Nurse Practitioners and Primary Care for Older Adults

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This chapter focuses on the role of nurse practitioners in providing primary care services to older adults. While the chapter focuses on nurse practitioners, it is important to keep in mind the potential role of physician assistants (PAs) and other advanced practice nurses in meeting the primary care shortages as well. Unfortunately, very few physician assistants have specialized in the care of older adults, and the physician assistant profession has not made significant strides in encouraging PAs to pursue this specialty. In contrast, nursing has made specific efforts to educate and train more nurses and advanced practice nurses in the care of older adults [1, 2]. The first part of this chapter will describe nurse practitioners in the US healthcare system followed by a discussion of the nurse practitioner role in various health delivery models and end with policy challenges surrounding NP care.

Nurse Practitioners in Primary Care in the United States

About Nurse Practitioners (NPs)

The American Association of Nurse Practitioners[1] defines NPs as a type of advanced practice nurse who complete a master's and/or a doctoral degree that includes advanced clinical training beyond their education and clinical preparation as a registered nurse. The didactic and clinical course work prepares nurses with specialized clinical knowledge and clinical competencies to work within primary care, acute care, and long-term care settings. Nurse practitioners provide a range of

[1] American Association of Nurse Practitioners—NP Facts https://www.aanp.org/all-about-nps/what-is-an-np.

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primary, acute, and specialty healthcare in a variety of different settings to include obtaining patient histories; ordering, performing, and interpreting diagnostic tests; diagnosing and treating acute and chronic conditions; prescribing medications; ordering treatments; and counseling and education of patients and families. Nurse practitioners may operate autonomously or in a collaborative practice, dependent upon the state in which they are licensed.

Types of Nurse Practitioners

As of 2016, there are approximately 222,000 NPs licensed in the United States with the majority of NPs practicing in a primary care settings (see footnote 1). Nurse practitioners are typically educated, licensed, and nationally certified to provide care to a specific population such as pediatrics, family, women's health, mental health, or adult-gerontological. They may also be setting specific such as primary or acute care.

Who Provides Care to Older Adults?

The most common type of NP providing care to older adults is family nurse practitioners (see Table 12.1). They are prepared to provide care to people across the age continuum and are the most prevalent type of NP accounting for 55% of all NPs. Gerontological nurse practitioners (GNPs) receive the highest degree of specialized preparation to care for older adults.

Unfortunately, similar to geriatricians, there are very few (<3%) certified gerontological NPs. To expand the numbers of NPs who received specialized education and training to care for older adults, nursing leaders made decisions through the APRN Consensus Model[2] process to combine the education of adult NPs and gerontological NPs with a goal of increasing the numbers of NPs qualified to care for older adults. Forty-one different nursing organizations endorsed the Consensus Model (Fig. 12.1), which provides agreed upon definitions, describes roles and population foci, and presents strategies for implementation of the model.

The APRN Consensus Model includes uniform guidelines for licensure, accreditation, certification, and education (LACE) to align the relationships across the various roles and population foci of advanced practice nursing. As a result, the specialty role of gerontological nurse practitioners (GNPs) and adult nurse practitioners (ANPs) combined into the new specialty of AGNP. When the numbers of ANPs were added to GNPs, the numbers of geriatric-trained NPs more than doubled. The most current information from the 2016 National NP Sample Survey[3] indicates that

[2] The Consensus Model for APRN Regulations: Licensure, Accreditation, Certification, and Education at http://www.nursingworld.org/consensusmodel.

[3] https://www.aanp.org/images/documents/research/2016%20np%20sample%20survey%20report_final.pdf.

