*Discussion Paper*

# The Distribution of Advanced Practice Nurses Within the Psychiatric Workforce

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## Abstract

**OBJECTIVE:** To examine the size and distribution of the advanced practice psychiatric nurse workforce relative to the total psychiatry workforce to determine whether nurses are predominantly working in areas with higher or lower levels of behavioral health specialists. **METHODS:** State-level data for psychiatric nurses were obtained from the American Nurses Credentialing Center, and included mental health psychiatric nurse practitioners, adult psychiatric nurse practitioners, child psychiatric clinical nurse specialists, and adult psychiatric clinical nurse specialists. Supply estimates of the full psychiatry workforce were calculated for comparison purposes. State population estimates were obtained from U.S. Census Bureau data. State workforce estimates were converted to a 1:100,000 provider-to-population ratio to analyze the density of providers across states. **RESULTS:** In 2018, the psychiatric workforce supply was estimated to be composed of 66,740 providers, including psychiatrists ($n$ = 47,046; 71%), psychiatric nurses ($n$ = 17,534; 26%), physician assistants ($n$ = 1,164; 2%), and psychiatric pharmacists ($n$ = 966; 1%). Overall, psychiatric providers appeared to be most densely concentrated in the northeast region of the United States. A dearth of providers was most pronounced within areas in the 12-state Midwest region, southern states, California, and Nevada. The average concentration of psychiatric workers was 22.61 per 100,000 population. **CONCLUSIONS:** The findings of this study find inconsistent pattern of how psychiatric nurses are distributed relative to the rest of the workforce, but reinforce the idea that they are essential in addressing care needs in areas with low concentrations of psychiatry specialists—especially if they are authorized to work to the full extent of their training/education.

## Keywords

psychiatric mental health workforce, behavioral health workforce, psychiatric workforce shortage, workforce capacity, advanced practice psychiatric mental health nurses

## Introduction

The psychiatric workforce shortage remains a serious issue in the field of behavioral health. In 2018, the Health Resources and Services Administration (HRSA) designated 5,124 mental health professional shortage areas (HPSAs) in the United States (HRSA, 2019). In 2016, HRSA estimated a supply of 45,390 psychiatrists, 10,250 psychiatric nurse practitioners, and 1,400 psychiatric physician assistants in the United States. Demand for the psychiatry workforce is projected to exceed the supply by 16,450 workers by 2030 (HRSA, 2018a, 2018b). Approximately 77% of U.S. counties reported severe shortages of psychiatrists in 2017, and 55% of counties in the continental United States do not currently have any psychiatrists practicing within their borders (National Council for Behavioral Health, 2017).

Studies continue to show that the persistent shortage in the psychiatric workforce may partly be remedied by advanced practice psychiatric mental health nurses if they are permitted to work to the full extent of their education and training (Fairman, Rowe, Hassmiller, & Shalala, 2011; Hanrahan, Delaney, & Stuart, 2012). However, many national estimates of behavioral health workforce shortages center on psychiatrist-to-population ratios, which do not consider the contribution of advanced practice psychiatric nurses to behavioral health workforce capacity and care delivery.

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## Objective

In 2018, the Behavioral Health Workforce Research Center at the University of Michigan conducted a study jointly funded by HRSA and the Substance Abuse and Mental Health Services Administration to examine the size and distribution of the advanced practice psychiatric nurse workforce relative to the total psychiatry workforce to determine whether nurses are predominantly working in areas with higher or lower levels of behavioral health specialists (Behavioral Health Workforce Research Center, 2018). This descriptive information is intended to provide more context to the nationwide maldistribution of the psychiatry workforce.

## Method

The data presented in this article reflect a model of capacity estimates based on provider-to-population ratios.

