White Paper on Advanced Practice Registered Nurses
Advanced Practice Committee
SC Board of Nursing
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Executive Summary
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Cost, affordability, and access to quality care are complicated issues that have been linked to a myriad of concerns including impediments to scope of practice, a lack of available health care providers, inability of consumers to pay for health care/insurance, geographic locations, and transportation issues. The United States faces many health financial challenges with one of the largest being how to provide its citizens with access to affordable healthcare while maintaining high quality care. In response to this challenge, states are revamping delivery models, re-designing insurance pools, recruiting students to select healthcare professions, developing health insurance exchanges, and expanding scopes of practice for health professionals.

In October 2010, the Institute of Medicine issued a report titled, *The Future of Nursing: Leading Change, Advancing Health* (IOM Report). The report concluded that healthcare professionals with a history of providing excellent quality of care, like Advanced Practice Registered Nurses (APRNs), should not be limited or prohibited from practicing to the full extent of their education, training, and competencies. As the IOM report indicates, "No studies suggest that care is better in states that have more restrictive scope-of-practice regulations for APRNs than in those states that do not." The report recommends that states, federal agencies, and healthcare organizations should remove scope of practice barriers to improve access to care. Such barriers, for example, hinder APRNs from practicing to the full extent of their education and training in order to provide access to care.

In spite of the abundance of data which documents that APRNs deliver safe, effective, and high quality care, South Carolina laws and polices prevent APRNs from practicing to the fullest extent of their education, training, and experience to increase access to care. Because of this, South Carolinians are faced with road blocks concerning their healthcare, which prevents many from accessing quality affordable healthcare from APRNs. These road blocks are found not only in statutes and regulations, but also in institutional policies that mandate physician involvement or oversight. Moving to independent/autonomous licensure will remove barriers to care that have been created because of the dependent role. However, recognition as an autonomous provider underscores the need for all professionals to collaborate interdependently while recognizing the similarities and differences of each professional role and the unique contributions of each professional to the healthcare team.

The purposes of the White Paper on Advanced Practice Registered Nursing (APRN) are to give a brief snapshot of the State-of-the-State Health Status of SC, define the roles of the APRN, synthesize the literature review on the quality of care, effectiveness, safety, and credentials of the APRN to practice at the highest level, and highlight impediments to APRN practice and the patient's access to care. Solutions are offered within the White Paper to remove practice and access barriers. These solutions will involve changes to the Nurse Practice Act.

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Introduction

Cost, affordability, and access to quality care are complicated issues that have been linked to a myriad of concerns including impediments to scope of practice, a lack of available health care providers, inability of consumers to pay for health care/insurance, geographic locations, and transportation issues.[133, 134] Challenges for the United States are to provide citizens quality health care in affordable and accessible terms but control costs. According to government data, health care spending in 2006 exceeded $2 trillion, an amount that triples the amount spent in 1990 ($714 billion).[132] National organizations such as the Institute of Medicine, the Kellogg Foundation, and the US Department of Public Health are urging policy makers to revamp the healthcare system for improved access to affordable quality care, while controlling costs.[41]

Additionally, professional organizations are stressing the need for changes in the healthcare delivery system for improved access to affordable quality care. Of particular interest is the area of expanding scope of practice for health care providers in order to increase access to affordable quality care.[41, 134] Advanced practice registered nurses (APRNs) have had a keen interest in expanding scope of practice in order to provide affordable, timely, and more efficient access to quality care for their consumers.

In South Carolina, there are four categories of APRNs. These are Certified Nurse Practitioners (NP), Certified Registered Nurse Anesthetists (CRNA), Certified Nurse Midwives (CNM), and Clinical Nurse Specialists (CNS). Currently, there are 2253 APRNs practicing in SC. Of these, there are 841 CRNAs, 1282 NPs, 55 CNS, and 75 CNMs.[130]

State-of-the-State: Snapshot of the Health Status of South Carolina

In SC, 42 out of 46 counties or parts of all SC counties are designated by the federal government as medically underserved and/or underserved for health manpower.[123-127] The rate of uninsured individuals in South Carolina exceeds that of the rest of the nation with 16% uninsured in SC as compared to 13.5% to the US.[123-127]

Despite efforts both nationally and regionally emphasizing primary care health care access, the population's health care status remains very poor. In fact, the health status of South Carolina counties ranks among the worst in the nation.[123-127] Findings indicate, for example, increased South Carolina death rates for heart disease, diabetes, Alzheimer's, and infant mortality.[100-113, 123-127] According to the data, 34% of children ages 10-17 in South Carolina are considered overweight or obese as compared to 32% of children nationally.