Table 12.1 Distribution, top practice setting, and clinical focus area by area of NP certification[a]

Population	Percent of NPs	Top practice setting	Top clinical foci
Acute care	7.7	Hospital inpatient clinic (27.3%)	Cardiology (20.8%)
Adult[b]	16.8	Hospital outpatient clinic (16.3%)	Primary care (32.6%)
Adult-gerontology primary care[b]	4.0	Hospital outpatient clinic (14.5%)	Primary care (40.5%)
Family[b]	55.1	Private group practice (13.9%)	Primary care (47.6%)
Gerontology[b]	2.7	Long-term care facility (20.7%)	Primary care (51.8%)
Neonatal	1.7	Hospital inpatient clinic (44.9%)	Primary care (15.3%)
Pediatric—primary care[b]	6.4	Hospital outpatient clinic (25.4%)	Primary care (57.8%)
Psychiatric/ mental health—adult	2.4	Private NP practice (19.5%)	Psychiatric (96.1%)
Psychiatric/ mental health—family	3.0	Psych/mental health facility (20.5%)	Psychiatric (89.5%)
Women's health[b]	5.8	Private group practice (26.0%)	OB/GYN (72.6%)

[a]AANP Fact Sheet copied with permission from the AANP website—https://www.aanp.org/all-about-nps/np-fact-sheet

[b]Six of the ten population focused NPs are primary care providers with most of the primary care NPs practicing in outpatient clinics, private practice, or long-term care settings

8.1% of NPs have specialty preparation in gerontology. This is still a very small percentage, considering that the oldest old (>85 years) are the fastest growing segment of our population.[4]

The inability to attract a strong geriatric workforce has been a challenge for the last two decades [3–6]. A variety of barriers have been identified including lack of exposure to geriatric training [7], lack of perceived value by students given poor reimbursement when compared with other specialties [8], and an overall negative perception of the industry [6], all contributing to the shortage of geriatric providers.

Settings of Care

In general, there has been an increasing demand for nurse practitioners (and physician assistants) [9–11]. According to one of the top physician recruiters, Merritt Hawkins, in 2016, nurse practitioners are now the fifth most requested searches nationally.[5] The

[4] US Census Bureau (2016).

[5] http://www.forbes.com/sites/brucejapsen/2015/07/15/nurse-practitioners-physician-assistants-more-in-demand-than-most-doctors/#59f8c20a3610.

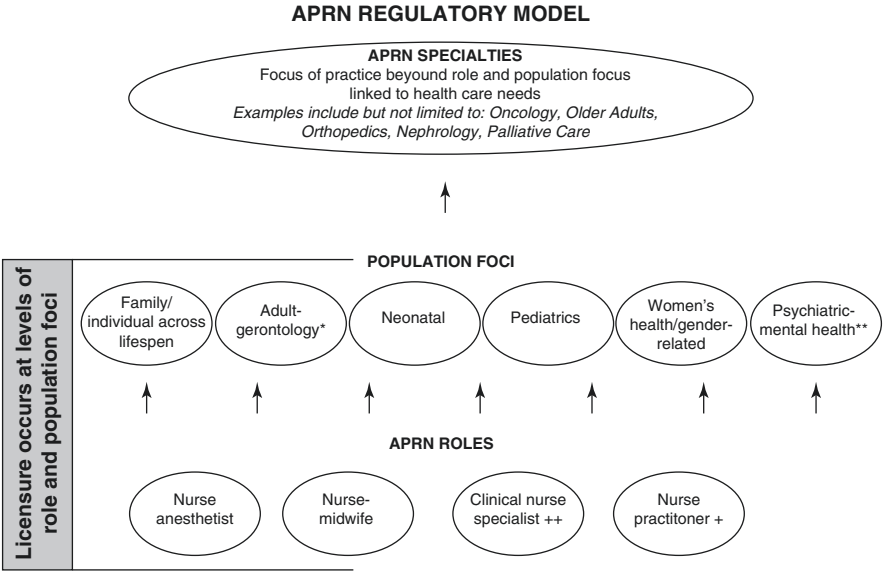

Fig. 12.1 The APRN Consensus Model (cite AANP)

demands come from many different types of healthcare organizations as well as from academic institutions.

Because of their foundation as a registered nurse that educates to work in a variety of settings and with multiple populations, NPs are well versed in both acute care, long-term care, community care, and home care and are familiar with the entire population span. Many NPs have had specialized experiences as an RN in areas such as pain management, women's health, long-term care, or home health, which may lead to their specialization as an NP.

