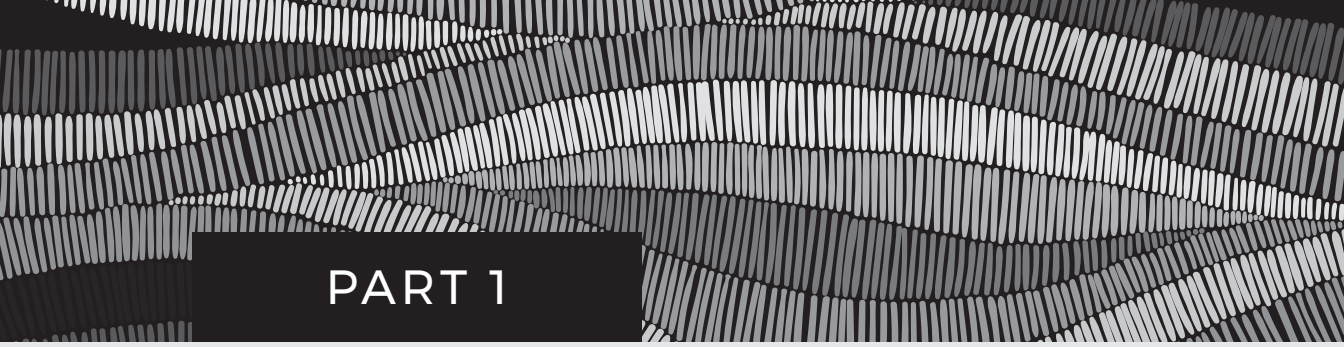

PART 1

# Professional Roles for Advanced Practice

The chapters in Part 1 of this book consider the role of the advanced practice nurse from historical, present-day, and future perspectives. This content is intended to serve as a general introduction to select issues in professional role development for the advanced practice of nursing. As students progress in the educational process and develop greater knowledge and expertise, role issues and role transition should be integrated into the entire educational program.

In Chapter 1, DeNisco and Barker define advanced practice nursing from a traditional perspective and trace the history of the role. Traditionally, advanced practice has been limited to clinical roles that include the clinical nurse specialist, nurse practitioner, certified nurse–midwife, and certified registered nurse anesthetist; to practice, the last three roles require a license beyond the basic registered nurse license. This book, however, uses an expanded definition of advanced practice nursing that reflects current thinking. As you read this chapter, keep in mind this expanded definition and appreciate the development of the advanced clinical roles for nursing practice. This discussion lays the foundation for a deeper understanding of the historical development, current practice, and future opportunities for advanced practice in nursing.

In Chapter 2, DeNisco and Stewart discuss the tipping point for nurse practitioners as we enter the age of healthcare reform and the role nurse practitioners will play in providing cost-effective, high-quality primary care for a demographically changing population. Stewart's quantitative and qualitative research resulted in the Stewart model of nurse practitioning, which reflects key attributes that make nurse practitioners unique. Much has transpired related to the role and education of nurses for advanced practice. Since the national call for the clinical doctorate to be the required degree for advanced clinical practice nursing by 2015 (American Association of Colleges of Nursing, 2004), there has been a proliferation of master's programs that have transitioned to the doctoral level.

The rationale for this position by the American Association of Colleges of Nursing (AACN) is based on several factors:

- The reality that current master's degree programs often require credit loads equivalent to doctoral degrees in other healthcare professions
- The changing complexity of the healthcare environment
- The need for the highest level of scientific knowledge and practice expertise to ensure high-quality patient outcomes

In an effort to clarify the standards, titling, and outcomes of clinical doctorates, the Commission on Collegiate Nursing Education—the accreditation arm of the AACN—has decided that only practice doctoral degrees awarding a doctor of nursing practice (DNP) will be eligible for accreditation. In addition, the AACN (2021) has published ***The Essentials: Core Competencies for Professional Nursing Education***, which sets forth the standards for the development, implementation, and program outcomes of both master's and doctoral programs.

Needless to say, this recommendation has not been fully supported by the entire profession. For instance, formerly the American Organization of Nurse Executives (2007) and now the American Organization for Nursing Leadership (AONL, 2022) does not support requiring a doctorate for managerial or executive practice on the basis of expense, time commitment, and cost benefit of the degree. It also suggests that nurses may migrate toward a master's degree in business, social sciences, and public health in lieu of a master's degree in nursing. Currently AONL offers a variety of education programs for early careerists, midcareerists, and executive administrators including competitive fellowship programs and preparation for national certification. Although AONL may suggest that there is a lack of evidence to support the need for doctoral education across all aspects of the care continuum, they are committed to developing and disseminating core competencies for a variety of healthcare settings and levels of responsibilities (AONL, 2022).

For other advanced practice roles, including those of the clinical nurse leader, nurse educator, and nurse researcher, a different set of educational requirements exists. The clinical nurse leader as a generalist remains a master's-level program. For nurse educators, the position of the AACN—although not universally accepted within the profession (as demonstrated by the existence of master's programs in nursing education)—is that didactic knowledge and practical experience in pedagogy are additive to advanced clinical knowledge. Nurse researchers will continue to be prepared in PhD programs. Thus, there will be only two doctoral programs in nursing, the DNP and the PhD. It is important for readers to keep abreast of this movement as the profession further develops and debates these issues because the outcomes have implications for their own practice and professional development within their own specialty. The best resources for this are the AACN website and the websites of specialty organizations.

The next three chapters in Part 1 discuss the future of advanced practice nursing and the evolution of doctoral education—in particular, the practice doctorate. Within today's rapidly changing and complex healthcare environment, members of the nursing profession are challenging themselves to expand the role of advanced practice nursing to include highly skilled practitioners, leaders, educators, researchers, and policy makers.

In Chapter 3, Chism defines the DNP degree and compares and contrasts the research doctorate and the practice doctorate. The focus of the DNP degree is expertise in clinical practice. Additional foci include the ***Essentials of Doctoral Education for Advanced Nursing Practice*** as outlined by the AACN (2004), which include leadership, health policy and advocacy, and information technology. The author introduces the new Essentials document and the second-level competencies that could

be used to guide curriculum for both PhD and DNP programs (AACN, 2021). Role transitions for advanced practice nurses prepared at the doctoral level call for an integration of roles focused on the provision of high-quality, patient-centered care.

In Chapter 4, the authors discuss emerging roles of DNP graduates as nurse educators, nurse executives, and nurse entrepreneurs and advanced practice nurses' increased involvement in public health programming and integrative and complementary health modalities.

In Chapter 5, Boyd and Barker set the foundation for advanced practice nurses to recognize and embrace their role as leaders and influencers of practice changes in healthcare organizations. Complexity science, organizational change theory, and transformational leadership are used as a platform for advanced practice nurses to realize their leadership potential and their role as agents of change.

Last, in Chapter 6, Ash and Miller provide an in-depth look at interdisciplinary and interprofessional collaborative teams as a means to effect positive health outcomes. They discuss barriers to successful collaborative teams and factors for successful team development. Advanced practice nurse leaders educated at both the master's and the doctoral levels are uniquely positioned to overcome the workforce and regulatory issues that might otherwise diminish the success of collaborative teams—in particular, those involving participants from the nursing and medicine disciplines.