More specifically, SC had nearly 17 AIDS cases per 100,000 people as compared to 12.5 cases per 100,000 nationally. In 2007, 6.2% of deaths in South Carolina were due to cerebral vascular events, whereas nationally less than 6% of deaths were due to strokes. In 2007 the leading cause of death in South Carolina was heart disease. Six percent of rural South Carolinians have heart disease with 192.7 deaths per 100,000. Other statistics show that 10.1% of South Carolinians have diabetes mellitus.[101-113]

Definitions and Types of APRNs, including Education and Roles

Certified Nurse Practitioners (NPs) are high quality primary and acute care health care providers who practice in primary care, ambulatory, acute care, specialty care, and long term care settings. As of 1995, these registered nurses are required to complete graduate degrees (masters or doctorate) in advanced practice nursing and have specialized clinical training and education in physical assessment, diagnosing, and prescribing therapeutic interventions including medication, therapies, and patient education for patients across the lifespan. They conduct research, develop health policy, translate evidence based clinical guidelines into practice, and serve as leaders in health care settings for quality improvement in patient outcomes.

Certified Registered Nurse Anesthetists (CRNAs) are high quality anesthesia providers who practice in hospitals caring for surgical and obstetrical patients, ambulatory surgery centers, and office based settings. As of 1995, these registered nurses are required to complete graduate degrees (masters or doctorate) in advanced practice nursing and have specialized clinical training and education in anesthesia care during the pre, peri, and post-operative periods. They conduct research, develop health policy, translate evidence based clinical guidelines into practice, and serve as leaders in health care settings for quality improvement in anesthesia patient outcomes.

Certified Nurse Midwives (CNMs) are high quality women's health providers who practice in primary care, ambulatory, and acute care settings for comprehensive gynecological and obstetrical care, including deliveries. As of 1995, these registered nurses are required to complete graduate degrees (masters or doctorate) in advanced practice nursing and have specialized clinical training and education in physical assessment, diagnosing, and prescribing therapeutic interventions including medication, therapies, and counseling for women across the lifespan. They conduct research, develop health policy, translate evidence based clinical guidelines into practice, and serve as leaders in health care settings for quality improvement in women's health outcomes.

Clinical Nurse Specialists (CNS), recognized in the advanced practice role, are high quality care health providers who practice in primary care, ambulatory, and acute care settings in a variety of roles, including mental health. These are registered nurses with graduate degrees (masters or doctorate) in advanced practice nursing who have specialized clinical training and education in physical assessment, diagnosing, and prescribing therapeutic intervention including therapies and mental health counseling for families and patients. They conduct research, develop health policy, translate evidence

based clinical guidelines into practice, and serve as leaders in health care settings for quality improvement, most notably in psychiatric settings.

Nationally and in South Carolina, APRNs practice in a variety of settings such as outpatient clinics, private physician offices, nurse practitioner-managed centers/practices, specialty practices (examples: cardiology, heart failure clinics, oncology, neurosurgery), rural health care centers, outpatient surgery centers, homeless shelters, teen clinics, mental health settings, prison clinics, hospice, and hospitals.[1] In South Carolina, there are approximately 2253 advanced practice nurses, and 50% provide services in rural areas or to underserved populations.[1,3] The trend, regardless of practice location, is for many advanced practice nurses to transcend their role across many settings that include acute, primary, hospice, and long term care.[31]

In spite of the scope of practice restrictions, the South Carolina Board of Nursing has over the years supported the expansion of the scope of practice for increased autonomy for APRNs. This support has been driven by the demand for the services of advanced practice nurses in SC. For example, the Board of Nursing has authorized Nurse Practitioners and Certified Nurse Midwives to prescribe controlled substances in schedules 3-5 and to request, receive, sign, and distribute professional medication samples as appropriate.[32-33]

