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Do State Restrictions on Advanced Practice Registered Nurses Impact Patient Outcomes for Hypertension and Diabetes Control?

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ABSTRACT

The Institute of Medicine recommends that nurses practice to the full extent of their education and training, yet, state regulations continue to limit the scope of practice for advanced practice registered nurses (APRNs). One reason is the unproven belief that patient outcomes will be inferior if APRNs practice without regulations. This study examined whether the absence of restrictions on APRNs results in inferior outcomes for patients with hypertension or diabetes. We used publicly available data for patients seen in Federally Qualified Community Health Centers during 2013 in 6 states with the most restrictions and in 10 states with the least restrictions.

Keywords: advance practice registered nurses, nurse practitioners, patient outcomes, primary care, state regulations on scope of practice

BACKGROUND

The current shortage of primary care providers in the United States has been exacerbated by aging of the population, increases in chronic diseases in the population, and increasing insurance coverage of primary care.[1] Advanced practice registered nurses (APRNs), also referred to as nurse practitioners (NPs), can add to the primary care workforce. We are using the term of APRN in this report unless referring to published works that use the term NP. Since 1995, several meta-analyses, systematic reviews, and randomized trials have shown that APRNs provide primary care of equal quality as primary care physicians and are seen by patients as being better at educating and counseling them about health-related issues.[2-8] These findings were recently confirmed in a study showing that advanced practice clinicians (NPs and physician assistants) were no more likely to order guideline-discordant medications or diagnostic procedures than physicians.[9]

The American Association of Nurse Practitioners[10] reported 222,000 APRNs were licensed to practice in the United States in 2016, with 20,000 new APRNs entering the workforce yearly. It also reported 83.4% were certified in an area of primary care. This is occurring at a time when the Association of American Medical Colleges is estimating that there will be a shortage of 45,000 primary care physicians by 2020 in the US.[11] APRNs can facilitate care during the shortage because they are more likely to locate in areas with fewer physicians per capita.[12]

Recognizing the importance of APRNs in primary care, the National Academy of Medicine (NAM), formerly the Institute of Medicine, recommended that nurses practice to the full extent of their education and training.[13] The NAM, however, notes that regulations defining scope-of-practice limitations vary widely by state and limit the ability of APRNs to practice.[14]

Significant opposition exists to allowing APRNs to practice at the full scope of their education and training. The American Academy of Family Physicians has taken the position that "Granting independent practice to nurse practitioners would be creating two classes of care: one run by physician-led teams and one

run by less qualified health professionals. Americans should not be forced into this two-tier scenario. Everyone deserves to be under the care of a doctor."[15p7] The American Medical Association published an 11-part statement on Guidelines for Integrated Practice of Physician and Nurse Practitioner. Six of these statements clearly state that physicians should supervise the care provided by NPs.[16] The Council of Medical Specialty Societies (CMSS) has also issued a statement opposing the NAM recommendations based on the disparity in hours of education between physicians and APRNs.[17]

The differences between the NAM recommendations and physician society concerns are reflected in the patchwork of state laws regulating APRN scope of practice, which range from independent practice to close supervision by a physician. The 2010 NAM report identified 4 major categories that characterize physician involvement in care provided by APRNs: (1) requirement for physician involvement for prescriptions; (2) requirement for on-site oversight by physicians; (3) quantitative requirements for review of APRN charts; and (4) maximum APRN-to-physician ratios. The same NAM report differentiated all 50 states according to their regulatory requirements. The NAM categorized 6 states (Alabama, Missouri, Nevada, South Dakota, Texas, and Virginia) as having restrictions for APRNs in 4 four categories, and 10 states (Alaska, Arizona, Idaho, Iowa, Maine, New Hampshire New Mexico, Oregon, Washington, and Wyoming) did not restrict APRNs in any of the 4 categories.[14]

No research could be found to support the belief that restricting or not restricting APRN practice has an effect on patient outcomes. The objective of this study was to examine whether the states with the least restrictions (LR) on the scope of practice of APRNs have patient outcomes inferior to patient outcomes in the most restrictive states (MR), as measured by rates of controlled hypertension and diabetes in Federally Qualified Community Health Centers (FQCHCs).

METHODS

Design

To address the objective, we needed to compare measurable patient outcomes on a large number of patients with similar socioeconomic characteristics and common conditions in the MR states with those in the LR states. Therefore, this study was designed as a cross-sectional analysis of publicly available, national data reported in 2013. This study was approved by The University of Texas Health Science Center at Houston Institutional Review Board, The Committee for the Protection of Human Subjects.

Participants and Setting

FQCHCs are primary care organizations that have received grants to operate from the US Department of Health and Human Services (DHHS), Health Resources and Services Administration (HRSA), Bureau of Primary Health Care (BPHC). These FQCHCs exist at the local level to serve large numbers of similar, vulnerable populations and must adhere to the same FQCHC policies regarding staffing, services, etc. In 2010, there were 1,124 such centers in the US.[18,19]

Source of Data

FQCHCs submit annual reports to HRSA, BPHC. The agencies report the number of patients served, the socioeconomic characteristics of those patients, numbers of selected diagnoses of the patients, staffing patterns in the agencies, care provided, and outcomes for patients with certain diagnoses. These reports are available on the HRSA, BPHC website for each state (DHHS, HRSA, BPHC).[20] The data in these reports are aggregated to the state level. No patient-level data are available.

At the time of the current study, we accessed the reports provided on the BPHC website for 2013. There were 146 FQCHCs in the 6 MR states and 154 FQCHCs in the 10 LR states.[20] We verified that the NAM 2010 evaluation of states according to LRs and MRs for APRNs was still applicable in 2013. Between 2010 and mid-2013, there were no changes in the lack of regulatory restrictions in the 10 states that did not restrict APRNs in any of the 4 categories. Restrictions were maintained in 5 of the 6 states that were categorized by the NAM as having restrictions in all 4 categories.[21,22] Nevada amended its statutes governing APRN practice in 2013.[22] Portions of the changes went into effect July 1, 2013, with most of the changes implemented January 1, 2014.[23] We believe it unlikely that the small changes in regulations from July 2013 forward would have been adequate to affect patient outcomes during that same year.