Currently, nurse practitioners are employed in several different practice settings ranging from ambulatory clinics, emergency departments, acute care hospitals, long-term care hospitals, skilled nursing homes, palliative care, hospice, and industry. The most common practice settings include hospital outpatient clinics (14.5%), private group practice (14%), private physician offices (8.5%), hospital inpatient clinics (8.1%), and emergency room/urgent care (4.7%).[6] In most cases, these NPs provide primary care services and are working collaboratively with other healthcare professionals, but in some cases, they practice in a consulting model. The consulting model is common in acute care hospitals, where an NP or a clinical nurse specialist may advise physicians who are not geriatric certified in how to best manage the care of older adults. A significant number of nurse practitioners work as educators in various colleges and universities. They may also be employed in a variety of different research settings, although this is less common. A third of NPs work in rural settings or lower population areas.

[6] https://www.aanp.org/images/documents/research/2016%20np%20sample%20survey%20report_final.pdf.

Nurse Practitioners' Roles

As previously discussed, nurse practitioners play a variety of roles in the care of older adults and practice in several different types of settings. The most common roles and settings include:

1. Providing primary care services to older adults in ambulatory care settings such as outpatient clinics and private offices
2. Providing acute and chronic care services to older adults in institutions such as acute care hospitals, skilled nursing facilities, and residential care facilities
3. Providing patient education to patients and families
4. Consulting with organizations on quality of care, patient safety, and quality improvement

Depending on the practice environment, nurse practitioners may collaborate with various healthcare providers including physicians, registered nurses, licensed vocational nurses, medical assistants, social workers, pharmacists, and others. This effort to collaborate comes naturally from a long history of registered nurses working to coordinate care for patients. This also provides a strong foundation for nurse practitioners to work within an interprofessional team, which has been shown to improve the overall quality of care.

One of the advantages that nurse practitioners bring to any practice environment is that they are registered nurses and can incorporate the roles, responsibilities, and functions of the registered nurse into the care that they provide to patients and their families. For example, a nurse practitioner that goes out to visit an elderly patient in their home can assess their chronic diseases, order treatments, write prescriptions, and also provide comprehensive wound care as needed. In the nursing home, they can order pain medications for residents in pain and work directly with the nursing's staff to develop a comprehensive care plan for pain management. The ability of nurse practitioners to integrate the role of the registered nurse into their daily work greatly enhances the value of the care that they provide.

Challenges in Primary Care Services

With the passage of the Affordable Care Act and the aging population, the demand for primary care services has been on the rise.[7] This growth in demand is made more critical by decades of primary care physician shortages, both general internal medicine and family physicians. Additionally, there are a disproportionate number of medical schools and physician graduates concentrated in the northeastern portion of the United States that makes the shortage far worse in the western states. While the physician workforce overall has grown over several decades, there are far fewer

[7] http://kff.org/medicaid/issue-brief/tapping-nurse-practitioners-to-meet-rising-demand-for-primary-care/.

physicians entering primary care practice and even fewer who are prepared to care for older adults as mentioned previously.

These shortages are more critical in the face of a fast-growing older population who are living longer with more chronic diseases, significantly increasing the complexity of care. Overall, this higher complexity of care means that clinicians who care for older adults need more time to provide that care, making the shortages of geriatric-trained clinicians an even greater challenge. Nurse practitioners have historically filled that gap of physician shortages; however, the most recent shortages of physicians, the ever-increasing aging population, and the increased complexity of care provided the impetus for significant investments within the Affordable Care Act to expand the role of NPs in primary care [10, 12–15].

The next section describes several newer healthcare delivery models that incorporate nurse practitioners. Several of these new models have shown early success in improving access to care with a long-term goal of mitigating the shortage of geriatricians and geriatric-trained nurse practitioners by employing a team approach to care that incorporates other geriatric-trained health professionals such as pharmacists and social workers [15].

Healthcare Delivery Models and Nurse Practitioners

A variety of innovative healthcare delivery models have arisen in the past decade [16]. Many grew out of the Affordable Care Act, many were in response to the CMS Innovation Center grants and demonstration projects, and others grew directly from organizational innovations. While these models have been described in other chapters in this book, they are discussed briefly in this chapter because most of these models include nurse practitioner care.