With the increase in scope of practice, the South Carolina Board of Nursing requires that all advanced practice nurses who graduate after 1995 must hold at least a master's degree and comply with all National Certification requirements for continuing education and practice.[33-34] Additionally, advanced practice nurses (NPs and CNMs) must obtain at least twenty (20) hours of continuing education in pharmacotherapeutics, with two (2) of those hours in controlled substances every two (2) years as a requirement to maintain the prescriptive authority license.[33] Credentialing organizations require up to 150 hours of continuing education in a five year period and direct patient care up to 1500 hours. These Board of Nursing approved organizations are listed on the SC Board of Nursing website.[150]

Purposes of the White Paper

The purpose of the White Paper is to synthesize the research on the quality of care, effectiveness, safety, and credentials of the advanced practice registered nurse to practice at the highest level in order to provide access to affordable quality care. This White Paper will define the roles of the APRN, and also clarify the issues related to the scope of practice restrictions on advanced practice registered nurses and the impact on patient care delivery.

In spite of data which documents that APRNs deliver safe, effective, and high quality care, the legal limitations of supervision, the 45 mile restriction, and the inability of APRNs to prescribe to the fullest extent of their education continue to impede access to affordable quality care to the citizens of SC. These road blocks are found in statutes and regulations governing the practice of nursing as well as institutional policies that

mandate physician involvement because the Nurse Practice Act stipulates that APRNs must have physician supervisors. Examples of such impediments that impede access to care include but are not limited to:

- the inability of NPs to order disability stickers for disabled patients
- the inability to order durable medical equipment (DME)
- closure of NP practices due to the loss of a physician consultant resulting in the loss of care to a community, job losses, and financial bankruptcy to the NP
- the inability to place patients on home bound care
- the inability to certify hospice patients needing Medicare (CMS) certification for ongoing hospice care.
- the inability to place patients in hospice
- inability to order home health care
- inability to order controlled medications Class Two (2) for patients needing pain management or selected psychotropic medication, even in acute care facilities
- inability to certify patients needing disability
- inability to enroll as a provider in some payer systems
- inability to obtain hospital privileges
- inability to certify patients needing long term care
- inability to sign for samples with some pharmaceutical companies
- inability to care for patients that are in enrolled payer systems that refuse to credential or reimburse APRNs as providers
- inability to refer patients for diagnostic testing to selected diagnostic and hospital facilities
- inability to obtain diagnostic reports from selected diagnostic and hospital facilities
- inability to enroll as NP solo practices within the Medical Home Network
- surgical physicians fear legal retribution and increased liability because of the required physician signature on the anesthesia record
- physicians fear legal retribution and increased liability because of the required physician signature on the APRN Prescriptive Authority licensure application and Annual Protocol Collaborative Agreement.

What is the Difference in the Cost of Physician and APRN Education?

There is a huge cost difference between educating an advance practice nurse and a physician. Much of this cost, approximately $9 billion dollars per year in the United States, is paid through Medicare for graduate medical physician education while all of nursing only receives $500 million dollars per year. Approximately 10 nurse anesthetists can be educated for the cost of educating one anesthesiologist. The cost of educating a CRNA is about $161,809 while a physician anesthesiologist education and residency training is around $1,083,795.[129] It is often noted that both the CRNA and physician anesthesiologist perform similar functions.

The estimated cost of educating a NP is about $30,700 (three years of graduate NP school) versus the estimated total cost of educating a primary care physician at about $200,000 (four (4) years of medical school plus three (3) years of family practice internship/residency). NPs can complete an additional three years for a clinical doctorate at about another $40,000.

Fortunately, most APRN students in the NP, CNM, CRNA, and Clinical Doctorate Programs can continue to work part time. Typical differences and similarities between physician and APRN education are highlighted by the following Table 1.