## References

American Association of Colleges of Nursing. (2004). AACN position statement on the doctorate in nursing. www.aacnnursing.org/Portals/42/News/Position-Statements/DNP.pdf

American Association of Colleges of Nursing. (2021). The essentials: Core competencies for professional nursing education.www.aacnnursing.org/Portals/42/AcademicNursing/pdf/Essentials-2021.pdf /

American Organization of Nurse Executives. (2007). Consideration of the doctorate of nursing practice. https://www.aonl.org/sites/default/files/aone/educational-preparation-nurse-leaders.pdf

American Organization of Nursing Leadership. (2022). AONL nurse leader competencies. www.aonl.org/resources/nurse-leader-competencies

CHAPTER 1

# Introduction to the Role of Advanced Practice Nursing

**Susan M. DeNisco and Anne M. Barker**

## CHAPTER OBJECTIVES

1. Describe the four roles used to define advanced practice nursing in the United States.
2. Identify the differences between the clinical nurse leader role and the traditional advanced practice nursing roles.
3. Recognize factors that currently influence the supply and demand of nurse educators.
4. Discuss the educational preparation and certification requirements for nurse administrators.

## Introduction

Considerable confusion exists regarding the terminology *advanced nursing practice*, *advanced nurse practice*, and *advanced practice registered nurse*. Based on the definition given by the American Association of Colleges of Nursing (AACN) and other widely accepted usages, the term *advanced practice registered nurse (APRN)* has been used to indicate master's-prepared nurses who provide direct clinical care. This term encompasses the roles of nurse practitioner (NP), certified nurse–midwife (CNM), certified registered nurse anesthetist (CRNA), and clinical nurse specialist (CNS). The first three roles require a license beyond the basic registered nurse (RN) license. The role of the clinical nurse specialist requires a master's degree but does not require separate licensing unless the CNS is applying for prescriptive authority. Complicating the titling and definition of roles, the AACN (2004) defined advanced practice nursing as follows:

> Any form of nursing intervention that influences health care outcomes for individuals or populations, including

> direct care of individual patients, management of care for individuals and populations, administration of nursing and health care organizations, and the development and implementation of health policy. (p. 2)

The *Consensus Model for APRN Regulation* is a product of substantial work done by the APRN Consensus Work Group and the National Council of State Boards of Nursing APRN Advisory Committee in an effort to address the irregularities in regulation of advanced practice registered nurses across states. As defined in the model for regulation, there are four roles: certified registered nurse anesthetist, certified nurse–midwife, clinical nurse specialist, and certified nurse practitioner. These four roles are given the title of advanced practice registered nurse. APRNs are educated in one of the four roles and in at least one of the following population foci: family/individual across the life span, adult–gerontology, pediatrics, neonatal, women's health/gender related, and psychology/mental health (APRN Consensus Work Group & National Council of State Boards of Nursing APRN Advisory Committee, 2008). APRNs are licensed independent practitioners who are expected to practice within standards established or recognized by a licensing body. The model further addresses licensure, accreditation, certification, and education of APRNs. **Figure 1-1** depicts the APRN regulatory model.

## Other Advanced Practice Nursing Roles and the Nursing Curriculum

Consequently, nurse administrators, public health nurses, and policy makers are considered advanced practice nurses albeit they do not provide direct care or obtain advanced practice licensure per the state they practice in. As this text goes to press, there is an initiative to expand and clarify the definition of and requirements for advanced practice nursing.

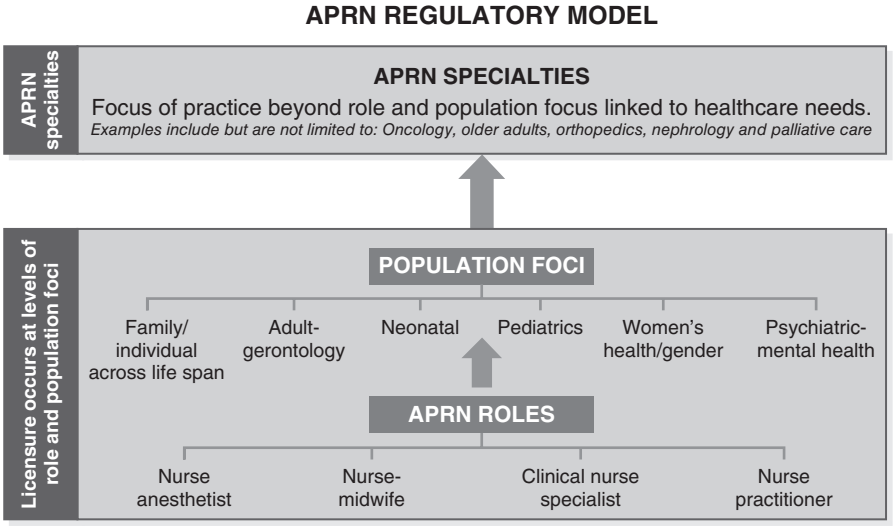


**Figure 1-1** APRN regulatory model.

Reproduced with permisssion from National Council of State Boards of Nursing. (July 7, 2008). Consensus Model for APRN Regulation: Licensure, Accreditation, Certification & Education. Accessed at https://www.ncsbn.org/Consensus_Model_for_APRN_Regulation_July_2008.pdf

No matter the final outcome of this deliberation, all nurses need the same set of essential knowledge. The Essentials Series outlines the necessary curriculum content and expected competencies of graduates of baccalaureate, master's, and doctoral nursing practice programs and the clinical support needed for the full spectrum of academic nursing (AACN, 2006, 2011a, 2011b). Although the terms *advanced practice nursing*, *advanced practice nurses*, *advanced nursing practice*, and *advanced practice registered nurses* are used interchangeably throughout this text, the authors are addressing any students enrolled in master's or doctoral programs that are designed, implemented, and evaluated by the AACN Essentials. In 2021 AACN endorsed The Essentials: Core Competencies for Professional Nursing Education, which delineates competency expectations for graduates of baccalaureate and graduate nursing programs. The intent of these "new essentials" is prepare the nursing workforce for a progressive and intricate healthcare system (AACN, 2021). Chapter 2 provides an overview of the new essentials for advanced practice nursing including the overarching domains, competencies, and subcompetencies.

## Clinical Nurse Leaders

The clinical nurse leader (CNL) role was introduced in 2003 to address the Institute of Medicine's quality and safety reports, which envisioned a nursing workforce that would provide direct clinical leadership at the point of care and work to ensure a safe patient care environment (AACN, 2013). Clinical nurse leaders were not considered in the definition of *advanced practice* because the CNL role did not exist when the aforementioned roles were defined. Some argue that the CNL is a generalist and thus CNL should not be considered an advanced practice role. We disagree. The clinical nurse leader role requires advanced knowledge and skill beyond that attained with the baccalaureate degree, and it requires a master's degree for certification. The original white paper on the education and role of the CNL provided the background, rationale, and description of the CNL role and education as well as the expected outcomes and competencies for all CNL graduates (AACN, 2013).

