochester.edu/2020-celebration/loretta-c-ford/>
9. Institute of Pediatric Nurse (IPN). To Nursing's Future. IPN: 2017 [cited 2024, Apr. 10]. Available from: <https://ipedsnursing.org/students/kick-start-your-pediatric-nursing-career/loretta-ford>
10. American Psychiatric Nurse Association (APNA). About the American Psychiatric Nurse Association. APNA: 2021 [cited 2024, Apr. 10]. Available from: https://www.apna.org/wp-content/uploads/2021/03/APNA_Organizational_Profile-June_2019.pdf
11. National Association of Pediatric Nurse Practitioners Foundation (NAPNAP). Welcome to the NAPNAP Foundation. NAPNAP: c2023 [cited 2024, Apr. 10]. Available from: <https://www.napnapfoundation.org/home>
12. Partners for Vulnerable Youth. NAPNAP Partners for Vulnerable Youth. 2023 [cited 2024, Apr. 10]. Available from: <https://www.napnappartners.org/>
13. American Association of Nurse Practitioners® (AANP). About the American Association of Nurse Practitioners® (AANP). AANP: c2024 [cited 2024, Apr. 24]. Available from: <https://www.aanp.org/about/about-the-american-association-of-nurse-practitioners-aanp>
14. American Association of Nurse Practitioners® (AANP). Nurse Practitioner Role Named "Best Job That Helps People". AANP: 2023 [cited 2024, Apr. 10]. Available from: <https://www.aanp.org/news-feed/nurse-practitioner-role-named-best-job-that-helps-people#:~:text=AUSTIN%2C%20TEXAS%20E%2%80%94%20The%20American%20Association,Jobs%20That%20Help%20People%2%80%9D%20list>
15. Gigli KH, Beauchesne MA, Dirks MS, Peck JL. White paper: critical shortage of pediatric nurse practitioners predicted. *J Pediatr Health Care*. 2019;33(3):347-55.
16. National Academies Sciences Engineering Medicine. The future of nursing. National Academy of Medicine; 2023 [cited 2024, Apr. 10]. Available from: <https://nap.nationalacademies.org/catalog/25982/the-future-of-nursing-2020-2030-charting-a-path-to>
17. Morris G. In-person vs. online nursing programs: which is right for me? *NurseJournal*. 2023 [cited 2024, Apr. 10]. Available from: <https://nursejournal.org/resources/in-person-vs-online-nursing-programs/>
18. American Nurse Association (ANA). Advanced Practice Registered Nurse (APRN). ANA: 2023 [cited 2024, Apr. 10]. Available from: <https://www.nursingworld.org/practice-policy/workforce/what-is-nursing/aprn/>
19. American Association of Colleges of Nursing (AACN). APRN Consensus Model. AACN: [cited 2024, Apr. 10]. Available from: <https://www.aacnursing.org/our-initiatives/education-practice/teaching-resources/aprn-education/consensus-model>
20. Pediatric Nursing Certification Board (PNCN). Earn a PNCB Certification. PNCN: [cited 2024, Apr. 10]. Available from: <https://www.pncb.org/certifications>
21. The National Organization of Nurse Practitioner Faculties (NONPF). Reaffirming the doctor of nursing practice degree: entry to nurse practitioner practice by 2025. NONPF: 2023 [cited 2024, Apr. 10]. Available from: https://cdn.ymaws.com/www.nonpf.org/resource/resmgr/dnp/04_12_23_reaffirming_the_dnp.pdf
22. Melander S, Hampton D, Rayens MK. Celebrating over 20 years: Outcomes from the first doctor of nursing practice program. *J Prof Nurs*. 2023;48:186-93.
23. American Nurse Credentials Center (ANCC). Pediatric Primary Care Nurse Practitioner Certification (PPCNP-BC). ANCC: [cited 2024, Apr. 10]. Available from: <https://www.nursingworld.org/our-certifications/pediatric-primary-care-nurse-practitioner/>
24. Feeney A. Nurse Practitioner Practice Authority: A State-by-State Guide. *NurseJournal*. 2024 [cited 2024, Apr. 10]. Available from: <https://nursejournal.org/nurse-practitioner/np-practice-authority-by-state/#:~:text=All%20nurses%2C%20including%20NPs%2C%20are,the%20criteria%20for%20becoming%20licensed>
25. National Council of State Boards of Nursing (NCSBN). Nurse Licensure Compact. NCSBN: 2024 [cited 2024, Apr. 24]. Available from: <https://www.nursecompact.com/>
26. APRN Compact. The Best Way Forward. APRN Compact: c2024 [cited 2024, Apr. 10]. Available from: <https://www.aprncompact.com/about.page>
27. Worsley J. National Association of Pediatric Nurse Practitioners Official Statement Opposing New APRN Compact Requirements. National Association of Pediatric Nurse Practitioners (NAPNAP): 2020 [cited 2024, Apr. 10]. Available from: <https://www.napnap.org/national-association-of-pediatric-nurse-practitioners-official-statement-opposing-new-aprn-compact-requirements/>
28. American Association of Nurse Practitioners® (AANP). Scope of Practice for Nurse Practitioners. AANP: 2020 [cited 2024, Apr. 10]. Available from: <https://www.aanp.org/advocacy/advocacy-resource/position-statements/scope-of-practice-for-nurse-practitioners>
29. Kleinpell R, Myers CR, Schorn MN. Addressing Barriers to APRN Practice: Policy and Regulatory Implications During COVID-19. *J Nurs Regul*. 2023;14(1):13-20.