Table 1: APRN and Physician Education

APRN	Physician
Complete 4 year Undergraduate Baccalaureate Degree in Nursing	Complete 3 to 4 years of Undergraduate work before entering Medical School.
Complete 3 years of APRN education. Students graduate with a master's degree in APRN specialty. a. Course work includes: advanced pathophysiology advanced health assessment advanced physical assessment advanced pharmacotherapeutics advanced diagnostics advanced management of family practice advanced management of acute care advanced management of women's health advanced management of pediatrics advanced management of anesthesia care advanced management of psychiatric care b. Clinical practicum over three years totaling at least 1000 hours where by the APRN student is managing the patient	Complete 4 years of Medical School. Students graduate with a medical degree. a. Course work includes: anatomy physiology histology advanced diagnostics advanced assessment Observation rotations in areas of medicine: pediatrics internal medicine obstetrics-gynecology surgery psychiatry b. Senior year clinical practicum involves shadowing and observation of preceptors who may be Nurse Practitioners, CRNAs, CNMs, and physicians.
Complete a Doctorate Degree involving 3-4 years of full time education. a. Intensive clinical focusing on an area of selected practice for at least 3 years. b. Clinical hours are approximately 1000 per year.	Complete a residency in area of practice (i.e.: Pediatrics, Internal Medicine, Family Practice, Women's Health, Anesthesia Care) involving at least 3 years a. Intensive clinical focusing on an area of selected practice for at least 3 years. b. Clinical hours are approximately 1850 per year.

APRN Quality of Care: What Does the Literature Demonstrate?

Quality of care, usually measured in terms of patient outcomes or adherence to evidence based guidelines, is an important component in understanding the potential advantages and disadvantages of using APRN delivery models to provide care.

For example, the body of evidence demonstrates that Nurse Practitioners provide exceptional quality care and the prescribing practices are safe and typically more conservative, even when APRNs are practicing independently.[3, 11, 20-30, 44] Studies demonstrate that the care is excellent and comparable to or exceeds physician care in following standard evidence based guidelines. Data also shows that patient health outcomes are improved and patient satisfaction is high with NP care.[3, 11, 20-30, 42-49, 51-58] This data is especially important because many primary care offices and rural areas depend on the NP to increase access to care.

For CRNAs, the research shows no significant differences in rates of anesthesia complications or mortality between CRNAs and anesthesiologists. This includes delivering care to the obstetrical patient's need of anesthesia care.[114-120] Furthermore, sixteen (16) states have opted out of the Medicare requirement for physician supervisors fro CRNAs. Mortality and complication rates for anesthesia care provided by the CRNAs in those states did not vary between the period before opting out and the period after. According to the investigators, data does not support the hypothesis that patients are exposed to increased surgical risk if nurse anesthetists work without physician supervision.[128] There simply is no evidence to support the claims that physician supervision is necessary. This data is especially important because many rural hospitals depend on the CRNAs to deliver anesthesia in order to increase access to surgical care.

In addition to reviewing the evidence from the literature for CRNA care, healthcare claims and discharge data were used to assess adverse anesthesia outcomes including death and anesthesia complications. Anesthesia complications were identified using the International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM) diagnosis codes. The Ingenix national database contains integrated medical and financial claims data from commercial payers in 2008. A total of 52,636 claims that included anesthesia were reviewed. There were no complications arising from anesthesia from independent/autonomous CRNAs in these claims.[121-122] The National Survey of Ambulatory Surgery (2006) contains information about surgical and non-surgical procedures performed on an ambulatory (outpatient) basis in hospitals or freestanding ambulatory surgery centers for 2006. There are 52,233 sampled visits, representing almost 35 million total visits in the United States. Only one visit resulted in a complication from anesthesia. For that visit, anesthesia was provided by an anesthesiologist and a CRNA.[121-122]

Unfortunately, physician groups have argued to restrain the scope of practice of advanced practice nurses in providing comprehensive independent patient care. They have alluded to the diminished quality of care necessitating physician supervision and oversight. The substantive literature has demonstrated that this is not the case. Care provided by APRNs (NPs, CNMs, CRNAs) is safe, competent, cost effective, and increases access to care, even when these APRNs are independent/autonomous providers.

APRN Cost effectiveness: What Does the Literature Demonstrate?

