National Governors Association

NGA PAPER

# The Role of Nurse Practitioners in Meeting Increasing Demand for Primary Care

## Abstract

With the demand for primary care services already straining capacity in most states, more than 16 million individuals projected to gain health insurance coverage by 2016, and a rapidly aging population, many states are considering options to increase the number and role of primary care providers. One option for states is to reexamine their scope of practice laws governing nurse practitioners (NPs). NPs, the largest group of advanced practice registered nurses (APRNs), currently serve patients in a wide variety of settings under varying degrees of physician supervision.

The National Governors Association (NGA) undertook a review of the literature and state rules governing NPs' scope of practice to answer three questions pertaining to their potential role in meeting the increasing demand for primary care: (1) to what extent do scope of practice rules for NPs, as well as licensure and other conditional requirements, vary across states?; (2) to what extent do states' rules and requirements for NPs deviate from evidence-based research of appropriate activities for NPs?; and (3) given current evidence, what would be the effect of changes to state scope of practice laws and regulations on health care access and quality?

Research suggests that NPs can perform many primary care services as well as physicians do and achieve equal or higher patient satisfaction rates among their patients. The review of state laws and regulations governing NPs reveals wide variation among the states' with respect to rules governing NPs' scope of practice, including the extent to which states allow NPs to prescribe drugs, to practice independently of physician oversight, and to bill insurers and Medicaid under their own provider identifier. Sixteen states and the District of Columbia allow NPs to practice completely independently of a physician and to the full extent of their training (i.e., diagnosing, treating, and referring patients *as well as* prescribing medications for patients); the remaining 34 states require NPs to have some level of involvement with a physician, but the degree and type of involvement varies considerably by state. To better meet the nation's current and growing need for primary care providers, states may want to consider easing their scope of practice restrictions and modifying their reimbursement policies to encourage greater NP involvement in the provision of primary care.

## Introduction

The demand for primary care services in the United States is expected to increase over the next few years, particularly with the aging and growth of the population and passage of the Affordable Care Act (ACA). Research suggests that NPs and other health professionals are trained to and already do deliver many primary care services and may therefore be able to help increase access to primary care, particularly in underserved areas.

For that reason, NGA undertook a review of the literature and state rules governing NPs' scope of practice to answer three questions pertaining to the role of NPs in meeting the increasing demand for primary care: (1)

to what extent do scope of practice rules for NPs, as well as licensure and other conditional requirements, vary across states?; (2) to what extent do the rules and requirements of states vary from the evidence-based research of appropriate activities for NPs?; (3) given current evidence, what would be the effects of changes to state scope of practice laws and regulations on health care access and quality?

This NGA paper summarizes the literature relevant to NP practice and current state scope of practice rules governing NPs.

Regulations and policies governing the NP profession vary widely across states. Half the states allow NPs to practice somewhat independently (i.e., diagnosing, treating and referring patients but *not* necessarily prescribing), differing significantly in the level of physician involvement they require such as in regard to NPs' authority to prescribe drugs and their ability to bill for services. A more detailed, state-by-state assessment of scope of practice and reimbursement rules governing NPs by state is presented in the appendix.

To better meet the nation's current and growing need for primary care providers, states may want to consider easing their current scope of practice restrictions, as well as their reimbursement policies, as a way of encouraging and incentivizing greater NP involvement in the provision of primary care.

# Background

### Primary Care and Health Care Reform

The aging and growth of the U.S. population, along with the health care coverage expansions and other initiatives under the ACA, is expected to significantly increase demand for primary care services in the coming years. Since the passage of the ACA in 2010, more than two million Americans have been added to health insurance rolls. The total number of people expected to gain health insurance had been expected to increase to 30 million by the year 2016, but states were given flexibility about whether to expand (or not expand) their Medicaid programs by the U.S. Supreme Court's June 2012 decision upholding the ACA overall. For that reason, it is now unclear what the full extent of the insurance expansion under the ACA will be.[1] However, regardless of each state's decision regarding expansion of Medicaid, there will be increased coverage stemming from the 16 million people who are eligible to obtain new subsidies for private coverage offered through the health insurance exchanges authorized by the ACA, as well as by the ACA's mandate for most individuals to carry health insurance.[2]

Beyond expanding health insurance coverage, the ACA provides new incentives for enrollees in public and private health insurance plans to seek preventive health care services by eliminating patient cost-sharing. Insurers will be required to cover—without patient cost-sharing—a number of preventive services the U.S. Preventive Services Task Force recommends, as well as additional services specifically recommended for women and children which, even if considered alone, would create a substantial increase in demand for primary care.[3]

One study projects that by the year 2019, the demand for primary care in the United States will increase by between 15 million and 25 million visits per year, requiring between 4,000 and 7,000 more physicians to meet this new demand.[4] Moreover, any increased demand for primary care will be added to an already existing shortage of primary care practitioners. The federal Health Resources and Services Administration (HRSA) estimates that more than 35.2 million people

[1] Congressional Budget Office, "Updated Estimates for the Insurance Coverage Provisions of the Affordable Care Act," Washington, DC, March 2012. Available at: <http://cbo.gov/sites/default/files/cbofiles/attachments/03-13-Coverage%20Estimates.pdf> (accessed Nov. 29, 2012).
[2] Congressional Budget Office, 2012.
[3] Patient Protection and Affordable Care Act, Public Law No. 111-148, §1001, 124 STAT. 131 (2010).
[4] A. N. Hofer, J. M. Abraham and I. Moscovice, "Expansion of Coverage Under the Patient Protection and Affordable Care Act and Primary Care Utilization," *The Milbank Quarterly* 89(1) (2011): 69-89.

living within the 5,870 Health Professional Shortage Areas (HPSAs) nationwide do not currently receive adequate primary care services.[5]

Primary care providers are often a patient's first point of contact in the health care system. Such providers offer a wide array of services, including treatment of many illnesses and accidents, delivery of preventive care and health education, and ongoing management of acute and chronic conditions. Increasing the role of NPs in providing such primary care services has the potential to help alleviate the expected primary care workforce shortage.