30. Collaborating Docs. Attn: Nurse Practitioners. Match with a collaborating physician in 14 days or less or your money back! Collaborating Docs; c2024 [cited 2024, Apr. 10]. Available from: <https://collaboratingdocs.com/>
31. American Association of Nurse Practitioners® (AANP). Issues at a Glance: Full Practice Authority. AANP: c2024 [cited 2024, Apr. 10]. Available from: <https://www.aanp.org/advocacy/advocacy-resource/policy-briefs/issues-full-practice-brief>
32. American Medical Association (AMA). AMA successfully fights scope of practice expansions that threaten patient safety. AMA: 2023 [cited 2024, Apr. 10]. Available from: <https://www.ama-assn.org/practice-management/scope-practice/ama-successfully-fights-scope-practice-expansions-threaten>
33. Htay M, Whitehead D. The effectiveness of the role of advanced nurse practitioners compared to physician-led or usual care: A systematic review. *International Journal of Nursing Studies Advances*. 2021;3:100034.
34. Ivey LA, Flavin P, Vogelaar K, Peck JL. A case for the health welfare of Texans-A nurse practitioner state regulation policy analysis. *J Am Assoc Nurse Pract*. 2024;36(3):171-9.
35. McMenamin A, Turi E, Schlak A, Poghosyan L. A systematic review of outcomes related to nurse practitioner-delivered primary care for multiple chronic conditions. *Med Care Res Rev*. 2023;80(6):563-81.
36. Osakwe ZI, Aliyu S, Sosina OA, Poghosyan L. The outcomes of nurse practitioner (NP)-Provided home visits: A systematic review. *Geriatr Nurs*. 2020;41(6):962-969.
37. Woo BF, Lee JX, Tam WW. The impact of the advanced practice nursing role on quality of care, clinical outcomes, patient satisfaction, and cost in the emergency and critical care settings: a systematic review. *Hum Resour Health*. 2017;15(1):63.
38. Mudd SS, Quinn M, Busch D, Key SM, Brown K, Gilbert GE, et al. Evaluating the practice of pediatric nurse practitioners: is it time for dual primary and acute care preparation? *J Pediatr Health Care*. 2023;37(1):74-84.
39. American Association of Colleges of Nursing (AACN). Doctor of Nursing Practice (DNP) Programs. AACN: 2004 [cited 2024, Apr. 10]. Available from: <https://www.aacnursing.org/Portals/0/PDFs/Publications/DNPFaq.pdf>
40. Peck JL, Sonney J. Exhausted and burned out: COVID-19 Emerging impacts threaten the health of the pediatric advanced practice registered nursing workforce. *Journal of Pediatric Health Care*; 2022;35(4):414-24.
41. Sonney J, Peck JL. The cost of caring during COVID-19: a clarion call to action to support the pediatric advanced practice nursing workforce. *J Pediatr Health Care*. 2023;37(6):658-672.
42. Heerman WJ, Gross R, Lampkin J, Nmoh A, Eatwell S, Delamater AM, et al. How COVID-19 impacted child and family health and healthcare: a mixed-methods study incorporating family voices. *Transl Behav Med*. 2022;12(3):466-79.
43. Ann & Robert H. Lurie Children's Hospital of Chicago. (2023). To 10 child health concerns. 2023 [cited 2024, Apr. 24]. Available from: <https://www.luriechildrens.org/en/voices-of-child-health-in-chicago/top-10-child-health-concerns/>
44. University of Utah at Arlington (UTA). Looking for answers for the pediatric workforce decline. UTA: 2022 [cited 2024, Apr. 10]. Available from: <https://www.uta.edu/academics/schools-colleges/conhi/news/recent/2022/06/13/gigli-research-pediatric-decline>
45. Smiley RA, Ruttinger C, Oliveira CM, Hudson LR, Allgeyer R, Reneau KA, et al. The 2020 National Nursing Workforce Survey. *Journal of Nursing Regulation*. 2020;12(1):S1-S196.
46. National Council of State Boards of Nursing (NCSBN) Past Event: 2022 NCSBN APRN Roundtable- Diversity in the APRN Workforce: Evidence and Impact Video Transcript. NCSBN: 2022 [cited 2024, Apr. 10]. Available from: https://ncsbn.org/public-files/presentations/Transcript_2022APRN_mbrooks-carthon.pdf
47. Takeshita J, Wang S, Loren AW, Mitra N, Shults J, Shin DB, Sawinski DL. Association of racial/ethnic and gender concordance between patients and physicians with patient experience ratings. *JAMA Netw Open*. 2020;3(11):e2024583.