Studies overwhelmingly demonstrate that advanced practice nurses (APRNs) increase access to care [2-20, 97] and provide cost effective care.[21-30, 96] Studies show reduced costs savings, even in independent roles, in both rural and urban settings and in major agencies and health care institutions such as the Veterans Administration Health System, Geisinger Health System, and Kaiser Permanente .[21-30, 41, 89] Other data indicate that APRNs (NPs) saved over $5,000 per patient in the Care Transition Model and reduced hospitalization and ER use by 50% in the Evercare Model in Texas, saving the state over $23 million in past two years.[145]

In U.S. retail clinics, where cost savings have been documented, nurse practitioners provide most of the care. But retail clinics have been slow to expand in states with more restrictive scope-of-practice regulations, such as SC. Research in Massachusetts shows that retail clinics and out-patient clinics using nurse practitioners to their fullest capacity saved the state $4.2 billion to $8.4 billion over the past 10 years and that greater use of retail clinics staffed primarily by nurse practitioners could save an additional $6 billion in the next five years.[89-90, 131]

In the above studies, cost effectiveness was demonstrated by savings in a variety of ways including reduced lab utilizations, reduced hospitalization rates, reduced annualized per member monthly costs in payer systems by almost 50%, reduced emergency use by patients, lower medication use in patients with chronic diseases but yet with improved outcomes, shorter hospital stays, and decreases in morbidity rates.[60-80]

APRN Safety: What Does the Literature Demonstrate?

Again, the literature review demonstrated that in the absence of physician oversight or supervision, advanced practice nurses (APRNs) are safe providers and prescribers, often proving to be more cautious, spending more time with the patient, and less likely to prescribe medication as the only therapy or intervention.[3, 11, 20-30, 98] According to the Office of Technology, APRNs can provide 80 to 90% of the care in primary care settings in a safe and comprehensive manner.[28]

As stated earlier, a survey was conducted for comparisons on anesthesia care as delivered by physicians and CRNAs. Of the 52,233 sampled visits, representing almost 35 million total visits in the United States in surgery care, only one visit resulted in a complication from anesthesia. For that visit, anesthesia was provided by an anesthesiologist and a CRNA.[121-122]

Evidence emanating from a wide body of literature show there are no data to indicate or suggest that APRNs in states that impose greater restrictions on APRN practice provide safer and better care than those in less restrictive states, or that the role of physicians in less restrictive states has changed or deteriorated. In fact the evidence overwhelmingly demonstrated that APRNs are safe providers, provide quality care, are cost effective, and patient satisfaction is high. [3,11,20-30, 42-49, 51-58, 60-80, 114-122] Moreover, APRNs possess the necessary skills, knowledge, and licensure requirements to practice in

many settings, in collaborative and independent roles. Finally, research in South Carolina shows that physicians overall trust the care given by APRNs and that patients have confidence in the APRNs' decision making.[3]

APRN Educational Preparation and National Certification: What Does the Literature Demonstrate?

Some physicians' organizations argue that the physicians' longer, more intensive training means that nurse practitioners cannot deliver health care services that are as high-quality or safe as those of physicians. Physicians' additional training, though, has not been shown to result in a difference from that of nurse practitioners' in the quality of primary care services but did prove to be very costly in terms of training, whom taxpayers subsidized.[41,49] As stated earlier, the total estimated cost of educating a CRNA is about $161,809. The estimated cost of education a physician anesthesiologist is about $1,083,795. The estimated cost of educating a NP is about $30,700 (3 years of NP school) versus the estimated total cost of educating a primary care physician at about $200,000 (4 years of medical school plus 3 years of family practice internship/residency). An additional three years of full time study to obtain a clinical doctorate for APRNs would add another $40,000 which is still less than the cost of physician training. Taxpayers usually bear the costs of educating APRNs and physicians since most public universities are supported in part by the state's General Fund budget, monies collected through various taxes.