In 2010, the Institute of Medicine (IOM) released a report entitled *The Future of Nursing: Leading Change, Advancing Health*, which recommended that nurses play a critical role in responding to the demands expected to result from the ACA and other forces (e.g., the aging of the U.S. population). The IOM report criticized state laws that prevented APRNs, including NPs, from practicing to the full extent of their training.[6]

In 2011, partly as a result of the IOM report, Kaiser Permanente (KP), an integrated care organization whose physicians and other clinicians are largely salaried, began to discuss internally the possible expansion of the role of NPs from team member to clinic lead in certain geographic and practice settings. KP's Colorado sites seemed particularly well suited to pilot this change because Colorado's scope of practice laws were substantially more flexible than those of other states in which KP operated, and 50 percent of Colorado KP's obstetrician-gynecologist providers in 2011 were already non-physicians.

KP selected one of its Colorado prenatal clinics in which to pilot an NP-led team model. Protocols were developed for referral to specialists, a communication plan for patients was developed, and metrics were put into place to measure quality of care, clinician, employee and member satisfaction, cost, and many other indicators. Although it is too early to compare the total cost of the prenatal clinic led by NPs with the cost of prenatal clinics led by physicians, all other metrics have been found to be indistinguishable between the two models. KP is so satisfied with the result that it is planning to consider the expansion of the NP-run model to additional prenatal clinic sites in Colorado.

**Nurse Practitioners and Scope of Practice**

In the United States, the practice of medicine, including who may practice and under what condition, is generally regulated by individual states. States are responsible for ensuring, through licensure and certification, that health care professionals provide services commensurate with their training.

State medical laws originated by defining the practice of medicine expansively and restricting such activities to licensed physicians. Subsequent efforts to alter scope of practice laws to account for other developing health professions have taken the form of "carving out" services that non-physician providers could perform.[7]

The term APRN refers to a nurse who has acquired, through graduate-level education, advanced clinical knowledge and skills to provide direct patient care. Graduate and postgraduate programs provide training to APRNs in advanced health assessment, physiology, and pharmacology, among other areas. APRNs

[5] Office of Shortage Designation, Bureau of Health Professions, Health Resources and Services Administration (HRSA), U.S. Department of Health & Human Services, "Designated Health Professional Shortage Areas (HPSA) Statistics as of Nov. 27, 2012." Available at: <http://ersrs.hrsa.gov/ReportServer?/HGDW_Reports/BCD_HPSA/BCD_HPSA_SCR50_Smry&rs:Format=HTML3.2> (accessed Nov. 29, 2012).
[6] Institute of Medicine (IOM), *The Future of Nursing: Leading Change, Advancing Health* (Washington, DC: National Academies Press, 2011), 9.
[7] B. J. Safriet, "Federal Options for Maximizing the Value of Advanced Practice Nurses in Providing Quality, Cost-Effective Health Care" in Institute of Medicine, *The Future of Nursing: Leading Change, Advancing Health* (Washington, DC: National Academies Press, 2011), 443-475.

include NPs, certified registered nurse anesthetists, certified nurse-midwives, and clinical nurse specialists. NPs are the largest group of APRNs[8] and practice in a variety of population focus areas including family practice, pediatrics, geriatrics, and women's health. NPs are the most common non-physician health care providers of primary care[9] and provide comprehensive services including health promotion, disease prevention, and counseling.[10]

State licensing boards determine the full extent of services NPs can perform, such as prescribing drugs, admitting patients to a hospital, and diagnosing patient conditions. Medicaid agencies and individual hospitals can further refine NP-permitted activities. Half the states permit NPs to practice largely independently of a supervising physician (i.e., diagnose, treat, and refer patients but *not* necessarily prescribe) although in some cases with significant limitations on their scope of services. NP certification and licensure laws and regulations relating to NP scope of practice vary widely by state and often are not as broad as APRN training (see *Current State Rules Governing NPs' Scope of Practice* section below for further discussion on this topic).[11]

The 2010 IOM report *The Future of Nursing: Leading Change, Advancing Health* suggests that state laws and regulations have failed to keep pace with advanced practice nursing's evolution over the past 40 years. In an effort to modernize state regulations, the National Council of State Boards of Nursing APRN Advisory Committee and the APRN Consensus Work Group issued the APRN Consensus Model in 2008. Endorsed by over 40 APRN stakeholder organizations, the APRN Consensus Model aims to better align licensure, accreditation, certification and educational requirements across states by 2015.[12]

Although every state's board of nursing has signed onto the APRN Consensus Model, changes to rules and regulations are often required to be approved by the state legislatures. Some states have successfully adopted portions of the APRN Consensus Model, but to date, only six states—Arizona, Idaho, Maryland, Massachusetts, Virginia, and West Virginia—have achieved full implementation.[13] Ten additional states had pending legislation that related to the APRN Consensus Model during the 2012 legislative session.

The 2010 IOM report notes that certain physician groups have raised concerns about broadening state scope of practice rules for nurses, citing questions related to patient safety and quality of care. Evidence from the research literature that addresses patient safety and quality of care provided by NPs is discussed below. Some observers believe that physician groups also have financial concerns about broadening state scope of practice rules for nurses but it is important to note that a recent analysis shows no variation in physician earnings between states that have expanded APRN scope of practice laws and states that have not.[14]

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[8] IOM, 2011, 26.