There are currently 8,907 nurses who have earned the CNL since 2006 (Commission on Nurse Certification, 2021). According to the AACN (2013), the CNL is responsible for patient care outcomes and integrates and applies evidence-based information to design, implement, and evaluate healthcare systems and models of care delivery. The CNL is a provider and manager of care at the point of care for individuals and cohorts of patients anywhere health care is delivered (AACN, 2013). In fact, as recommended in both the AACN white paper and the CNL Competencies and Curricular Expectations on the CNL role, all CNL curricula across the country require graduate-level content that builds on an undergraduate foundation in health assessment, pharmacology, and pathophysiology. In many master's-level programs, NP and CNL students sit side by side to learn these advanced skills. Also, the inclusion of these three separate courses—health assessment, pharmacology, and pathophysiology—facilitates the transition of master's program graduates into doctor of nursing practice degree programs (AACN, 2013). Moreover, the CNL program graduate has completed more than 400 clinical practice hours, similar to the number required of NP graduates, and is eligible to sit for the CNL Certification Examination developed by the AACN. In 2013, the CNL Expert Panel developed Competencies and Curricular Expectations for Clinical Nurse Leader Education and Practice to revise the competencies in the original white paper and strengthen the original curriculum framework and practice expectations to reflect changes in our healthcare environment. It is recommended that CNLs practice stewardship to leverage resources and use information systems and technologies to improve patient care outcomes (AACN, 2013).

The clinical nurse leader, similar to the clinical nurse specialist (discussed next), has

developed clinical and leadership skills and knowledge of statistical processes and data mining. The CNL brings evidence-based practice to the bedside, creates a culture of safety, and provides high-quality care. This aligns directly with the American Organization for Nursing Leadership (AONL) core competencies for nursing leaders to guide future generations of nurses (AONL, n.d.b).

## Clinical Nurse Specialists

Clinical nurse specialists comprise a group of over 70,000 advanced practice registered nurses (National Association of Clinical Nurse Specialists [NACNS], 2018). CNSs have been providing care to patients with complex cases across healthcare settings since the 1960s. The CNS role originated largely to satisfy the societal need for nurses who could provide advanced care to psychiatric populations. Since the passage of the National Mental Health Act in 1946, the National League for Nursing (NLN) and the American Nurses Association have supported the CNS role. The first program at Rutgers University educated nurses for the role of psychiatric clinical specialist (McClelland et al., 2013). Following this implementation, the usefulness of the role became apparent, and schools of nursing began to educate nurses across specialties, including oncology, medical-surgical, pediatric, and critical care nursing.

The literature of the 1980s and 1990s shows that care provided by clinical nurse specialists produced positive patient outcomes related to self-management and early hospital discharge (Fulton, 2014). More recently, studies show improvement in patient satisfaction and pain management as well as reduced medical complications in hospitalized patients (McClelland et al., 2013).

The recent trend toward hospital and healthcare system mergers and the focus on cost containment have forced the CNS role into a precarious position. Hospital administrators have a difficult time showing that CNSs decrease hospital costs, and they cannot bill for specialty nursing services. The AACN states that there are significant differences between the CNS and CNL roles; however, few differences are clearly articulated by those being educated in or practicing in these roles. NACNS announced in 2015 its endorsement of proposals for the doctor of nursing practice (DNP) as the required degree for CNS entry into practice by 2030. This has created role confusion and uncertainty regarding the role these nurses should play in the inpatient hospital setting. **Table 1-1** compares role competencies of the CNS and the CNL.

In addition, the APRN consensus model states that graduate nursing roles that do not focus on direct patient care will not be eligible for APRN licensure in the future (APRN Consensus Work Group & National Council of State Boards of Nursing APRN Advisory Committee, 2008). NACNS (2016) reports that in the past decade, eight states have granted clinical nurse specialists the authority to practice without a physician's supervision and six have given CNSs independent authority to prescribe medications and durable medical equipment as well as order and interpret select diagnostic testing. CNSs can now practice independently in 28 states and prescribe independently in 19. This represents strides that CNSs are making to maximize their education and clinical expertise. However, only 13 recognize CNSs as APRNs and require them to have a collaborative practice agreement with a physician.

This creates further challenges for the CNS, such as variability in state title protection, inconsistency among states grandfathering in the CNS role, lack of a regulatory approach to accepting grandfathered CNSs to practice in other states, and job loss based on misperceptions of the model (NACNS, 2005).

## Nurse Educators

To recognize the importance of the role of nursing education during the pandemic the NLN has announced 2022 as the "Year of the Nurse Educator" (NLN, 2022). However, the role of nurse educators may be one of

**Table 1-1 Comparison of Select Role Competencies for the CNS and the CNL**

| Clinical Nurse Specialist | Clinical Nurse Leader |
|---|---|
| ■ Conducts a comprehensive health assessment in diverse care settings, including psychosocial, functional, physical, and environmental factors. | ■ Conducts a holistic assessment and comprehensive physical examination of individuals across the life span. |
| ■ Leads and participates in the process of selecting, integrating, managing, and evaluating technology and products to promote safety, quality, efficiency, and optimal health outcomes. | ■ Uses information technology, analytics, and evaluation methods. |
| ■ Leads and facilitates coordinated care and transitions in collaboration with the patient and interprofessional team. | ■ Facilitates collaborative, interprofessional approaches and strategies in the design, coordination, and evaluation of patient-centered care. |
| ■ Provides education and coaching to patients with complex learning needs and atypical responses. | ■ Demonstrates coaching skills, including self-reflection, to support new and experienced interdisciplinary team members in exploring opportunities for improving care processes and outcomes. |
| ■ Consults with healthcare team members to integrate the needs, preferences, and strengths of a population into the healthcare plan to optimize health outcomes and patient experience within a healthcare system. | ■ Engages in partnerships at multiple levels of the health system to ensure effective coordination, delivery, and evaluation of clinical prevention and health promotion interventions and services across care environments. |
| ■ Implements customized evidence-based advanced nursing interventions, including the provision of direct care. | ■ Uses evidence to design and direct system improvements that address trends in safety and quality. |
| ■ Analyzes the ethical impact of scientific advances, cost, clinical effectiveness on patient and family values, and preferences. | ■ Advocates for policies that leverage social change, promote wellness, improve care outcomes, and reduce costs. |