One of the most well-known models is the *patient-centered medical home (PCMH)*, which focuses on primary care redesign and espouses a team-based approach to care, historically led by a personal physician, although nurse practitioners are recognized as PCMH leaders by the National Committee for Quality Assurance (NCQA), the committee that accredits PCMHs.[8]

Key components of the PCMH are patient-centeredness, coordinated team-based care, technology, and improving patient experiences of care. This model of care includes physicians, nurse practitioners, physician assistants, pharmacists, social workers, and others to provide comprehensive primary care (see Chap. 2 for further detail). PCMH clinics can be led by NPs in many states, and those NP-led practices have been shown to have similar or in some cases better (breast cancer screening and blood pressure control) outcomes compared with physician-led PCMH clinics [17].

Nurse-managed health clinics (NMHCs) were established through the Affordable Care Act to provide comprehensive primary care health and wellness services to underserved and vulnerable populations [18, 19]. These clinics must be led by an

[8] NCQA accreditation programs at http://www.ncqa.org/programs/recognition/practices/patient-centered-medical-home-pcmh.

advanced practice nurse and associated with a school, college, university, or department of nursing, a federally qualified health center, or an independent not-for-profit social services or healthcare agency. Studies of NMHCs have shown positive outcomes such as reduced cost, equivalent or better health outcomes, and improved patient satisfaction ([20]—health affairs [21, 22]).

Accountable care organizations (ACOs) are shared savings models designed to create incentives for institutional and individual healthcare providers to collaborate and share resources while providing coordinated care to patients. To be recognized as an ACO, a group of providers and suppliers of patient services must serve at least 5000 patients in a coordinated fashion and agree to participate in the program for at least 3 years (see Chap. 6 for more detail). Nurse practitioners were initially authorized to be ACO professionals; however, a last-minute change in the regulation precluded the assignment of patients in the program to nurse practitioners. It is hoped that future legislative changes will reverse the exclusion of nurse practitioners; as can be seen from the previous paragraphs, there are many NP-owned or NP-led practices that would benefit from participation in the ACO process.

Retail clinics are another innovation that, while sparking some controversy originally, have become more mainstream in recent years. Retail clinics were designed to provide basic healthcare services in a retail environment, where patients do not need appointments to obtain these services. Retail clinics provide basic services such as immunizations, diagnosis, and initial management of acute illnesses and are covered by many insurances including Medicare and Medicaid. Nurse practitioners and physician assistants typically provide the healthcare.

An interesting study comparing retail clinic, primary care physician office, and emergency department visits found that retail clinics provided primary care services to a greater number of underserved patients, many of whom did not have a primary care provider (Mehrotra et al.). Most of the reasons for visits included upper respiratory complaints, immunizations, ear and eye infections, and urinary tract infections. The authors of this study suggest that these retail clinics are functioning as a safety net for patients who previously sought care in the emergency department. That being said, there are concerns about care provided in retail clinics instead of a primary care office including potential disruption of primary care relationships, the ability to provide consistent chronic care delivery, and reduction in care coordination. More research is needed to better understand the long-term effects of retail clinics. In the meantime, these clinics are meeting the needs of some patients who may not have full access to care for basic services.

Independence at home is a CMS demonstration project currently being evaluated in the US medical practices. Both practices led by a physician or a nurse practitioner have participated in this demonstration project (see Chap. 11 for more detail). The purpose of the project is to provide comprehensive home-based primary care services to a frail elder population with a goal to reduce hospitalizations and emergency department visits for this group of frail elders. Advanced practitioners, including nurse practitioners and physician assistants, have played an important role in the independence at home practices whether led by a physician or a nurse practitioner. NPs and PAs are often the clinicians who make the home visit to homebound

seniors in this model. The collaboration between physicians, NPs and PAs, nurses, social workers, pharmacists, and other health professionals is critical in the success of the model. This leads us into a discussion of interprofessional models of care.

Interprofessional Models of Care

While there is an ongoing discussion and debate about the full practice authority for nurse practitioners, there is little debate about the value of nurse practitioners in the care of older adults. In most cases, nurse practitioners work in a collaborative care environment that includes, at minimum, a physician collaborator. Some of the best models also include other health professionals such as geriatric pharmacists, geropsychiatrists, geriatric-trained social workers, and others who work collaboratively to provide comprehensive care to older adults in a variety of different institutional, community, and home settings.