[9] Colorado Health Institute, *Collaborative Scopes of Care Advisory Committee: Final Report* (Denver, CO: Colorado Health Institute, Dec. 30, 2008). Available at: <http://www.innovationlabs.com/pa_future/1 /background_docs/CHI%20SOC%20Report%2008.pdf> (accessed Nov. 29, 2012).

[10] APRN Consensus Work Group & the National Council of State Boards of Nursing APRN Advisory Committee, *Consensus Model for APRM Regulation: Licensure, Accreditation, Certification & Education*, July 7, 2008, 9. Available at: <http://www.aacn.nche.edu/education-resources/APRNReport.pdf> (accessed Nov. 29, 2012).

[11] IOM, 2011.

[12] APRN Consensus Work Group & the National Council of State Boards of Nursing APRN Advisory Committee, 2008.

[13] National Council of State Boards of Nursing (NCSBN), "APRN Maps: NCSBN's APRN Campaign for Consensus: State Progress Toward Uniformity Consensus Model Implementation Status," updated June 2012. Available at: <https://www.ncsbn.org/2567.htm> (accessed Nov. 29, 2012).

[14] Patricia Pittman and Benjamin Williams, "Physician Wages in States with Expanded APRN Scope of Practice," *Nursing Practice and Research* (2012): Article ID 671974, 5 pages; doi:10.1155/2012/671974. Available at: <http://www.hindawi.com/journals/nrp/2012/671974/#B16> (accessed Nov. 29, 2012).

# Literature Review

## Methodology

Building on previous work published in 2008 by the Colorado Healthcare Institute and in 2011 by Newhouse et al.,[15] NGA performed an up-to-date review of peer-reviewed literature relevant to NP scope of practice policy. This review of the literature focused primarily on research that compares health care offered by NPs (working either solo or in teams with physicians) to health care offered exclusively by physicians.

Articles were selected for inclusion in the review on the basis of a systematic search of peer-reviewed journal databases and a comprehensive review of abstracts and full articles. Relevant abstracts were identified with PubMed and EBSCO databases using the following search terms: "NP," "primary care," "community-based," "family medicine," "public health," "child health," "pediatrics," or "general practice."

Every abstract selected for inclusion in the full-article review was relevant to NPs, was peer-reviewed, focused on primary care, and either contained empirical findings or systematic meta-analysis. Selected abstracts also had to address scope of practice and health care quality (process of care and outcomes of care) and/or access.

The full-article review assessed each article on numerous criteria, including appropriateness of study design, methods of data analysis, research limitations, and external validity. Use of cost research from other countries was excluded because of its limited generalizability. Quality research from other countries with similar NP models was included.

Ultimately, the literature review related to NP scope of practice policy consisted of a total of 22 articles. Among them were 12 articles prior to 2009 identified by the Colorado Healthcare Institute and 10 new articles from 2009 to the present identified by this expanded review.

## Results

The results of the articles included in NGA's literature review of peer-reviewed literature relevant to NP scope of practice policy are summarized below. The results are organized into two broad thematic areas: quality and access. The quality-relevant results are divided into process measures and outcome measures. Meta-analyses are described separately from empirical studies.

***Quality—Process Measures***: Several studies have attempted to measure differences in the quality of care offered by NPs and physicians. Among the quality of care components that these studies measure are several process measures, among them patient satisfaction, time spent with patients, prescribing accuracy, and the provision of preventive education. In each of these categories, NPs provided at least equal quality of care to patients as compared to physicians (all studies cited below).

NPs were found to have equal or higher patient satisfaction rates than physicians and also tended to spend more time with patients during clinical visits. Notably, two studies showed higher patient satisfaction among NPs,[16,17] and three studies found no significant difference between patient satisfaction among those seen by

[15] Robin P. Newhouse et al., "Advanced Practice Nurse Outcomes 1990-2008: A Systematic Review," *Nursing* Economics 29(5) (September-October 2011). Available at: <https://www.nursingeconomics.net/ce/2013/article3001021.pdf> (accessed Nov. 29, 2012).

[16] P. Venning et al., "Randomised Controlled Trial Comparing Cost Effectiveness of General Practitioners and Nurse Practitioners in Primary Care," *British Medical Journal* 320 (2000): 1048-1053. Available at: <http://www.bmj.com/content/320/7241/1048> (accessed Nov. 29, 2012).

[17] Miranda G. H. Laurant et al., "An Overview of Patients' Preference for, and Satisfaction with, Care Provided by General Practitioners and Nurse Practitioners," *Journal of Clinical Nursing* 17(20) (2008): 2690-2698. Abstract available at: <http://onlinelibrary.wiley.com/doi/10.1111/j.1365-2702.2008.02288.x/abstract> (accessed Nov. 29, 2012).

physicians and those seen by NPs.[18,19,20]

In these studies patient satisfaction was generally measured through patient surveys. One of the studies that showed higher patient satisfaction among NPs' patients also asked patients about their preference for provider type. Although patients showed no preference between a physician and an NP for nonmedical aspects of care, patients did report a general preference for care from a physician for medical aspects of care.[21] Three studies showed that NPs spent more time with patients than did physicians.[22,23,24] and one study showed no significant difference.[25]