## Data Sources

State-level data for psychiatric nurses were obtained from the American Nurses Credentialing Center (ANCC), which certifies nurses. Mental health psychiatric nurse practitioners, adult psychiatric nurse practitioners, child psychiatric clinical nurse specialists, and adult psychiatric clinical nurse specialists were included in the study. Nurse practitioners and clinical nurse specialists were both included in the data due to their overlapping services. According to the American Psychiatric Nurses Association (2010), "psychiatric advanced practice nurses, whether they practice under the title of clinical nurse specialist or nurse practitioner, share the same core competencies of clinical and professional practice." Supply estimates of the full psychiatry workforce were calculated for comparison purposes. This included psychiatrist supply data from the American Board of Medical Specialties, physician assistant data from the American Academy of Physician Assistants, and psychiatric pharmacist data from the College of Psychiatric and Neurologic Pharmacists. State population estimates were obtained from U.S. Census Bureau data (U.S. Census Bureau, 2018). State workforce estimates were converted to a 1:100,000 provider-to-population ratio to analyze the density of providers across states.

## Results

The total psychiatric workforce supply was estimated to be composed of 66,740 providers, including psychiatrists ($n$ = 47,046; 71%), psychiatric nurses ($n$ = 17,534; 26%), physician assistants ($n$ = 1,164; 2%), and psychiatric pharmacists ($n$ = 966; 1%)—figures comparable to HRSA's 2016 supply estimate. Overall, psychiatric providers appeared to be most densely concentrated in the northeast region of the United States. A dearth of providers was most pronounced within areas in the Midwest region, southern states, California, and Nevada. Hawaii had a high concentration of psychiatric providers, but access to these providers was potentially limited depending on their distribution along the archipelago. The average concentration of psychiatric workers was 22.61 per 100,000 population. Overall, the states with the highest concentration of psychiatric providers per 100,000 residents were the District of Columbia (63.84), Massachusetts (54.14), Connecticut (48.91), Rhode Island (47.66), and Vermont (46.66). The states with the lowest concentration of psychiatric providers per 100,000 residents were Nevada (9.67), Oklahoma (9.77), Idaho (12.17), Indiana (12.61), and Alabama (12.64).

### *Advanced Practice Psychiatric Nurses in the Psychiatry Workforce*

Of the 17,534 certified psychiatric nurses identified, 46% were psychiatric mental health nurse practitioners, 27% were adult psychiatric clinical nurse specialists, 22% were adult psychiatric nurse practitioners, and 5% were child psychiatric clinical nurse specialists. The ANCC enumeration was not de-duplicated; therefore, an estimated 1,500 to 2,000 nurses with dual certifications were likely double-counted in these data. The average concentration of advanced practice psychiatric nurses was 6.98 nurses per 100,000 population. Psychiatric nurses were most highly concentrated in the northeast region of the United States, particularly around the New England area (Figure 1). Alaska and states within the Pacific Northwest also had notably higher-than-average concentrations of advanced practice psychiatric nurses in their states. States with the highest ratio of psychiatric nurses per 100,000 population included Maine (22.01), Massachusetts (17.61), Rhode Island (16.61), Connecticut (16.22), and Vermont (14.91). States with the lowest ratio per 100,000 population included Oklahoma (1.53), California (2.15), West Virginia (2.48), Nevada (2.77), and Illinois (2.79). States with high ratios, with the exception of Massachusetts, support full practice authority for nurses. States with low ratios, with the exception of Nevada, all impose reduced or restricted scopes of practice for nurse practitioners (American Association of Nurse Practitioners, 2018).

Psychiatric nurses make up approximately 31% of the total psychiatric provider-to-population ratio nationwide of 22.61 providers per 100,000 population. In 15 states, psychiatric nurses are more heavily concentrated, comprising more than 31% of the psychiatric provider-to-population ratio. This includes areas with fewer total psychiatric workers where psychiatric nurses are a high percentage of the overall provider-to-population ratio,