The GRACE model (GRACE stands for geriatric resources for assessment and care of elders) is focused on care of older adults with care provided by a nurse practitioner and social worker in collaboration with an expanded GRACE team that includes a geriatrician, geriatric pharmacist, physical therapist, and mental health case worker [23]. This is an integrated care model that targets mostly dual-eligible (Medicare and Medicaid) patients with chronic diseases. Care begins with a comprehensive in-home assessment by an NP and social worker, who then consult with the expanded team (see Chap. 2 for more details).

A randomized controlled trial that studied the model found that patients enrolled in GRACE had fewer emergency room visits, hospitalizations, readmissions, and lower costs compared with a control group [24]. In this model, one of the highest values of nurse practitioners is that they can function both as a registered nurse and as an advanced practice nurse. Their knowledge of nursing care is instrumental in helping with a holistic assessment of patients in their home environment and with ongoing care coordination. This is particularly effective in caring for older adults with multiple chronic diseases and mental health and psychosocial challenges. Many of these patients have conditions that can be well managed by nurses such as common geriatric syndromes including pressure ulcers, incontinence, and functional decline. Nurse practitioners fully represent nursing in this interdisciplinary team-based collaborative model [24, 25].

Home-based primary care (HBPC) is a model that provides primary care to homebound older adults. This program focuses on transitional care for older adults recently discharged from the acute care hospital. The goal of care is to reduce re-hospitalizations and emergency department visits as well as to improve coordination and continuity of care. In many cases, the care is provided by a nurse practitioner who may be collaborating with a geriatrician and other health professionals such as a geriatric pharmacist and/or social worker (see Chap. 13 for more detail). Again, the fact that nurse practitioners function as both advanced practice and registered nurses contributes highly to the success of this model of care. Nurse practitioners can not only assess, diagnose, and prescribe treatments for

these frail older adults, they can also carry out complex nursing care in the home such as wound care, medication reconciliation, and other nursing procedures that might be needed.

PACE or program of all-inclusive care for the elderly provides comprehensive medical and social services to an identified group of community-dwelling frail elders [26]. PACE programs are funded through Medicare and Medicaid with a goal of preventing older adults from being admitted to a nursing home. Medicare and/or Medicaid beneficiaries can join a PACE program if offered in their state. PACE programs are responsible for providing all necessary health services including outpatient, inpatient, and long-term care services as needed. In addition, PACE programs cover Medicare Part D, social services, transportation, occupational and physical therapy, and nutritional counseling. The original PACE program, On Lok, started as a CMS Demonstration Project led by a registered nurse. Within the PACE Program, primary care services are provided by a physician, physician assistant, or nurse practitioner who work within a collaborative team model. Studies of PACE model have shown that the use of team-based care in the PACE model improves healthcare outcomes for older adults [27].

The collaborative care model has been developed to provide care for patients with complex medical and psychiatric conditions. This model combines primary care and mental health services in an integrated fashion. Primary care services are provided by a physician, physician assistant, or nurse practitioner who collaborates with a mental health professional. Studies of this model have shown that this integrated care model provides better outcomes and greater satisfaction for both patients and providers [28, 29].

While not a specific model, much attention has been paid to Care Transitions and the role of nurse practitioners in improved outcomes [30, 31]. Nurse practitioners have had a significant impact on improving transitional care from the hospital to skilled nursing homes and home health settings, and in the care of older adults in general [32–35]. The Transitional Care Model is led by nurses, often advanced practice nurses (including nurse practitioners), and provides team-based health care that is designed to deliver person centered care for high-risk patients (often the elderly). In a randomized control trial of older adults with heart failure, advanced practice nurses improved patient-provider communication, educated patients on the meaning of their symptom and taught them self-care strategies, improving their quality of life [36].

Nurse Practitioners and Quality of Care

There have been numerous studies and systematic reviews over the years that have examined the quality of nurse practitioner care providing both primary care services to the general population and primary care to older adults [20, 37, 38]. While it is not the intent of this book chapter to review the literature related to quality of care, positive outcomes have been well documented and generally include improved health outcomes particularly in chronic care management, such as hypertension, heart

failure, and diabetes improvements and functional status, and high levels of patient and family satisfaction [39, 40]. There is extensive evidence showing that nurse practitioners generally provide care equivalent to that of physicians. Moreover, the evidence of improved outcomes from nurse practitioners and physicians in collaboration is even stronger [38, 41] indicating that continued focus on collaborative care is warranted.