Several studies also attempted to compare NPs and physicians in the provision of care according to appropriate practice standards. These studies showed that NPs generally prescribe medications well and follow clinical care guidelines. Two chart-review studies show no differences in the prescribing quality between NPs and physicians. A 2009 study that tracked second opinions of Medicaid psychotropic medication prescriptions for children found no difference between the number of adjustments made to the prescriptions written by physicians and those written by NPs.[26] A 1998 study found that physician reviews of APRNs' (including NPs) prescribing practices were generally positive.[27] One study showed NPs practiced greater adherence to geriatric quality care guidelines[28] and another study showed NPs are better able to provide preventive education through the delivery of anticipatory guidance.[29]

***Quality—Outcome Measures***: In addition to process-related quality measures, some of the papers identified in the literature review evaluated data on patient care provided by NPs, reporting on quality-related outcomes as determined by actual changes in physiological measures such as decreased cholesterol, blood pressure, and weight. These studies conclude that NPs are capable of successfully managing chronic conditions in patients suffering from hypertension, diabetes, and obesity. In one study, NP participation in physician teams resulted in better control of hypertensive patients' cholesterol levels.[30]

A separate study found that patients of independent NPs were better able to achieve weight loss than the control group under traditional physician-based care.[31] Three studies showed that care provided by

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[18] Mary O. Mundinger et al., "Primary Care Outcomes in Patients Treated by Nurse Practitioners or Physicians: A Randomized Trial," *Journal of the American Medical Association* 283 (2000): 59-68; and Mary O. Mundinger et al., "Primary Care Outcomes in Patients Treated by Nurse Practitioners or Physicians: Two-Year Follow-Up," *Medical Care Research and Review* 61 (2004): 332-351.

[19] A. T. Dierick-van Daele et al., "Nurse Practitioners Substituting for General Practitioners: Randomized Controlled Trial," *Journal of Advanced Nursing* 65(2) (2009): 391-401.

[20] A. Guzik et al., "Patient Satisfaction with NP and Physician Services in the Occupational Health Setting," *American Association of Occupational Health Nurses Journal* 57(5) (2009): 191-197.

[21] Laurant et al., 2008.

[22] Venning et al., (2000).

[23] D. Litaker et al., "Physician-Nurse Practitioner Teams in Chronic Disease Management: The Impact on Costs, Clinical Effectiveness, and Patients' Perception of Care," *Journal of Interprofessional Care* 17(3) (2003): 223-234.

[24] Dierick-van Daele et al., 2009.

[25] Guzik et al., 2009.

[26] J. N. Thompson et al., "Second Opinions Improve ADHD prescribing in a Medicaid-Insured Community Population," *Journal of the American Academy of Child & Adolescent Psychiatry* 48(7) (2009): 740-748.

[27] A. B. Hamric et al., "Outcomes Associated with Advanced Nursing Practice Prescriptive Authority," *Journal of the American Academy of Nurse Practitioners* 10(3) (1998): 113-16.

[28] D. A. Ganz et al., "Nurse Practitioner Comanagement for Patients in an Academic Geriatric Practice," *American Journal of Managed Care*, 16(12) (1998): e343-e355.

[29] Litaker et al., 2003.

[30] Litaker et al., 2003.

[31] N. C. ter Bogt et al., "Preventing Weight Gain: One-Year Results of a Randomized Lifestyle Intervention," *American Journal of Preventive Medicine* 37(4) (2009): 270-277.

NPs resulted in reductions in patient blood pressure readings.[32,33,34] Patient self-reporting of overall health status was higher among those cared for by NPs in another study.[35] Three studies specifically compared the quality of diabetes-related care delivered by physician/NP teams to physicians alone, and all three found significantly better patient outcomes among the team-treated group.[36,37,38] Another study found no difference between provider types in diabetes outcomes based on physiologic measures.[39] One study found that high quality chronic disease management was associated with the presence of an NP in the practice.[40]

***Quality—Meta-Analyses***: The results of three meta-analyses similarly support the conclusions of this literature review related to NP care and quality measures. The three analyses concluded that NPs rate favorably in terms of achieving patients' compliance with recommendations, reductions in blood pressure and blood sugar, patient satisfaction, longer consultations, and general quality of care.[41,42,43]

***Access***: Very few studies that met the criteria for this literature review analyzed issues specifically related to access to care. However, one 2003 review found that NPs are more likely to serve underserved urban populations and rural areas and a 2009-2010 American Academy of Nurse Practitioners national sample survey showed that roughly 18 percent of the respondents indicated that they practiced in rural areas.[44,45]

Nationally, the number of NPs is projected to nearly double by 2025, according to a recently published RAND study in which the researchers modeled the future growth of NPs.[46] Specifically, the study predicts that the number of trained NPs would increase 94 percent from 128,000 in 2008 to 244,000 in 2025. "Nurse practitioners really are becoming a growing presence, particularly in primary care," said David I. Auerbach, Ph.D., the author and a health economist at RAND Corp. Auerbach also concluded that "NPs will likely fulfill a substantial amount of future demand for care." Auerbach's projections are reflective of current trends that suggest a consistently upward increase in the number of trained and qualified NPs.