Reproduced from American Association of Colleges of Nursing. (2013). *Competencies and Curricular Expectations for Clinical Nurse Leaders Education and Practice* Retrieved from https://www.aacnnursing.org/Portals/42/News/White-Papers/CNL-Competencies-October-2013.pdf; National CNS Competency Revision Task Force. (2018). Core Clinical nurse specialists competencies. Retrieved from http://nacns.org/wp-content/uploads/2018/05/Core-Competencies-CNS-Table-2-2018-line-numbers.pdf

the most contentious issues in nursing education. Nursing education has transformed from an apprentice style of education to one that requires an education grounded in liberal arts and demands the development of critical thinking abilities. The evolution of nursing education has resulted in several approaches to initial preparation and the expansion of both master's and doctoral programs to prepare nurses as critical partners in the healthcare setting. According to the NLN (2002), the nurse educator role requires specialized preparation, and every individual engaged in the academic enterprise must be prepared to implement that

role successfully. Nurse educators are key resources in preparing the nursing workforce to provide high-quality care to meet the healthcare needs of a rapidly aging and diverse population. Whether in academic or clinical settings, nurse educators must be competent clinicians. However, whereas being a good clinician is essential, some would say it is not sufficient for the educator role. Much of the debate in nursing education centers on the fact that the nurse educator student primarily needs advanced knowledge and skills in clinical practice in order to teach, and therefore graduate education should be directed toward enhancing clinical expertise. According to the AACN (2014), the master's-level curriculum for the nurse educator builds on baccalaureate knowledge, and graduate-level content in the areas of health assessment, pathophysiology, and pharmacology strengthens the graduate's scientific background and facilitates understanding of nursing and health-related information. In this model, students are required to take courses beyond the graduate core curriculum and that provide content expertise in the 3 Ps (pharmacology, pathophysiology, and physical assessment), similar to the education of NPs and CNLs. On the other side of the argument, many clinicians who become nurse educators are already clinical and content experts. The NLN advocates for advancing the science of nursing education to address competency-based education and to prepare, develop, recruit, and retain faculty while applying innovative clinical teaching models, including the integration of new technology (NLN, 2007, 2016). Excellence in advanced nursing education and research will support teaching/learning theories and strategies, curriculum development, and student and programmatic assessment. The NLN is committed to diversifying the next generation of healthcare professionals to meet population needs and championing a more inclusive nurse educator workforce and continues to develop strategies to respond to the shortage of nursing educators both nationally and internationally (NLN, 2016).

## Supply and Demand for Nurses

The relationship between nurse supply and demand in the United States has been cyclical, with periodic shortages of nurses where demand exceeds available supply, followed by periods of overproduction that lead to nursing surpluses. Today's nursing shortage is driven by the COVID-19 pandemic, an aging workforce, a demographically aging population, and changes in state and federal policies (Organization of Nurse Leaders, 2022). According to the National Center for Health Workforce Analysis (2017), there is substantial projected variation across the United States for RNs in 2030 through the large differences between projected supply and demand. After an analysis of each state's 2030 RN supply minus its 2030 demand, there will be both shortages and surpluses in the RN workforce in 2030 across the United States. For example, there are seven states that have estimated 2030 shortages, with four states projected to have shortages of more than 10,000 RN full-time equivalents (FTEs), including California, followed by Texas (15,900 fewer FTEs), New Jersey (11,400 fewer FTEs), and South Carolina (10,400 fewer FTEs). Meanwhile, three states predict a surplus of more than 20,000 RN FTEs, including Florida, followed by Ohio (with 49,100 more FTEs) and Virginia (with 22,700 FTEs) (National Center for Health Workforce Analysis, 2017).

At the national level, the projected growth in RN supply (39% growth) is expected to exceed demand (28% demand), resulting in a projected excess of about 293,800 RN FTEs in 2030 (National Center for Health Workforce Analysis, 2017). This is in contrast to the AACN's position that the United States is projected to experience a shortage of RNs that is expected to intensify as baby boomers age and the need for health care grows. Making matters worse is the fact that nursing schools across the country are struggling to expand

capacity to meet the rising demand for care given the national need for healthcare reform. Nurse shortage or surplus appears to reflect local conditions, such as the number of new graduates in a given state, as nurses tend to practice in states where they have been educated. Future supply and demand will be affected by a myriad of factors, including population growth, the aging of the nation's population, overall economic conditions and expanded health insurance coverage, changes in healthcare reimbursement, geographic location, and health workforce availability. See **Table 1-2**.

Meeting this projected demand will require a significant increase in the number of nursing graduates, perhaps by as much as 40%, to fill new nursing positions as well as to account for attrition from an aging workforce. This corresponds to an increase in the demand for nursing faculty. Although the number of nurses enrolling in doctoral programs has increased in the past decade, the current demand for nurses prepared for advanced practice, clinical specialties, teaching, and research roles far outstrips the supply.

Consequently, to increase the supply requires a major expansion of nursing faculty

**Table 1-2 Baseline and Projected Supply of and Demand for Registered Nurses by State: 2014 and 2030**

| | 2014 | 2030 | | | |
|---|---|---|---|---|---|
| Region and State | Supply/ Demand[a] | Supply | Demand | Difference[b] | Adequacy[c] |
| *Northeast* | | | | | |
| Connecticut | 34,000 | 43,500 | 40,000 | 3,500 | 8.8% |
| Maine | 14,600 | 21,200 | 16,500 | 4,700 | 28.5% |
| Massachusetts | 73,200 | 91,300 | 89,300 | 2,000 | 2.2% |
| New Hampshire | 15,500 | 21,300 | 20,200 | 1,100 | 5.4% |
| New Jersey | 81,700 | 90,800 | 102,200 | (11,400) | (11.2%) |
| New York | 174,100 | 213,400 | 195,200 | 18,200 | 9.3% |
| Pennsylvania | 133,200 | 168,500 | 160,300 | 8,200 | 5.1% |
| Rhode Island | 11,000 | 15,000 | 12,500 | 2,500 | 20.0% |
| Vermont | 6,000 | 9,300 | 6,800 | 2,500 | 36.8% |
| *Midwest* | | | | | |
| Illinois | 116,300 | 143,000 | 139,400 | 3,600 | 2.6% |
| Indiana | 62,900 | 89,300 | 75,300 | 14,000 | 18.6% |
| Iowa | 32,500 | 45,400 | 35,300 | 10,100 | 28.6% |
| Kansas | 29,500 | 47,500 | 34,900 | 12,600 | 36.1% |
| Michigan | 91,600 | 110,500 | 104,400 | 6,100 | 5.8% |

*(continues)*

**Table 1-2** **Baseline and Projected Supply of and Demand for Registered Nurses by State: 2014 and 2030** *(continued)*