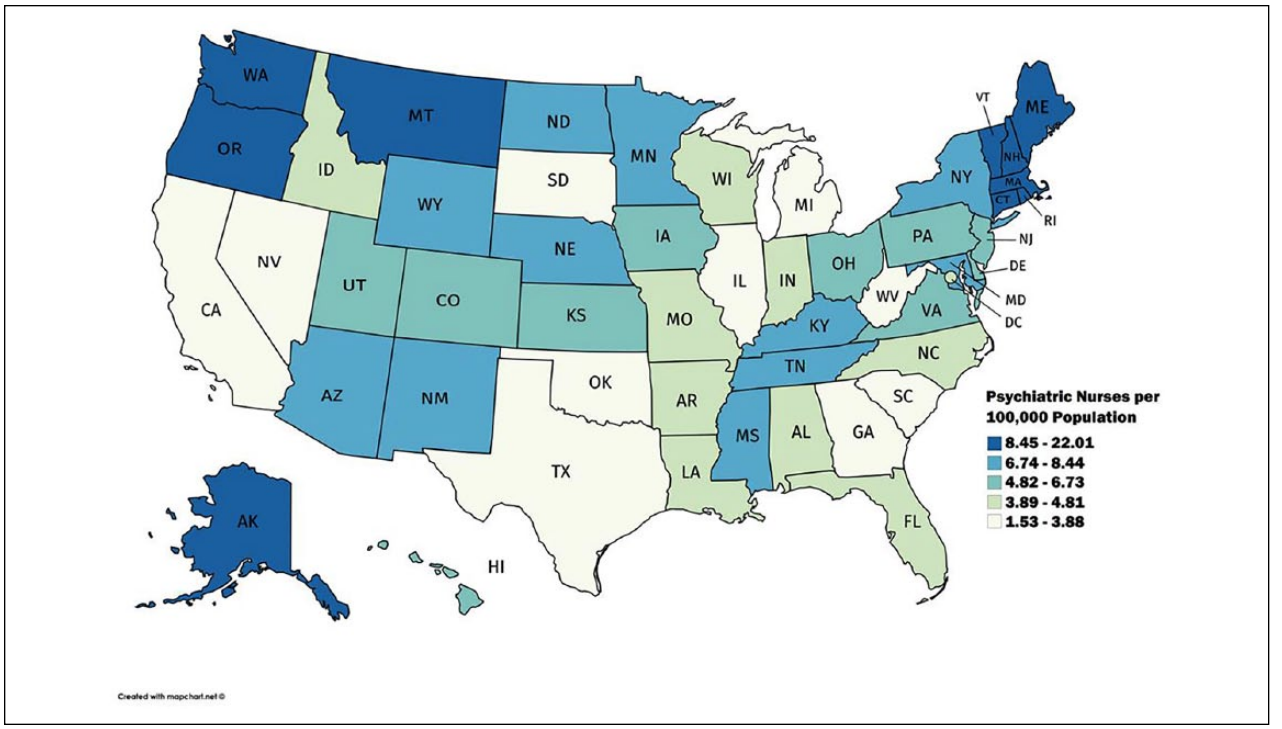


**Figure 1.** Map of U.S. advanced practice psychiatric nurses per 100,000 population.
*Note.* The map was created by the Behavioral Health Workforce Research Center by using ANCC psychiatric nurse enumeration data with U.S. Census data.

such as Wyoming (55%), Tennessee (47%), Kentucky (45%), Montana (44%), Alaska (43%), and Iowa (40%). In these states, psychiatric nurses appear to be substantively addressing the population's behavioral health needs, as other psychiatric providers are scarce. Other states, such as Maine, New Hampshire, and Washington, have both a higher total psychiatric provider-to-population ratio than the national ratio as well a high psychiatric nurse-to-population ratio.

## Discussion

Understanding the factors influencing shortage and maldistribution of the psychiatric workforce is key to addressing the misalignment between worker supply and demand. The findings of this study show no consistent pattern of how psychiatric nurses are distributed relative to the rest of the workforce, but reinforce the idea that they are essential in addressing care needs in areas with low concentrations of psychiatry specialists.