***Conclusion***: None of the studies in NGA's literature review raise concerns about the quality of care offered

[32] Mundinger et al., 2000.
[33] W. L. Wright et al., "Hypertension Treatment and Control Within an Independent NP Setting," *American Journal of Managed Care* 17(1) (2011): 58-65.
[34] P. C. Conlon, "Diabetes Outcomes In Primary Care: Evaluation Of The Diabetes Nurse Practitioner Compared to the Physician," *Primary Health Care* 20(5) (2010): 26-31.
[35] Dierick-van Daele et al., 2009
[36] Litaker et al., 2003.
[37] P. Ohman-Strickland et al., "Quality of Diabetes Care in Family Medicine Practices: Influence of NPs and PAs," *Annals of Family Medicine* 6(1) (2008):14-22.
[38] M. Spigt et al., "The Relationship Between Primary Health Care Organization and Quality of Diabetes Care," *European Journal of General Practice* 15(4) (2008): 212-218.
[39] Mundinger et al., 2000.
[40] G. M. Russell et al., "Managing Chronic Disease in Ontario Primary Care: The Impact of Organizational Factors," *Annals of Family Medicine* 7(4) (2009): 309-318.
[41] S. Horrocks, E. Anderson, and C. Salisbury, "Systematic Review of Whether Nurse Practitioners Working in Primary Care Can Provide Equivalent Care to Doctors," *British Medical Journal* 324 (2002): 819-823.
[42] M. Laurant et al., "Substitution of Doctors by Nurses in Primary Care," Cochrane Database of Systematic Reviews, Issue 4, Article #CD001271, published online Jan. 21, 2009. Available at: <http://summaries.cochrane.org/CD001271/in-primary-care-it-appears-that-appropriately-trained-nurses-can-produce-as-high-quality-care-and-achieve-as-good-health-outcomes-for-patients-as-doctors.-however-the-research-available-is-quite-limited> (accessed Nov. 29, 2012).
[43] S. Brown and D. Grimes, "A Meta-Analysis of Nurse Practitioners and Nurse Midwives in Primary Care," *Nursing Research* 44(6) (1995): 332-339.
[44] K. Grumbach et al., "Who is Caring for the Underserved? A Comparison of Primary Care Physicians and Nonphysician Clinicians in California and Washington," *Annals of Family Medicine* 1(2) (1995): 97-104.
[45] D. Auerbach, "Will the NP Workforce Grow in the Future? New Forecasts and Implications for Healthcare," *Medical Care* 50 (7) 2012: 606-610.
[46] D. Auerbach, 2012.

by NPs. Most studies showed that NP-provided care is comparable to physician-provided care on several process and outcome measures. Moreover, the studies suggest that NPs may provide improved access to care.

## Current State Rules Governing NPs' Scope of Practice

As noted previously, individual states determines NP licensure requirements, scope of practice regulations for NPs, and reimbursement policies for NPs. In most cases, the state board of nursing regulates NPs, but in some states, the task of regulating NPs is jointly shared with the board of medicine or handled by a special subsidiary board. Current rules and regulations governing NP qualifications, practice and prescription authority, and reimbursement vary greatly across states.

To document current state NP qualification requirements and scope of practice rules, the authors of this paper reviewed state legislative statutes, administrative codes, and board rules as listed on each state's board of nursing web site. NPs were considered *independent* health care practitioners if states explicitly authorized NPs to practice independently or did not specify any supervisory conditions or requirements for NP practice. In states where NP practice required some form of relationship with a physician, states were categorized into two groups: (1) states that required a minimal or informal collaborative relationship with a physician to guide overall NP practice; and (2) states that required written documentation specifying the scope of practice functions or procedures NPs are authorized to perform in collaboration with a physician. Current scope of practice laws and regulations for NPs for each state and the District of Columbia are summarized in the appendix.

The authors of this paper also reviewed state Medicaid policies as documented on each state's Medicaid web site to determine whether NPs are explicitly authorized to be eligible for reimbursement and/or to be designated as a primary care provider by state-contracted Medicaid managed care organizations through which two-thirds of Medicaid enrollees now receive most or all of their benefits.[47] Information on these Medicaid rules for NPs for each state and the District of Columbia is also summarized in the appendix.

### Required Qualifications for NPs

All states require applicants to hold a registered nurse license before becoming an NP. In addition, states have certification and educational requirements to establish NP competency. Forty-five states and the District of Columbia require certification from a nationally recognized certifying body such as the American Academy of Nurse Practitioners, the American Nurses Credentialing Center or the Pediatric Nursing Certification Board. Completion of a master's, postgraduate or doctorate degree from an accredited NP program is required before applicants can sit for a national certification exam, which tests the applicant's knowledge and skill in diagnosing, determining treatments, and prescribing for their patient population of focus.

Although California, Indiana, Kansas, Nevada, and New York do not require national certification for NP licensure, they do require completion of a board-approved master's degree with similar course requirements to those accepted by the national certifying bodies. In most of these same states a national certification exam is accepted as a method for fulfilling these states' educational requirements.

### Scope of Practice Rules for NPs

State scope of practice rules define the exact care functions NPs are allowed to perform—such as diagnosing, treating, and referring patients, as well as prescribing medications for them — and the conditions under which they are allowed to perform them. Overall, 16 states and the District of Columbia allow NPs to practice completely independently of a physi-

[47] Kaiser Commission on Medicaid and the Uninsured, "Medicaid Managed Care: Key Data, Trends, and Issues," Kaiser Family Foundation, Washington, DC, February 2012. Available at: <http://www.kff.org/medicaid/upload/8046-02.pdf> accessed Nov. 29, 2012.

cian and to the full extent of their training *including* the right to prescribe medications. An additional nine states and the District of Columbia allow NPs to diagnose, treat, and refer patients independently but *not* prescribe independently. If one analyzes rules governing NP practice and prescription authority separately, one finds that states tend to place most of their restrictions on NPs' ability to prescribe.

***NPs' Practice Authority***: Of the 25 states that require some level of physician involvement in NP practice, eight of them require NPs to establish a collaborative relationship with a physician to ensure a means for consultation, referral, and review of provided care. Some of these eight states require a written agreement only if NPs have prescriptive authority, and others require an agreement to be submitted and approved by the state board of nursing prior to NP practice in any case.