| Region and State | 2014 | 2030 | | | |
|---|---|---|---|---|---|
| | Supply/ Demand[a] | Supply | Demand | Difference[b] | Adequacy[c] |
| Minnesota | 56,200 | 71,800 | 68,700 | 3,100 | 4.5% |
| Missouri | 59,600 | 89,900 | 73,200 | 16,700 | 22.8% |
| Nebraska | 20,300 | 24,700 | 21,200 | 3,500 | 16.5% |
| North Dakota | 7,600 | 9,900 | 9,200 | 700 | 7.6% |
| Ohio | 122,800 | 181,900 | 132,800 | 49,100 | 37.0% |
| South Dakota | 10,300 | 11,700 | 13,600 | (1,900) | (14.0%) |
| Wisconsin | 58,100 | 78,200 | 72,000 | 6,200 | 8.6% |
| *South* | | | | | |
| Alabama | 68,000 | 85,100 | 79,800 | 5,300 | 6.6% |
| Arkansas | 28,400 | 42,100 | 32,300 | 9,800 | 30.3% |
| Delaware | 9,600 | 14,000 | 12,800 | 1,200 | 9.4% |
| District of Columbia[d] | 1,800 | 8,800 | 2,300 | 6,500 | 282.6% |
| Florida | 170,600 | 293,700 | 240,000 | 53,700 | 22.4% |
| Georgia | 77,200 | 98,800 | 101,000 | (2,200) | (2.2%) |
| Kentucky | 44,900 | 64,200 | 53,700 | 10,500 | 19.6% |
| Louisiana | 40,600 | 52,000 | 49,700 | 2,300 | 4.6% |
| Maryland | 58,700 | 86,000 | 73,900 | 12,100 | 16.4% |
| Mississippi | 29,100 | 42,500 | 35,300 | 7,200 | 20.4% |
| North Carolina | 90,000 | 135,100 | 118,600 | 16,500 | 13.9% |
| Oklahoma | 32,500 | 46,100 | 40,600 | 5,500 | 13.5% |
| South Carolina | 36,900 | 52,100 | 62,500 | (10,400) | (16.6%) |
| Tennessee | 61,000 | 90,600 | 82,200 | 8,400 | 10.2% |
| Texas | 180,500 | 253,400 | 269,300 | (15,900) | (5.9%) |
| Virginia | 67,900 | 109,200 | 86,500 | 22,700 | 26.2% |
| West Virginia | 18,800 | 25,200 | 20,800 | 4,400 | 21.2% |

| Region and State | 2014 | 2030 | | | |
|---|---|---|---|---|---|
| | Supply/ Demand[a] | Supply | Demand | Difference[b] | Adequacy[c] |
| *West* | | | | | |
| Alaska | 16,400 | 18,400 | 23,800 | (5,400) | (22.7%) |
| Arizona | 65,700 | 99,900 | 98,700 | 1,200 | 1.2% |
| California | 277,400 | 343,400 | 387,900 | (44,500) | (11.5%) |
| Colorado | 41,900 | 72,500 | 63,200 | 9,300 | 14.7% |
| Hawaii | 10,900 | 19,800 | 16,500 | 3,300 | 20.0% |
| Idaho | 11,200 | 18,900 | 15,300 | 3,600 | 23.5% |
| Montana | 9,600 | 12,300 | 12,100 | 200 | 1.7% |
| Nevada | 18,300 | 33,900 | 25,800 | 8,100 | 31.4% |
| New Mexico | 15,900 | 31,300 | 21,600 | 9,700 | 44.9% |
| Oregon | 30,400 | 41,100 | 38,600 | 2,500 | 6.5% |
| Utah | 20,000 | 33,500 | 29,400 | 4,100 | 13.9% |
| Washington | 56,700 | 85,300 | 79,100 | 6,200 | 7.8% |
| Wyoming | 4,200 | 8,300 | 5,500 | 2,800 | 50.9% |

[a]The projections assume that each state's supply and demand are equal in 2014.

[b]Difference = 2030 projected supply – demand.

[c]Adequacy = 100 * (projected supply – projected demand)/(projected demand); a negative adequacy indicates a shortage (i.e., supply is less than demand) whereas a positive adequacy indicates a surplus (i.e., supply is greater than demand).

[d]Starting supply for Washington, DC, is based on small sample size in the American Community Survey so supply estimates might be unreliable.

*Note:* The model assumes increased insurance coverage associated with Medicaid expansion and insurance marketplaces, together with year 2014 healthcare use and delivery patterns. Numbers may not sum to totals due to rounding.

Reproduced from U.S. Department of Health and Human Services, Health Resources and Services Administration, National Center for Health Workforce Analysis. 2017. National and regional supply and demand projections of the nursing workforce: 2014–2030. Rockville, Maryland.

and other educational resources. With the "graying" of the current pool of nursing faculty, efforts we make must persuade more nurses and nursing students to pursue academic careers and to do so at an earlier age. Careers in nursing education are typically marked by long periods of clinical practice prior to being educated for a faculty role. The idea of advanced practice nurses with clinical doctorates versus research doctorates working in academia has been supported by the National Organization of Nurse Practitioner Faculties, NLN, and AACN. The DNP degree may be the answer to imparting advanced knowledge in EBP, quality improvement, leadership, policy advocacy, informatics, and healthcare systems to clinicians, managers, and educators. The DNP-prepared educator is poised to educate a future nursing workforce that can influence patient care outcomes. The nursing faculty

shortage contributes to the problem of nursing programs turning away qualified applicants across graduate and undergraduate programs. See **Figure 1-2**.

Currently there is a growing need for nurses who are pursuing advanced degrees to learn to prepare to be nurse educators. Competence as an educator can be established, recognized, and expanded through master's and doctoral education, post–master's certificate programs, continuing professional development courses, mentoring activities, and professional certification as a faculty member. Each academic unit in nursing must include a cadre of experts in nursing education who provide the leadership needed to advance nursing education, conduct pedagogical research, and contribute to the ongoing development of the science of nursing education.

## Nurse Practitioners

Nurse practitioners have been providing care to vulnerable populations in rural and urban areas since the 1960s. The role was born out of the shortage of primary care physicians able to serve pediatric populations. Initial educational preparation ranged from 3 to 12 months, and as the role developed and expanded, so did educational requirements. By the 1990s, the master's degree was endorsed as entry-level education for NP specialties. In 2004, the AACN took a position recognizing the doctor of nursing practice as the entry-level degree for advanced practice nursing, stating the following:

> Advanced competencies for increasingly complex clinical, faculty and leadership roles . . . enhanced knowledge to improve nursing practice and patient outcomes . . . enhanced leadership skills . . . better match of program requirements . . . provision of an advanced educational credential . . . parity with other health care professionals . . . enhanced ability to attract individuals to nursing from non-nursing backgrounds; increased supply of faculty for clinical instruction; and improved image of nursing. (AACN, 2004, p. 7)

Most recently the National Organization of Nurse Practitioner Faculties (NONPF, 2022) endorsed new standards for quality in NP education. These standards align with the new AACN Essentials by supporting

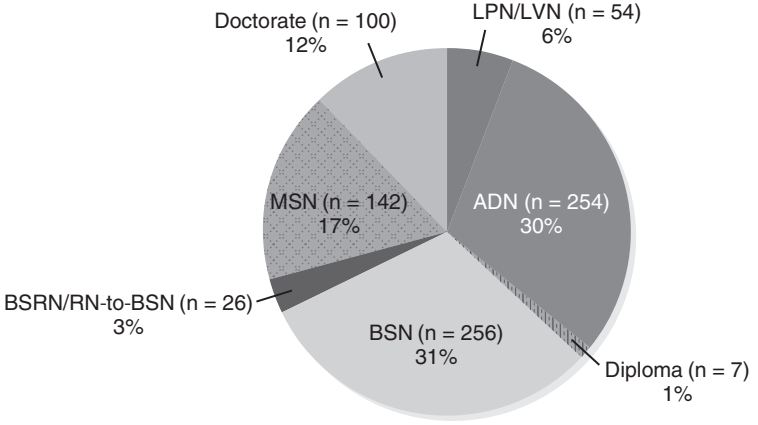


**Figure 1-2** Faculty vacancies (full-time equivalents) by program.

Reproduced from National League for Nursing. (2017). Faculty Vacancies (Full Time Equivalents) by Program, 2017.

competency-based education to include interprofessional education and expand the use of simulation to both teach and evaluate students. Moreover, the National Task Force for Quality NP Education emphasizes the need for including diversity, equity, and inclusion both in institutional polices and clinical educational experiences (NONPF, 2022).