Advance practice psychiatric nurses in the behavioral health workforce are master's or doctoral-level medical professionals dedicated to the prevention and treatment of health disorders. These nurses are eligible for prescriptive authority in all states, allowing them to engage in psycho-pharmacological treatment. Their professional independence varies by state, with some statutes and regulations requiring them to have collaborative practice agreements or prescriptions cosigned by physicians. Recent studies indicate that authorizing nurse practitioners to practice independently both increases the amount of services available in the authorized area and is associated with a greater supply of nurse practitioners compared with areas where their practice is more restricted (Arifkhanova, 2018; Xue et al., 2018).

Advanced practice psychiatric nurse distribution does not seem to be as linked to graduate programs as psychiatrist distribution: The top 10 psychiatric nurse programs are spread across nine states (Nurse.org, 2018) rather than localized to any one geographic area, and with the exception of Washington and Connecticut, these programs are not in states that are within the top 20th percentile of advanced practice psychiatric nurses per 100,000 population rates. More research is needed to understand the elements that influence where psychiatric nurses choose to practice. Some of these factors may include the level of restrictiveness of a state's scope of practice. Some states with low advanced practice psychiatric nurse-to-population ratios impose reduced or restricted scopes of practice while states with high ratios tend to support full practice authority for nurses. An additional factor may be the concentration of other behavioral health specialists—a high concentration creates opportunities for providing team-based care, while a low concentration signals higher

caseloads and fewer psychiatric specialists available for partnership. National strategies for promoting better workforce distribution have included incentive programs for practice in underserved areas, such as the NURSE Corps program, which offers full tuition, cost of supplies, and a monthly stipend for nurses who agree to serve in HPSAs, including mental health HPSAs (HRSA, 2018c).

In addition to recruitment and distribution issues, the field continues to be challenged with establishing a professional identity for psychiatric nurses in a way that will standardize data collection and monitoring nationwide. This study chose to focus on ANCC-certified advanced practice nurses in specific specialties; other studies use a mix of inclusion criteria when describing the workforce. For example, clinical nurse specialists are often excluded from workforce studies and the role of registered nurses in the behavioral health workforce is still being articulated.

This study utilized provider-to-population ratios as an indicator of shortage, which is limited in that such models make an incorrect assumption that everyone in the population has equal access to care. In traditional supply-and-demand models, estimates are typically determined independently for each discipline, and since the methods used for studies of individual disciplines vary, putting together the big picture is challenging and potentially inaccurate. Though these traditional models can be useful for providing baseline estimates of providers per capita, they do not allow for quantification of how health care teams work together. Silo-based health workforce projection models will soon give way to methodologies that acknowledge overlapping scopes of practice and prompt needs-based interprofessional workforce planning centered on patients and populations, instead of on professions (Fraher & Brandt, 2019). Better data that not only estimate the supply of individual psychiatric nurses but also quantify the contribution of psychiatric nurses to behavioral health service delivery are important for accurate assessment of the psychiatric workforce capacity.

## Conclusion

Research continues to show that the persistent psychiatric workforce shortage can be partially remedied by advanced practice nurse practitioners. Psychiatric advanced practice nurses are trained to deliver the full range of mental health services across the lifespan, support health promotion and self-management efforts, serve as leaders in designing patient-centered cultures of care, and provide interprofessional education. Vulnerable populations benefit from an empowered nurse practitioner workforce, because nurse practitioners are more likely than physicians to practice in urban and rural areas, provide care in diverse community settings, and treat Medicaid recipients (Buerhaus, DesRoches, Dittus, & Donelan, 2015). Nurse practitioners can also contribute to telemental health services (Delaney, 2017).

Psychiatric advanced practice nurses are essential in addressing care needs in areas with low concentrations of psychiatry specialists—especially if they have full practice authority. Strategies to encourage better distribution to lower-resourced areas must be developed to address the aforementioned workforce shortages. Priority areas for workforce research to supplement information about psychiatric nurse practitioner supply and distribution include further assessment of the impact scope-of-practice variability on workforce capacity and health outcomes, development of outcomes data detailing roles for psychiatric nurses on effective integrated care teams, and identification of opportunities for incentivizing psychiatric advanced practice nurses to provide care in underserved areas.

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