The other 17 states among the 25 not only require NPs to practice collaboratively with a physician but also require detailed written guidelines or protocols that document the scope of practice functions NPs may follow. These written protocols establish the specific steps or procedures NPs are able to perform when providing patient care, which may be more limited in scope than their training. In some states, NP practice is considered independent after written protocols are established, whereas in other states, they are used to provide ongoing physician oversight and direction to NPs.

***NPs' Prescriptive Authority***: States tend to place greater restrictions on NPs' prescriptive authority than on NPs' other practice authority and the restrictions may differ depending on the type of drugs and devices prescribed. Sixteen states and the District of Columbia allow NPs to prescribe both non-controlled and controlled prescription drugs independently while two others, Hawaii and Michigan, require oversight on NP prescription of controlled drugs; seven states require some form of collaboration with a physician across both categories of prescription drugs while 23 states require formal written protocols with a physician across both categories. Two states prohibit NPs from prescribing controlled substances altogether.

Although NP graduate programs do provide training and clinical practice in prescribing, many states require additional experience before allowing NPs full prescriptive authority under state laws. Colorado, for example, requires an additional 3,600 hours of provisional prescribing before NPs are able to prescribe independently, and Ohio requires an initial externship with greater physician supervision before NPs prescribe within their standard collaborative relationship.

***NPs' Reimbursement and Costs***: Although on average NPs are paid lower salaries than physicians, few studies actually compare the cost of NP-led care to the cost of physician-led care. Given that the health care system seems to be moving in the direction of a team-based treatment model, in which physicians and NPs work as part of a team along with several other types of clinicians and support staff, a head-to-head comparison of each type of providers' average cost per (risk-adjusted) patient may not be as relevant going forward as it would have been in the past.

A team-based treatment model, particularly deployed in the care of patients with chronic medical and/or behavioral illness, is increasingly seen as key to better patient care, important to better patient self-management, and a way to reduce hospital readmissions and unnecessary emergency department visits. Such a model holds promise for improved patient outcomes at a lower overall cost, at least partially because it should allow individual clinicians to work at the peak of their training and licensure.

Ideally, all the members of the team (e.g., behavioralists, patient educators) would be available to perform more efficiently the tasks for which they were trained—including interventions that would historically default to the physician or perhaps not be per-

formed at all, such as patient education. With NPs playing a more prominent role in providing ongoing patient care in a team model, primary care physicians should be freed up to perform the tasks that only physicians have been trained to perform.

Limitations on NPs' ability to be directly reimbursed and the amount of NPs' reimbursement under both public and private insurance models can also restrict NPs from practicing to the full extent of their training. Medicaid and third-party insurance reimbursement policies for NPs and NPs' ability to be recognized as a primary care provider vary significantly by state. Current federal law requires state Medicaid programs to provide direct reimbursement to pediatric and family practice NPs under the traditional fee-for-service system.[48] However, states set their own reimbursement rates which vary between states. Kentucky, for example, reimburses NPs at 75 percent of the physician's charge for the same service, whereas Texas reimburses at 92 percent and Virginia at 100 percent of the physician's charge.

Moreover, most states have moved a majority of their Medicaid enrollees to managed care models such as primary care case management programs or managed care organizations that assign patients to a primary care provider responsible for their overall health and who acts as their first point of contact in the health care system. Although federal law allows states to designate NPs as primary care providers under Medicaid managed care models, only 33 states and the District of Columbia explicitly grant them this authority.

Beyond being set at the state level, third-party NP reimbursement and primary care provider designation policies are often specified by each separate insurance plan. Consequently, private insurance reimbursement and coverage of NPs as primary care providers often differs greatly both within individual states and across states. A few states, including Massachusetts, North Carolina, and New Jersey, have enacted laws mandating direct reimbursement of NPs by third parties for any covered services and prohibiting third-party payers from discriminating against NPs as a class of primary care providers.

Medicare policies regarding reimbursement for NPs are standardized across states because it is administered by the federal government. Currently, NPs are eligible for direct reimbursement—generally at 85 percent of the Medicare Physician Fee Schedule—under Medicare Part B and may serve as primary care providers for Medicare Managed Care Plans under Part C.[49]

## Limitations of the Review

There remain significant gaps in research relevant to state rules governing NPs' scope of practice. Although there is a growing body of evidence from health services research that suggests that NPs can deliver certain elements of primary care as well as physicians, there is a dearth of rigorous research that isolates the effect of NP scope of practice rules on health care quality, cost, and access at the state level. No studies included in this review were designed to measure differences in health care quality, access, or costs between states with more and less restrictive scope of practice laws. Future changes in state-level NP scope of practice rules may produce the opportunity for researchers to study these policy changes as natural experiments—assessing the impacts of such changes by comparing similar states that do and do not alter their regulations.

Because of the data collection method used to collect current state scope of practice rules and reimbursement policies for this study, the findings reflect only the written rules and regulations that are publicly available on each state's web sites. Consequently, the findings do not capture any informal practices or

[48] American Nurses Association (ANA), "ANA Factsheet on Medicaid Reimbursement," Silver Spring, MD, 2011. Available from: <http://ana.nursingworld.org/MainMenuCategories/ANAPoliticalPower/Federal /AGENCIES/HCFA/HCFAFCT211690.aspx> (accessed Nov. 29, 2012).

[49] American Academy of Nurse Practitioners (AANP), "Reimbursement: Medicare Update," 2012. Available from: <http://www.aanp.org/practice/reimbursement/68-articles/326-medicare-update> accessed Nov. 29, 2012.

norms states may have adopted that remove restrictions on NP practice.