Nationally, APRNs must obtain at least a master's degree in advanced practice nursing. As of 1995 in South Carolina, all APRNs must graduate with at least a master's degree. All graduate level APRN education systems are required to include a broad-based education in the role and in the population to be served.[81-85] The curriculum includes advanced physical assessment, advanced pharmacotherapeutics, and advanced pathophysiology. Additional required courses focus on researching and solving clinical problems using statistics, databases, and research design/methods. Core required clinical courses prove to be labor intensive with clinical (direct patent care) ranging 3-5 days per week for at least two (2) years focusing on patient care management at the advanced practice nursing level.[50, 81-85]

Curriculum must meet American Association of Colleges of Nursing (AACN) and Central Collegiate Nursing Education (CCNE) criteria for graduate education accreditation (masters and doctorate).[81] For CRNAs, curriculum must meet accreditation standards through the Council on Accreditation of Nurse Anesthesia Educational Programs.[50] Additionally, curriculum must meet the standards for advanced practice by the respective credentialing organizations, such as the National Organization of Nurse Practitioner Faculties (NONPF) and the Council on Certification of Nurse Anesthetists.[82-83] APRNs seeking clinical doctorates obtain another three years of clinical practice and study.

All graduate level APRN education programs or tracks go through a pre-approval, pre-accreditation, and ongoing accreditation process prior to admitting any students to that program or track. APRN educational programs must be housed within graduate

programs at Universities that are nationally accredited, and they must ensure that their programs adequately prepare their graduates to meet eligibility for national certification which leads to state licensure.[81-85]

As stated earlier, as of 1995 in South Carolina, APRNs must have graduated with a minimum of a master's degree in advanced practice nursing.[86] Of particular interest, by the year 2015, the standard for NPs will mandate a doctorate degree that will add additional clinical training and course work to address and improve patient outcomes. The APRN clinical doctorate is already in place at the University of South Carolina and the Medical University of South Carolina. Enrollments are full, given the anticipated mandate of 2015 to obtain a clinical doctorate.

In addition to the solid educational preparation for APRNs, is the requirement for national certification by the Boards of Nursing across the US. All APRNs in South Carolina must achieve and maintain national certification in the advanced practice nursing specialty.[86] Certification verifies that a professional has mastered a body of knowledge and competency for licensure. As a criterion for APRN licensure, the South Carolina Board of Nursing readily accepts the APRN graduate education and National Certification examinations for meeting APRN competency.[50] These organizations are listed on the Board of Nursing's website.[50]

APRN Regulation: What Does the Literature Report?

The critical factors limiting the APRNs capacity to practice to the fullest extent of their education, training, and competence are state based laws and regulations. States vary in terms of what they allow APRNs to do. States that have restrictive scope of practice laws for APRNs are not correlated with any performance measure of quality or safety.[88-89] Rather, scope of practice restrictions have been the result of political battles over turf. This is true in SC. Unfortunately, research shows that APRNs tend to move from more restrictive to less restrictive states, resulting in a loss of providers and access to care for patients.[41, 89-90]

A review of the states' laws governing APRNs shows that there are variations in several aspects of practice, including requirements for prescribing authority, oversight and chart reviews, and the maximum "collaboration ratios" for nurse practitioners working with physicians. According to Pearson (2011), a state-by-state analysis of APRN practice indicates that twenty-four (24) states recognize APRNs as licensed independent practitioners requiring no physician involvement, four (4) states require physician involvement but do not require a written protocol or collaborative agreement, and twenty-three states (23) require physician involvement (Appendix A).[146] SC law requires physician oversight and an annual collaborative protocol agreement.[86]

In some states, APRNs cannot certify home health care visits or length of stays in skilled nursing facilities or hospice, order durable medical equipment, admit patients to hospitals without a physician's supervision or collaborative agreement, or prescribe medications without physician oversight (Appendices A-C).[89, 92, 146] This is true in SC.[86]

APRNs in SC cannot place patients in hospice care or order durable medical equipment (i.e. diabetic shoes) because payers have interpreted that the APRN is dependent to the physician. Again, there is nothing in the literature that supports that APRNs are not competent to order equipment or place patients in hospice. However, payers have interpreted the APRN as dependent, and therefore require physician orders for durable medical equipment and placing patients in hospice. These restrictions place unnecessary burdens on patients seeking full care.

In SC, APRNs are required to collaborate with a supervising physician.[86, 146] Prescriptive authority is linked to physician approval and signature.[86] This has been problematic because if physicians move, retire, or change employment settings, the APRN no longer has the necessary physician to maintain prescriptive authority or provide care. This leads to APRN unemployment and the loss of a provider for a particular set of patients. As a result, access to care is diminished or reduced. Again, the literature overwhelming demonstrates that APRNs are safe prescribers and physician supervision for this activity is not warranted or justified.