Today, nurse practitioners are the largest group of advanced practice nurses. More than 355,000 NPs are licensed and practicing with some level of prescriptive authority in all 50 states and the District of Columbia (American Association of Nurse Practitioners, 2022). Nurse practitioners work, are educated, and hold board certification in a variety of specialty areas, including pediatrics, family, adult-gerontology, women's health, and acute care, to name a few.

A federal initiative continues to exist to increase the number of primary care providers in the United States. The consensus report titled the *Future of Nursing* developed by the Institute of Medicine (IOM) and the Robert Wood Johnson Foundation calls for a transformative change in nursing education. It calls for nurses to "practice to the full extent of their education and training" and for "nurses to achieve higher levels of education and training through an improved education system" (IOM, 2011, p. 4). This analysis and recommendation coincided with the passage of the legislation for the Patient Protection and Affordable Care Act of 2010, which was estimated to increase the need for qualified primary care providers to 241,200 by 2020. The growing demand for nurse practitioners nationwide is estimated to increase 52% between 2020 and 2030, substantially faster than the 7% growth rate expected for all occupations during the same time period (Bureau of Labor Statistics, 2022). This rapid increase in the demand for NPs, particularly family nurse practitioners (FNPs), is fueled in part by the predicted shortfall of more than 20,000 primary care physicians by 2025. Thirty-seven states are projected to have a shortage of primary care physicians in 2025, with 12 of these states having a deficit of 1,000 or more full-time positions, so the need for FNPs will help fill the gap (National Center for Workforce Analysis, 2016). This, coupled with a demographically aging and ethnically diverse population, makes the demand for primary care providers—in particular, nurse practitioners—greater than ever. It is well known that nurse practitioners provide high-quality, safe, and cost-effective care. Excellent educational programs are needed to increase this pool of healthcare providers to improve access to care and strengthen care provided for elderly and other vulnerable populations.

## Nurse–Midwives

The first nurse–midwifery school was established in 1925 by Mary Breckenridge, who founded the Frontier Nursing Service (FNS) in Hyden, Kentucky, in response to the high maternal and child death rates in rural eastern Kentucky, an area isolated by geography and poverty. The midwives were educated to provide family health services, as well as childbearing and delivery care, at nursing centers in the Appalachian Mountains. As reported by the Frontier Nursing University (FNU, 2021), by the late 1950s, the FNS nurse–midwives had attended more than 10,000 births, and maternal and infant outcome statistics in rural Kentucky were better than those for the whole country during the nurse–midwives' first 3 decades of service. The most significant differences were in maternal mortality rates (9.1 per 10,000 births for FNS compared with 34 per 10,000 births for the United States as a whole) and low birth weights (3.8% for FNS compared with 7.6% for the country).

Today, all nurse–midwifery programs are housed in colleges and universities. There are multiple entry paths to midwifery education, but most nurse–midwives graduate at the master's degree level, and several programs culminate in the DNP degree. These programs must be accredited by the American College

of Nurse-Midwives (ACNM) for graduates to be eligible to take the national certification examination offered by the American Midwifery Certification Board (AMCB). Midwifery practice as conducted by certified nurse–midwives and certified midwives (CMs) is the autonomous primary care management of women's health, focusing on pregnancy, childbirth, the postpartum period, care of the newborn, family planning, and gynecologic needs of women.

CNMs are licensed, independent healthcare providers who have prescriptive authority in all 50 states, the District of Columbia, American Samoa, Guam, and Puerto Rico. CNMs are defined as primary care providers under federal law. Although midwives are well known for attending births, 53.3% of CNMs identify reproductive care and 33.1% identify primary care as their main responsibilities in their full-time positions (Fullerton et al., 2010). Examples include performing annual exams; writing prescriptions; providing basic nutrition counseling, parenting education, and patient education; and conducting reproductive health visits. According to the AMCB, there are 11,826 CNMs and 101 CMs in practice in the United States. Since 1991, the number of midwife-attended births in the United States has nearly doubled. In 2019, CNMs/CMs attended 92% of all midwife-attended births. Of this, 14% were vaginal births with the number increasing to nearly 16% in 2020 (see **Figure 1-3**).

The majority of midwife-attended births occur in hospitals, yet some occur at home and in freestanding birth centers. The percentage of U.S. births that occurred at home increased by 29%, from 0.56% of births in 2004 to 0.72% in 2009. Sixty-two percent of home births were attended by midwives: 19% by certified nurse–midwives and 43% by other midwives (such as certified professional midwives or direct-entry midwives). Among hospital births, only 7%

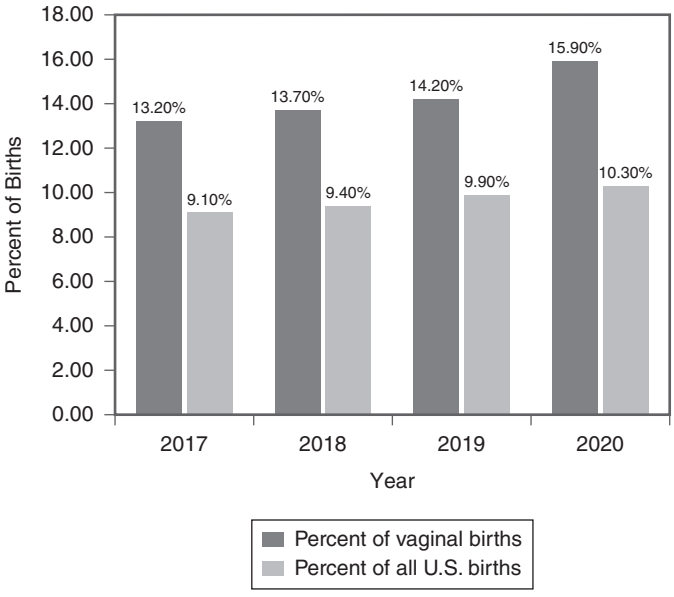


**Figure 1-3** Birth data from 2017 to 2020.

Reproduced with permission from American College of Nurse-Midwives. (2022, April). *Fact sheet: Essential facts about midwives*. Retrieved from https://www.midwife.org/acnm/files/cclibraryfiles/filename/0000000008273/EssentialFactsAboutMidwives_Final_2022.pdf

were attended by midwives (National Center for Health Statistics, 2012).

Allowing CNMs to have hospital privileges as full, active members of the medical staff would promote continuity of care, and birth certificate data would more accurately reflect provider type and outcomes (Buppert, 2021). Medicaid reimbursement for midwifery care is mandatory in all states and is 100% of the physician fee schedule under the Medicare Part B fee schedule. The majority of states also mandate private insurance reimbursement for midwifery services. It is clear that nurse–midwives have improved primary healthcare services for women in rural and inner-city areas. It is imperative that nurse–midwives be given a larger role in delivering women's health care for the greater good of society.