## Conclusion

The demand for primary care services in the United States is expanding as a result of the growth and aging of the U.S. population and the passage of the 2010 ACA, and this trend is expected to continue over the next several years. NPs may be able to mitigate projected shortages of primary care services. Existing research suggests that NPs can perform a subset of primary care services as well as or better than physicians.[50] Expanded utilization of NPs has the potential to increase access to health care, particularly in historically underserved areas.

State boards of nursing and APRN stakeholder organizations have attempted to modernize and harmonize NP practice, but there remains great variation among states in current regulations governing NP qualifications, practice and prescription authority, and reimbursement. Half of the states and the District of Columbia allow NPs to practice independently, although not necessarily to the full extent of their training or with prescribing authority, while the remaining 25 states require varying degrees of physician involvement in NP practice. Substantial variation exists among state laws granting NPs the authority to prescribe drugs and the ability to be reimbursed for services or designated as a primary care provider.

NGA's review of health services research suggests that NPs are well qualified to deliver certain elements of primary care. In light of the research evidence, states might consider changing scope of practice restrictions and assuring adequate reimbursement for their services as a way of encouraging and incentivizing greater NP involvement in the provision of primary health care.

## Appendix: Summary of State Scope of Practice Rules Governing Nurse Practitioners

Scope of practice laws and regulations in each state and the District of Columbia were reviewed to determine whether national certification was a licensure requirement for nurse practitioners (NPs), as well as whether state Medicaid rules explicitly authorized NPs to be eligible for reimbursement or designated as a primary care provider (PCP) under Medicaid managed care programs. The findings are presented in the table below.

Also presented in the table below are findings with respect to whether NPs are authorized to practice as independent health care practitioners or not. If states explicitly authorized NPs to practice independently or did not specify any conditions or requirements for NP practice, they were considered to allow NPs to practice independently. States in which NPs were required to have *some form of relationship with a physician* in order to practice are categorized in two groups: (1) states that required a *minimal or informal collaborative relationship* with a physician to guide overall NP practice; and (2) states that required *written documentation* specifying the scope of practice functions or procedures NPs are authorized to perform in collaboration with a physician.

[50] Robin P. Newhouse et al., "Policy Implications for Optimizing Advanced Practice Registered Nurse Use Nationally," *Policy, Politics & Nursing Practice* 13(2) (2012):81-9. doi: 10.1177/1527154412456299. Epub Aug. 31, 2012. Abstract available at: <http://ppn.sagepub.com/content/early/2012/08/29/1527154412456299.abstract> (accessed Nov. 29, 2012)

# Table: Summary of State Scope of Practice Rules Governing Nurse Practitioners

| Key to Symbols Used in the Table | |
|---|---|
| Symbol | Definition |
| X | Identifies that the condition is met as established in state legislation or regulation |
| | Identifies that the condition is not met |
| I | NPs authorized to practice independently without any conditions or requirements |
| C | NP practice requires a collaborative relationship with a physician |
| P | NP practice requires written protocols that establish specific steps or procedures to be carried out in providing care |
| N/A | No authority |

# Table: Summary of State Scope of Practice Rules Governing Nurse Practitioners

| State | Number of Primary Care HPSA Designations[1] | State NP License Requires National Certification[2] | NPs Explicitly Authorized for Medicaid Reimbursement[3] | NPs Explicitly Authorized to be a Medicaid PCP[3] | NPs' Practice Authority[2] | | | NPs' Prescription Authority[2] | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | Diagnose | Treat | Refer | Non-controlled Substances | Controlled Substances |
| Alabama | 80 | X | X | | P | P | P | P | N/A |
| Alaska | 77 | X | X | | I | I | I | I | I |
| Arizona | 137 | X | X | X | I | I | I | I | I |
| Arkansas[4] | 87 | X | X | | I | I | I | P | P |
| California | 515 | | X | X | P | P | P | P | P[5] |
| Colorado | 103 | X | X | | I | I | I | I[6] | I[6] |
| Connecticut | 39 | X | X | X | C | C | C | C | P[7] |
| District of Columbia | 14 | X | X | X | I | I | I | I | I |
| Delaware | 9 | X | X | | C | C | C | C | C |
| Florida | 248 | X | X | | P | P | P | P | N/A |
| Georgia | 183 | X | X | X | P | P | P | P | P |
| Hawaii | 26 | X | X | X | I | I | I | I | C |
| Idaho | 68 | X | X | | I | I | I | I | I |
| Illinois | 225 | X | X | X | P | P | P | P | P |
| Indiana | 102 | | X | | C | C | C | P | P |
| Iowa | 121 | X | X | X | I | I | I | I | I |
| Kansas | 160 | | X | X | P | P | P | P | P |
| Kentucky | 126 | X | X | X | I | I | I | C | C |
| Louisiana | 124 | X | X | | P | P | P | P | P |
| Maine | 64 | X | X | X | I[8] | I[8] | I[8] | I[8] | I[8] |
| Maryland | 46 | X | X | X | C[9] | C[9] | C[9] | C[9] | C[9] |
| Massachusetts | 75 | X | X | X | P | P | P | P | P |