In SC, CRNAs are required to have the supervising physician's name listed on the anesthesia record and written guidlines.[86 , 146] Again, this has been problematic, especially for rural areas needing anesthesia care, whereby surgeons fear patient liability relating to anesthesia since their name is listed on the anesthesia record. In 2001 the Centers for Medicare and Medicaid Services (CMS) allowed states to opt out of the requirement for reimbursement that a surgeon or anesthesiologist oversee the provision of anesthesia by certified registered nurse anesthetists (CRNA). By 2005, fourteen states had exercised this option. South Carolina did not opt out of this provision. An analysis of Medicare data for 1999–2005 finds no evidence that opting out of the oversight requirement resulted in increased inpatient deaths or complications. Based on these findings, the literature supports that CRNAs can work safely and competently to provide care without the supervision of a surgeon or anesthesiologist.[128]

In addition to the requirement for physician supervision, South Carolina NPs, CNMs, and CNS must adhere to a radius of 45 miles from the physician and a ratio of 3:1 (3NPs to 1MD) in practice settings.[86] There is nothing in the literature to support that this mileage or ratio is warranted, appropriate, safe, or reasonable. If the physician travels outside the 45 mile radius, the APRN cannot see patients, make rounds, or take call. This restriction is further compounded for those APRNs serving rural or underserved populations. The resulting scenario is that patients are not being served.

Over the past 18 years (since 1992 when APRNs were authorized by the Nurse Practice Act to prescribe), there have been very few cases of inappropriate prescribing by an APRN in SC.[32-33] Like physicians and other providers, there have been some cases involving impaired APRNs. In these cases, the Board of Nursing applies the same process and procedures for investigating and disciplining APRNs as does other regulatory health professions.[86] Disciplinary actions against licensees are posted on the Labor Licensing and Regulation website.[87]

Credentialing and payment are also linked to state regulations: more restrictive states are less likely than those allowing independent practice to credential nurse practitioners as primary care providers.[41, 90] In South Carolina, some payers will not credential NPs unless the supervising physician is credentialed as a provider. Examples of payers are United, Medcost, and Premier.[91] Also, some companies in SC purchase less expensive insurance from another state. That state may have restrictions of payment to APRNs who fall under supervision, which disallows APRNs to receive payment if the scope of practice requires physician supervision of APRNs. The resulting scenario is that patients are not being served.

In summary, in South Carolina APRNs are regulated by the Board of Nursing but the statutory limitations imposed on scope of practice and regulations often prove to impede care, access, and even employment.[3, 86] These obstacles include, but are not limited to:

- the inability of NPs to order disability stickers for disabled patients
- the inability to order durable medical equipment (DME)
- closure of NP practices due to the loss of a physician consultant/collaborator resulting in loss of care to a community, job losses, and financial bankruptcy to the NP
- the inability to place patients on home bound care
- the inability to certify hospice patients needing Medicare (CMS) certification for ongoing hospice care.
- the inability to place patients in hospice
- inability to order home health care
- inability to order controlled medications Class Two (2) for patients needing pain management or selected psychotropic medication, even in acute care facilities
- inability to certify patients needing disability
- inability to enroll as a provider in some payer systems
- inability to obtain hospital privileges
- inability to certify patients needing long term care
- inability to sign for samples with some pharmaceutical companies
- inability to care for patients that are in enrolled payer systems that refuse to credential or reimburse APRNs as providers
- inability to refer patients for diagnostic testing to selected diagnostic and hospital facilities
- inability to obtain diagnostic reports from selected diagnostic and hospital facilities
- inability to enroll as NP solo practices within the Medical Home Network
- surgical physicians fear legal retribution and increased liability because of the required physician signature on the anesthesia record
- physicians fear legal retribution and increased liability because of the required physician signature on the APRN Prescriptive Authority licensure application and Annual Protocol Collaborative Agreement.

