Pediatric Nurse Practitioners in the United States: Current Distribution and Recent Trends in Training

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Objective To assess the current distribution and training patterns of pediatric nurse practitioners (PNPs).

Study design Secondary data analysis from the National Association of Pediatric Nurse Practitioners and the 2008 US Census Bureau were used to estimate the distribution of PNPs per 100 000 children. Data on nurse practitioner (NP) graduation and specialty education programs were obtained from the American Association of Colleges of Nursing.

Results PNPs have the greatest concentration in the New England and mid-Atlantic regions and a narrow band of Midwestern states. States that allow PNPs to practice or prescribe independently do not consistently have a higher density of PNPs per child population. There has been a slight decrease in the proportion of programs that offer PNP training. In the last decade, the proportion of NP graduates pursuing family nurse practitioner education has increased, and the proportion pursuing PNP education has decreased.

Conclusion Workforce planning for the health care of children will require improved methods of assessment of the role of PNPs and the volume of care they provide. Increased use of PNPs in pediatrics will likely require greater effort at recruitment of NPs into the PNP specialty. *(J Pediatr 2010;157:589-93)*.

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Pediatric nurse practitioners (PNPs) comprise one of several specialty areas of advanced practice nurses in the United States. PNPs receive advanced education and training in pediatric nursing and health care in master-degree programs. They also may seek certification to become a Certified Pediatric Nurse Practitioner in Primary Care (CPNP-PC or PNP-Board Certified [PNP-BC]) or Acute Care (CPNP-AC) through a national certification examination.[1] PNPs provide health care services to children and families in an extensive range of practice settings, including primary care, acute care, subspecialty care, and intensive care.[2]

Recognized as nurse practitioners (NPs), PNPs follow the rules and regulations of the Nurse Practice Act of the state in which they work. There is variation in the states in the nature of the scope of practice for which they are licensed, with some states allowing NPs to practice without the direct supervision of a physician and some allowing the independent ability to prescribe medications (**Figure 1**).[3,4]

Pediatric workforce studies and projections have envisioned the increased use of PNPs in a variety of healthcare settings to fulfill a myriad of roles ranging from the expansion of subspecialty pediatric services to the provision of pediatric primary care in underserved, especially rural, areas, to meeting the needs for staffing critical care units.[1,5-7] However, there are a paucity of data available on the PNP workforce. The current distribution of PNPs nationwide, both overall and relative to the variation in state laws on independent practice, is unknown.

Further, recent trends in the educational pipeline for PNPs entering the field have not been defined. This is especially important because a greater proportion of NPs overall may choose to provide care for adult patients as the proportion of the US population older than 65 years continues to expand.

We examined the distribution of the PNP workforce and current trends in PNP training to provide health care policymakers with data to better understand the nature and potential for PNPs in pediatric health care delivery.

ANCC	American Nurses Credentialing Center
CPNP-AC	Certified pediatric nurse practitioner–acute care
CPNP-PC	Certified pediatric nurse practitioner–primary care
FNP	Family nurse practitioner
NP	Nurse practitioner
PA	Physician assistant
PNCB	Pediatric Nursing Certification Board
PNP	Pediatric nurse practitioner
PNP-BC	Pediatric nurse practitioner–board certified