# Table: Summary of State Scope of Practice Rules Governing Nurse Practitioners

| State | Number of Primary Care HPSA Designations[1] | State NP License Requires National Certification[2] | NPs Explicitly Authorized for Medicaid Reimbursement[3] | NPs Explicitly Authorized to be a Medicaid PCP[3] | NPs' Practice Authority[2] | | | NPs' Prescription Authority[2] | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | Diagnose | Treat | Refer | Non-controlled Substances | Controlled Substances |
| Michigan | 215 | X | X | | I[10] | I | I | I | P |
| Minnesota | 105 | X | X | X | C | C | C | P | P |
| Mississippi | 106 | X | X | | P | P | P | P | P |
| Missouri | 190 | X | X | X | P | P | P | P | P |
| Montana | 101 | X | X | X | I | I | I | I | I |
| Nebraska | 109 | X | X | | C | C | C | C | C |
| Nevada | 63 | | X | | P | P | P | P | P |
| New Hampshire | 24 | X | X | | I | I | I | I | I |
| New Jersey | 25 | X | X | X | I | I | I | P | P |
| New Mexico | 94 | X | X | X | I | I | I | I | I |
| New York | 178 | | X | X | P | P | P | P | P |
| North Carolina | 111 | X | X | X | P | P | P | P | P |
| North Dakota | 82 | X | X | X | I | I | I | I | I |
| Ohio | 123 | X | X | X | C | C | C | C[11] | C[11] |
| Oklahoma | 166 | X | X | X | I | I | I | P | P |
| Oregon | 97 | X | X | X | I | I | I | I | I |
| Pennsylvania | 156 | X | X | X | P | P | P | P | P |
| Rhode Island | 17 | X | X | X | I | I | I | I | I |
| South Carolina | 94 | X | X | | P | P | P | P | P |
| South Dakota | 86 | X | X | | P | P | P | P | P |
| Tennessee | 101 | X | X | X | I | I | I | P | P |
| Texas | 382 | X | X | X | P | P | P | P | P |
| Utah | 59 | X | X | X | I | I | I | I | I,C[12] |
| Vermont | 29 | X | X | X | I[13] | I[13] | I[13] | I[13] | I[13] |
| Virginia | 111 | X | X | | C | C | C | P | P |
| Washington | 146 | X | X | X | I | I | I | I | I |
| West Virginia | 84 | X | X | X | I | I | I | P[14] | P[14] |
| Wisconsin | 106 | X | X | X | I | I | I | C | C |
| Wyoming | 37 | X | X | X | I | I | I | I | I |

# Notes:

[1] Total number of Health Professional Shortage Areas (HPSAs) designated in the state including all geographic area, population group and facility designations as reported by the Health Resources and Services Administration (HRSA). (Source: Data published Office of Shortage Designation, Bureau of Health Professions, Health Resources and Services Administration (HRSA), U.S. Department of Health & Human Services, on May 3, 2012 and available at: http://ersrs.hrsa.gov/ReportServer?/HGDW_Reports/BCD_HPSA/BCD_HPSA_SCR50_Smry&rs:Format=HTML3.2)

[2] State NP qualifications and scope of practice and prescriptive authority data sourced from each state's legislative statutes, administrative codes, board of nursing rules and other relevant regulations, as well as the 2012 Pearson Report.

[3] State Medicaid NP reimbursement policies and primary care provider (PCP) designation rules sourced from each state's Medicaid regulations and administrative rules.

[4] Arkansas regulations differentiate between a registered nurse practitioner (RNP) and advanced nurse practitioner (ANP); Information displayed here is for ANP only. RNPs may only practice under a collaborative agreement and established written protocols with a physician; they do not have any prescription authority. (Source: Arkansas Board of Nursing Rules, Chapters 3 & 4)

[5] Additional prescription protocols required for schedule II and III controlled substances. (Source: CA Business & Professions Code; 2836.1.C.2)

[6] APNs may receive Full Prescriptive Authority only after completing: (1) an initial 1,800 hour preceptorship to obtain Provisional Prescriptive Authority and (2) an 1800 hour Mentorship and one-time Articulation Plan signed by a physician within five years of receiving the Provisional Prescriptive Authority. (Source: 3 CCR 716-1, Chapter XV)

[7] Written protocols required for schedule II and III controlled substances only. (Source: 378 C. Sec. 20-94b)

[8] NPs must initially practice under the supervision of a licensed physician or supervising NP for the first two years of practice; after which NPs are able to practice and prescribe independently. (Source: Department of Professional and Financial Regulation; 380 Chapter 8 Section 2.2)

[9] NPs must file an Attestation form with the state that declares the NP will collaborate with a named physician and will adhere to the Nurse Practice Act and all rules governing the scope of practice for their certification, but the Attestation does not require the physician collaborator's signature and, once filed, NPs may practice independently. (Source: COMAR 10.27.07.04)

[10] APNs do not have specified advanced practice authority, but effectively practice under the Michigan's Public Health Code for registered nurses. Because "diagnosing" is not included in the Public Health Code practice scope of RNs, this practice authority is considered "delegated" under the Medical Practice Act. (Source: 2012 Pearson Report)

[11] Direct and indirect supervision by a physician is required during an initial Prescriptive Externship, after which the NP is able to prescribe formulary drugs as determined by the Board of Nursing under the Standard Care Arrangement made jointly between an NP and a collaborating physician. (Source: Ohio Revised Code, Title 47, Chapter 4723.48)

[12] Collaboration with a physician is required only for NP prescriptive authority of Schedule II or III controlled substances. (Source: Nurse Practice Act 58-31b-102)

[13] Graduates with fewer than 24 months and 2,400 hours of licensed active advanced nursing practice shall have a formal agreement with a collaborating provider until the APRN satisfies the requirements in engage in solo practice. (Source: 26 V.S.A. § 1613)

[14] NPs may not prescribe schedule I or II controlled substances, anticoagulants, anti neoplastics, radio-pharmaceuticals, general anesthetics, or MAO Inhibitors (except when in a collaborative agreement with a psychiatrist). (Source: 19 CSR 8)

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