## Nurse Anesthetists

According to the American Association of Nurse Anesthetists (AANA), nurses have been providing anesthesia services to patients in the United States for more than 150 years. The first anesthesia administered to patients was chloroform, used for the treatment of wounded soldiers during the American Civil War. The shortages of physicians qualified to administer anesthesia during wartimes continued, and nurse anesthetists were the main providers of anesthesia care for U.S. military personnel on the front lines for World War I, World War II, the Korean War, and the Vietnam War; nurse anesthetists also provide care in the current conflicts in the Middle East (Keeling, 2009).

Historically, nurse anesthetists have been the primary providers of anesthesia care in rural America, enabling healthcare facilities in medically underserved areas to offer obstetric, surgical, pain management, and trauma stabilization services. In some states, CRNAs are the sole providers in nearly 100% of rural hospitals. According to the Bureau of Labor Statistics (2021), there are 43,950 employed CRNAs in the United States, with the highest employment rates in the states of Texas, Florida, Minnesota, and New York, respectively. Nurse anesthetists enjoy a higher mean annual wage than their nurse practitioner and nurse–midwife counterparts of $195,610 versus $120,680 (NPs) versus $112,830 (CNMs) (Bureau of Labor Statistics, 2022).

The credential CRNA came into existence in 1952 when the AANA established an accreditation program to monitor the quality and consistency of nurse anesthetist education (Keeling, 2009). Today, CRNAs safely administer 45 million anesthetics to patients each year in the United States, according to the AANA 2020 Member Profile Survey. The scope and standards of practice for CRNAs are similar to those for other APRNs. Nurse anesthetists are licensed as independent practitioners, and they provide care autonomously and in collaboration with surgeons, dentists, podiatrists, and anesthesiologists, among other healthcare professionals. CRNAs provide evidence-based anesthesia and pain care services to patients at all acuity levels in a variety of settings for procedures, including, but not limited to, surgical, obstetric, diagnostic, therapeutic, and pain management (AANA, 2020). Currently, CRNAs are qualified and have the legal authority to administer anesthesia without anesthesiologist supervision in all 50 states, the District of Columbia, Puerto Rico, and the Virgin Islands; however, some states have put into place restrictions and supervisory requirements in some settings (AANA, 2022).

## Nurse Administrators

The term *nurse administrators* is being used to simplify the following discussion. This includes such roles as the nurse executive, leader, supervisor, director, nurse manager, and so forth. Because individuals in these roles are responsible for leading a successful work environment, it is ironic that educational requirements for nurse administrators are not as demanding as those for other advanced

**Table 1-3 Educational Requirements for Nurse Administrator Certifying Organizations**

| | American Nurses Credentialing Center | American Organization of Nursing Leadership |
|---|---|---|
| The Certified Nurse Manager and Leader (CNML)<br>The ANCC Nurse Executive board certification examination | Hold a bachelor's or higher degree in nursing | Bachelor's degree in nursing or nonnursing field with role experience criteria |
| The Certified in Executive Nursing Practice (CENP)<br>*NEA-BC (Nurse Executive Advanced-Board Certified)* | Hold a master's or higher degree in nursing or hold a bachelor's degree in nursing and a master's in another field | Master's degree or higher or bachelor's in nursing with role experience criteria |

Data from American Nurses Credentialing Center (ANCC). (2022). ANCC certification center. Retrieved from https://www.nursingworld.org/our-certifications / & American Organization for Nursing Leadership (AONL). (2022). AONL credentialing center certification programs. Retrieved from https://www.aonl.org /initiatives/certification

practice roles. The knowledge, skills, and attitudes needed to be successful as a nurse administrator are not included in nursing baccalaureate programs, let alone associate degree/diploma programs, yet some of these exams are offered to experienced nurse managers without a baccalaureate and/or master's degree, as noted in **Table 1-3**.

There are two organizations that certify nurse administrators: the American Nurses Credentialing Center and the American Organization for Nursing Leadership. Both offer certification exams in basic and advanced/executive nursing administration. To reflect its commitment toward creating an environment inclusive of all nurse leaders, the American Organization of Nurse Executives developed a revitalized brand and changed its name to the American Organization for Nursing Leadership. This new brand embraces education, advocacy and community recognizing the diverse network of nurse leaders who serve in hospitals, health systems, and academic and other care settings across the care continuum (AONL, 2019). Years and levels of experience vary for each certification exam and can be accessed on their websites (ANCC, n.d.; AONL, n.d.a).

Further complicating the preparation of nurse administrators are the following practices by many organizations:

- Promoting good "bedside" nurses to managerial positions without assessing or developing their leadership abilities
- Weak orientation/on-the-job training for new nurse administrators
- No requirements for an advanced degree for the position

# Conclusion

A national initiative exists to improve access to high-quality health care while reducing costs. This mandate will require the emergence of many new roles not yet imagined for nurses. Recently, new roles to serve as coordinators of care, such as nurse navigators and healthcare coaches, have been established. In the future, these roles may require advanced degrees and certification. Opportunities for nurses to coordinate care throughout the continuum of care are likely to abound. The aging population will require nurses to be chronic disease specialists and wellness coaches. Population health, gender-specific health care, and global

health specialties will become the norm. An understanding of the healthcare delivery system, healthcare policy, and care transition will need to be incorporated into graduate curricula. Currently there is a push to expand and clarify the definition of and requirements for advanced practice nursing. No matter the final outcome of this deliberation, all nurses need the same set of essential knowledge and the ability to think outside the box.

## Discussion Questions

1. What are the differences between the terms *advanced practice nursing* and *advanced practice registered nurse*?
2. What emerging roles should be considered when describing advanced practice nursing?
3. Why was the APRN consensus model developed, and what does it hope to do for the provision of health care?

## References


American Association of Colleges of Nursing. (2004). *AACN position statement on the practice doctorate in nursing*. www.aacnnursing.org/Portals/42/News/Position-Statements/DNP.pdf

American Association of Colleges of Nursing. (2006). *The essentials of doctoral education for advanced nursing practice*. www.aacnnursing.org/Portals/42/Publications/DNPEssentials.pdf

American Association of Colleges of Nursing. (2011a). *The essentials of master's education in nursing*. www.aacnnursing.org/portals/42/publications/mastersessentials11.pdf

American Association of Colleges of Nursing. (2011b). *2010–2011 enrollment and graduations in baccalaureate and graduate programs in nursing*. Author.