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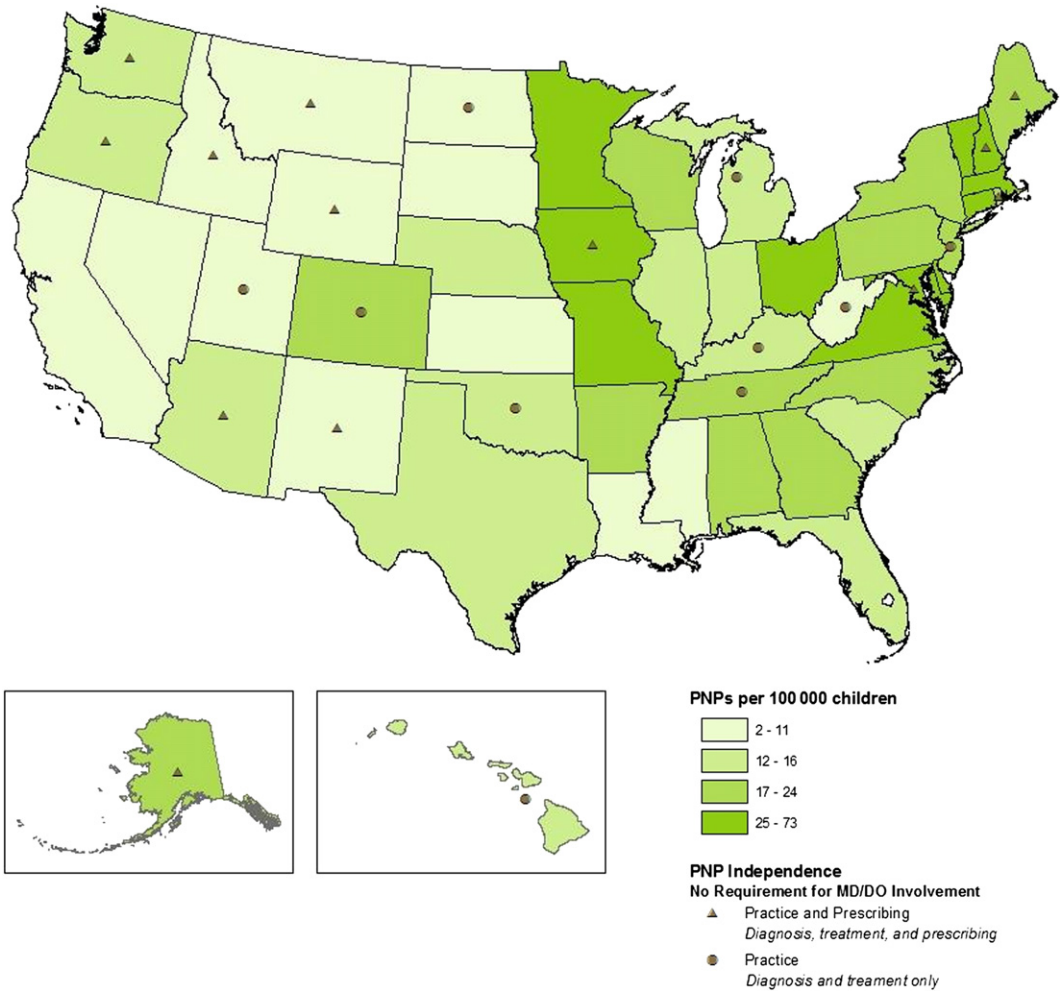

Figure 1. PNP distribution and independence.

Methods

We used the National Association of Pediatric Nurse Practitioner's roster of PNPs by state to estimate PNP counts.[8] The counts were derived from Pediatric Nursing Certification Board (PNCB) CPNP data by state as of April 2009 and American Nurses Credentialing Center (ANCC) PNP-BC data by state as of June 2008. The total number of PNPs was 13 384.

Child population data were derived from 2008 US Census Bureau estimates.[9] We calculated the state PNP-to-child population ratio as the number of PNPs divided by the state population aged 0 to 17 years, multiplied by 100 000.

Data on state laws about the requirement of physician involvement in NP diagnosis, treatment, and prescribing were derived from the 2009 Pearson Report, an annual state-by-state national overview of NP-related legislation published by the *American Journal of Nurse Practitioners*.[4]

We obtained NP graduation and program data from 1996 to 2008 from the American Association of Colleges of Nursing to assess trends in NP graduates by clinical track. American Association of Colleges of Nursing data on nursing programs are obtained through an annual survey of institutions with nursing programs. The survey is a joint effort with the National Organization of Nurse Practitioner Faculties.

Results

The distribution of PNPs per 100 000 children by state is presented in Figure 1. PNPs appear to have the greatest concentration per population of children in the New England and mid-Atlantic regions and in a narrow band of states in the Midwest. More states in the western part of the nation allow independent practice of NPs compared with other regions.

As of February 2009, there were 23 states that licensed NPs to practice independently without physician involvement.[4] Of these states, 13 also allow NPs to prescribe medications independently (Figure 1). States that allow independent practice do not consistently have a higher density of PNPs per child population.