Regulatory Issues Related to Nurse Practitioner Practice

Based on the numerous studies demonstrating that nurse practitioners provide care equivalent to that of physicians, several states have granted nurse practitioners authority to practice fully within the scope of their education and training. These efforts have been partially driven by the shortage of physicians across the United States and the need for greater numbers of primary care providers. Unfortunately, despite the evidence that nurse practitioners provide high-quality care and increased patient satisfaction, controversies surrounding NP practice remain. Organized physician groups such as the American Medical Association and the American College of Physicians have lobbied extensively against nurse practitioners having full practice authority, and this has resulted in a wide variation in the scope of nurse practitioner practice between states, variations in access to care in different states, and confusion among consumers related to nurse practitioner practice.

Additionally, there are differences in the federal guidelines for what NPs are allowed to do in nursing homes that conflict with states that have full practice authority. Social Security regulations require that patients who are admitted to a nursing home on Medicare Part A must have a physician complete the comprehensive admission visit. This is a requirement that physicians cannot delegate to either a nurse practitioner or physician assistant. This conflicts with state regulations that allow nurse practitioners to function independently and is another source of confusion for Medicare beneficiaries as well as the physicians and nurse practitioners providing care. Nurse practitioners who are unsure about current regulations should look for the most recent version of the "Evaluation and Management Services" guide from the Medicare Learning Network; the 2016 guide is available online.[9] A specific guide for nursing facility service coding is also available online, the most recent of which is MM4246 (Oct 23, 2012)[10]; please note that these guides are updated periodically. Two other sources are available for up-to-date information on appropriate documentation, billing, and coding: (1) Gerontological Advanced Practice Nurses Association (GAPNA) at https://www.gapna.org/ and (2) American Medical Directors Association (AMDA) at http://www.paltc.org/. Both of these professional organizations provide up-to-date information.

[9] https://www.cms.gov/Outreach-and-Education/Medicare-Learning-Network-MLN/MLNProducts/Downloads/eval-mgmt-serv-guide-ICN006764.pdf.

[10] https://www.cms.gov/Outreach-and-Education/Medicare-Learning-Network-MLN/MLNMattersArticles/downloads/mm4246.pdf.