American Association of Colleges of Nursing. (2013). *Competencies and curricular expectations for clinical nurse leader education and practice*. www.aacnnursing.org/Portals/42/AcademicNursing/CurriculumGuidelines/CNL-Competencies-October-2013.pdf

American Association of Colleges of Nursing. (2014). *AACN Essentials*. Retrieved from https://www.aacnnursing.org/Education-Resources/AACN-Essentials

American Association of Colleges of Nursing. (2021, April 7). *Bold action taken to transform nursing education and strengthen the nation's healthcare workforce*. www.aacnnursing.org/News-Information/Press-Releases/View/ArticleId/24807/AACN-Approves-New-Essentials

American Association of Nurse Anesthetists. (2020). *Professional practice documents: Scope of nurse anesthesia practice*. www.aana.com/docs/default-source/practice-aana-com-web-documents-(all)/scope-of-nurse-anesthesia-practice.pdf

American Association of Nurse Anesthetists. (2022). *Certified registered nurse anesthetists fact sheet*. https://www.aana.com/membership/become-a-crna/crna-fact-sheet

American Association of Nurse Practitioners. (2022). *NP fact sheet*. www.aanp.org/about/all-about-nps/np-fact-sheet

American College of Nurse-Midwives. (2022, April). *Fact sheet: Essential facts about midwives. Retrived from* https://www.midwife.org/acnm/files/cclibraryfiles/filename/000000008273/EssentialFactsAboutMidwives_Final_2022.pdf

American Nurses Credentialing Center. (n.d.). *Our certifications*. Retrieved May 16, 2022, from www.nursingworld.org/our-certifications/

American Organization for Nursing Leadership. (n.d.a). *AONL Credentialing Center Certification Programs*. Retrieved May 16, 2022, from www.aonl.org/initiatives/certification

American Organization for Nursing Leadership. (n.d.b). *AONL nurse leader competencies*. www.aonl.org/resources/nurse-leader-competencies

American Organization for Nursing Leadership. (2019, April 11). *Press release: AONE changes name to foster inclusivity*. www.aonl.org/aone-changes-name-foster-inclusivity

APRN Consensus Work Group & National Council of State Boards of Nursing APRN Advisory Committee. (2008, July 7). *Consensus model for APRN regulation: Licensure, accreditation, certification and education. APRN Joint Dialogue Group Report*. www.aacnnursing.org/Portals/42/AcademicNursing/pdf/APRNReport.pdf

Buppert, C. (2021). Hospital privileges. In C. Buppert, *Nurse practitioner's business practice and legal guide* (7th ed.). Jones & Bartlett.

Bureau of Labor Statistics. (2021). *Occupational employment and wages, 29-1151. Nurse anesthetists*. U.S. Department

of Labor. Retrieved May 16, 2022, from www.bls.gov/oes/current/oes291151.htm

Bureau of Labor Statistics. (2022). *Occupational outlook handbook: Nurse anesthetists, nurse midwives, and nurse practitioners*. U.S. Department of Labor. Retrieved May 16, 2022, from www.bls.gov/ooh/healthcare/nurse-anesthetists-nurse-midwives-and-nurse-practitioners.htm

Commission on Nurse Certification. (2021). *American Association of Colleges of Nursing (AACN) institutional data*. www.aacnnursing.org/Portals/42/CNL/CNLStats.pdf

Frontier Nursing University. (2021). *History of Frontier Nursing University.* https://frontier.edu/about-frontier/history-of-fnu/

Fullerton, J., Schuiling, K., & Sipe, T. A. (2010). Findings from the analysis of the American College of Nurse-Midwives' membership surveys: 2006–2008. *Journal of Midwifery and Women's Health*, *55*, 299–307.

Fulton, J. S. (2014). Evolution of the clinical nurse specialist role and practice in the United States. In J. S. Fulton, B. L. Lyon, & K. A. Goudreau (Eds.), *Foundations of clinical nurse specialist practice* (2nd ed., pp. 1–16). Springer.

Institute of Medicine. (2011). *The future of nursing: Leading change, advancing health*. National Academies Press. http://books.nap.edu/openbook.php?record_id=12956&page=R1

Keeling, A. W. (2009). A brief history of advanced practice nursing in the United States. In A. B. Hamric, J. A. Spross, & C. M. Hanson (Eds.), *Advanced practice nursing: An integrative approach* (4th ed., pp. 3–32). Elsevier.

McClelland, M., McCoy, M., & Burson, R. (2013). Clinical nurse specialists: Then, now, and the future of the profession. *Clinical Nurse Specialist*, *27*(2), 96–102.

National Association of Clinical Nurse Specialists. (2005). *Statement on clinical nurse specialist practice and education* (2nd ed.). Author.

National Association of Clinical Nurse Specialists. (2016). *CNS scope of practice and prescriptive authority*. http://nacns.org/wp-content/uploads/2016/11/PractPrescAuthority1605.pdf

National Association of Clinical Nurse Specialists. (2018). *Statement on clinical nurse specialist practice and education*. (3rd ed.). http://nacns.org/wp-content/uploads/2018/05/3rd-Edition-Statement-on-Clinical-Nurse-Specialist-Practice-and-Education-2018-line-numbers.pdf

National Center for Health Statistics. (2012). Home births in the United States, 1990–2009. https://www.cdc.gov/nchs/products/databriefs/db84.htm

National Center for Health Workforce Analysis. (2016). *National and regional projections of supply and demand for primary care practitioners: 2013–2015*. U.S. Department of Health and Human Services, Health Resources and Services Administration. https://bhw.hrsa.gov/sites/default/files/bureau-health-workforce/data-research/primary-care-national-projections-2013-2025.pdf

National Center for Health Workforce Analysis. (2017). *Supply and demand projections of the nursing workforce: 2014–2030*. U.S. Department of Health and Human Services, Health Resources and Services Administration. https://bhw.hrsa.gov/sites/default/files/bureau-health-workforce/data-research/nchwa-hrsa-nursing-report.pdf

National CNS Competency Revision Task Force. (2018). *Core clinical nurse specialist competencies*. http://nacns.org/wp-content/uploads/2018/05/Core-Competencies-CNS-Table-2-2018-line-numbers.pdf

National League for Nursing. (2002). *Position statement: The preparation of nurse educators*. www.nln.org/docs/default-source/uploadedfiles/about/archived-position-statements/the-preparation-of-nurse-educators-pdf.pdf

National League for Nursing. (2007). *Position statement: The need for funding for nursing education research*. www.nln.org/docs/default-source/uploadedfiles/about/the-need-for-funding-for-nursing-education-research.pdf

National League for Nursing. (2016). *Achieving diversity and meaningful inclusion in nursing education. A living document from the National League for Nursing*. www.nln.org/docs/default-source/uploadedfiles/professional-development-programs/vision-statement-achieving-diversity.pdf

National League for Nursing. (2017). *Faculty vacancies (full-time equivalents) by program. NLN Faculty Census Survey*. www.nln.org/docs/default-source/uploadedfiles/default-document-library/faculty-vacancies-full-time-equivalents-by-program-2017.pdf

National League for Nursing. (2022). *Year of the nurse educator*. https://yearofnurseeducators.org/#NURSEEDUCATOR

National Organization of Nurse Practitioner Faculties. (2022). *Standards for quality nurse practitioner education* (6th ed.). A report of the National Task Force on Quality Nurse Practitioner Education. www.nonpf.org/page/NTFStandards

Organization of Nurse Leaders. (2022). *The nursing workforce: Challenges and solutions during the COVID era*. https://onl.memberclicks.net/assets/docs/ONLWorkforceReportJan2022/ONL_Workforce_Report_Jan2022.pdf