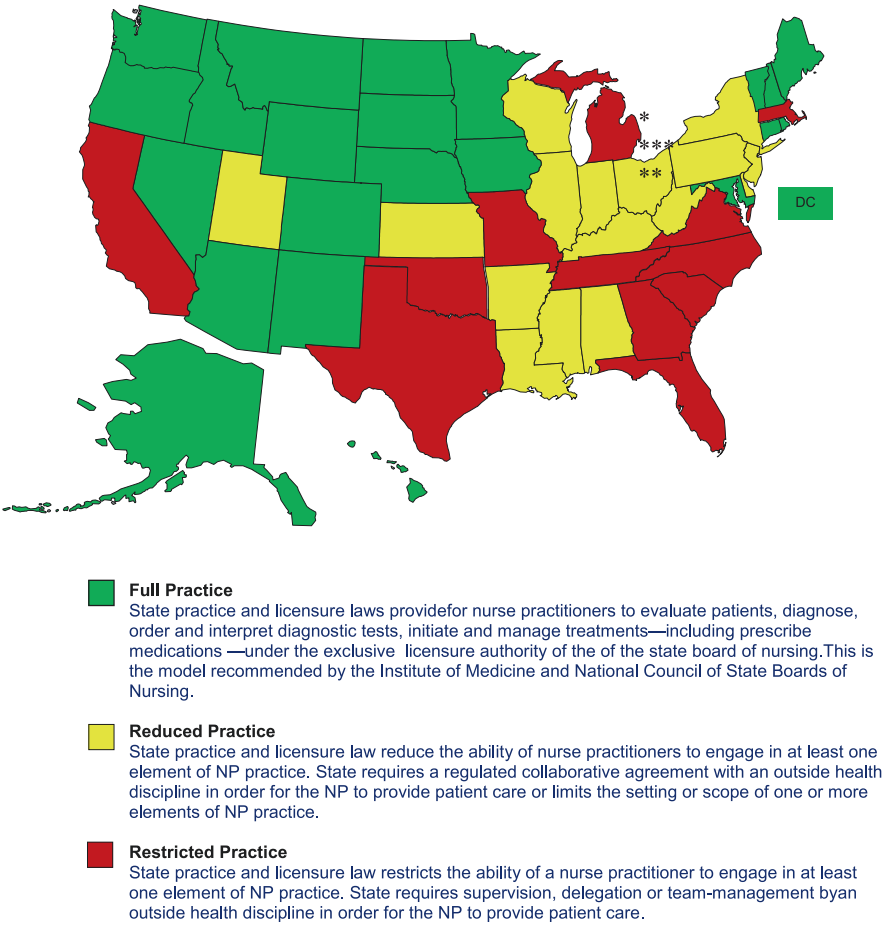

Fig. 12.2 The state practice environment—2017 AANP (https://www.aanp.org/legislation-regulation/state-legislation/state-practice-environment)

Regulation of NP Practice

In general, nurse practitioners are regulated at the state level through nurse practice acts. Unfortunately, the variability in how states regulate NP practice is problematic and continues to be a barrier to full practice authority in many states. The American Association of Nurse Practitioners (AANP) has published a map of state practice environments that is updated regularly. Figure 12.2 shows the current map with an "at-a-glance" view as to whether the state allows for full practice, reduced practice, or restricted practice and includes definitions of those terms. Two particularly important studies have been published recently that have advocated that all states passed legislation to enable all nurse practitioners to have full practice authority to evaluate, diagnose, order diagnostic tests, initiate treatments, and prescribe medications under the exclusive licensure authority of the state board of registered nursing.

The National Governors Association conducted a literature review of state regulations and quality of care related to nurse practitioner scope of practice. They wanted to understand the extent to which scope of practice rules and licensure vary across the states, to what extent state rules and regulations deviate from evidence-based research, and, given the current evidence, how would changes in state scope of practice laws impact healthcare access and quality. Their findings, consistent with other studies, indicated that nurse practitioners provided comparable care to physicians and suggested that NPs may provide improved access to care. Their association recommended that states consider reducing restrictions on scope of practice and ensuring adequate reimbursement for services to encourage and incentivize greater NP involvement in primary healthcare (Schiff—National Governor's Association, 2012).

In 2010, the Institute of Medicine (IOM) released a landmark report, "The Future of Nursing: Leading Change, Advancing Health," which strongly advocated for effective utilization of nurses to address the nation's most challenging healthcare issues. Significant improvements have been made in some areas; however, it has been recognized and reported that one major area that has not improved significantly is the ability of advanced practice registered nurses to practice to the full extent of their education and training due to scope of practice barriers at the state level (Fineberg and Lavizzo-Mourey 2013). The IOM report included recommendations to congress, state legislatures, the centers for Medicare and Medicaid services, and other regulatory agencies to remove barriers to full practice authority. Fineberg and Lavizzo-Mourey have since advocated that this become a reality, not just a recommendation. Subsequently, some states passed legislation to remove these barriers; however, as of January, 2017, there are only 21 states and Washington DC that have granted full practice authority for nurse practitioners. Significant policy work needs to be done to remove scope of practice barriers in the remaining states so that older adults have access to high-quality primary care services [10, 13, 42].

Conclusion

This chapter has focused on describing the role of nurse practitioners in a variety of practice models and settings in the United States. In addition, an effort was made to describe the environmental factors impacting healthcare including the shortage of primary care providers in general and particularly in geriatrics in the face of a rapidly expanding population of older adults. Recommendations have been made that nurse practitioners may fill this gap and provide care to older adults in a variety of settings. Evidence has been provided as to the high quality of the care provided by nurse practitioners as well as clinical nurse specialist and physician assistants, who also provide primary care services to older adults. And while both nurse practitioners and physicians can provide high quality of care independently, there is a growing body of evidence that healthcare outcomes are even better when clinicians work collaboratively in a team-based practice.

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