The above access or care impediments are tied to the following that can be found in regulations, statute, or policies:

- the legal requirement for physician supervision that impedes or closes a practice, ordering equipment, placing high school students on homebound, referring patients for diagnostic testing, enrolling in payer systems, certifying patients for long term care needs, obtaining hospital privileges, certifying patients needing hospice care, etc.
- limitations in prescribing or delivering anesthesia care
- maximum of 45 mile distance from supervisor and APRN (NP, CNM and CNS)
- limited ratios of physicians to APRNs in practice settings

Recently in collaboration with the Robert Wood Johnson Foundation, the Institute of Medicine (IOM) recognized regulatory and institutional obstacles and limits on APRN's scope of practice as a major problem in access to care. The IOM (2010) recommends that these obstacles be removed so that the health system can reap the full benefit of the APRNs' training, skills, and knowledge in patient care for improved access to care and improved health status of the population.[41]

Case Law and the Captain of the Ship Doctrine and Liability

"Captain of the Ship Doctrine" is a doctrine that courts previously used to deem that a physician was liable for any negligence that occurred while they had "command" of the patient.[137] Over the years, courts have ruled that the doctrine was not credible with some states' courts citing that the doctrine was never applicable.[137] In other words, physicians were found not to be responsible for the other professionals' actions in the care of the patient.[138-139] Rather, the emphasis should be on team work, interdependent roles of providers, and the recognition of independent professionals.[139]

Thus, over the years case law has determined that the physician is not held responsible for the APRN's actions.[135-140] In fact, case law does not support the assertion that physicians are automatically responsible for a patient's outcome. For example, legal briefs cited that the surgeon or physician anesthesiologists are not responsible for the anesthesia outcome of a patient when anesthesia is delivered by the CRNA.[136-138, 140]

Pearson included, within her yearly assessment of APRN legislation and healthcare issues, statistics from the National Practitioner Data Bank (NPDB). The NPDB collects information about health care practitioners (APRNs, MD, & DO) as the result of judgments in malpractice suits or those who have entered into settlements as it relates to APRNs who were found responsible for their actions in the course of patient care and outcomes.[144] Pearson also includes the Healthcare Integrity and Protection Data Bank (HIPDB) report for NPs, Dos and MDs. Healthcare Integrity and Protection Data Bank collects data on adverse action reports (licensure, civil, or criminal actions). The HIPDB was created to combat fraud and abuse in health insurance and healthcare delivery.[144]

Pearson compared the rates of medical malpractice for NPs by state to the type of practice required by state law (independent practice vs. supervisory practice) to determine a relationship between autonomy in NP practice and malpractice claims. Data did not show any correlation between APRN autonomy scope of practice and an increase in rates of malpractice reported or judgments awarded ($p < .005$). However, the second highest NPDB reporting rate came from states that were more restrictive in APRN practice or those states requiring physician supervision.[144] The rates of malpractice for the three providers in the United States as of 2009 were as follows in Table 2:

Table 2: Comparison of NPDB and HIPDB Rates Among Providers: Two Years and the "Worst" States

	NPDB Ratio for NPs	NPDB Ratio for DOs	NPDB Ratio for MDs	HIPDB Ratio for NPs	HIPDB Ratio for DOs	HIPDB Ratio for MDs
Overall ratio for 2008	1:173	1:4	1:4	1:226	1:13	1:23
Overall ratio for 2009	1:166	1:4	1:4	1:215	1:14	1:20
2009 "Worst" state NPDB ratio for NPs: NEW MEXICO	**1:32**					
2009 "Worst" state NPDB ratio for MDs: LOUISIANA, MONTANA, NEW YORK, PENNSYLVANIA, and WEST VIRGINIA			**1:2**			
2009 "Worst" state HIPDB ratio for NPs: ALABAMA				**1:11**		
2009 "Worst" state HIPDB ratio for MDs: MARYLAND						**1:3**

Discipline and APRNs in SC

Disciplinary actions against APRNs that have occurred since 1993 are now posted on the Board of Nursing's website.[143] Approximately thirty-seven (37) APRNs have been disciplined since 1993. This averages to be two (2) APRNs per year who are disciplined by the Board of Nursing or less than 0.1% of the total licensed APRNs per year (denominator estimated to be 2000). Over the years, the number of APRNs disciplined overall also represents less than 0.1% (denominator 36,000 APRNs x 18 years). Typical infractions involved APRNs prescribing for non-patients, substance

abuse, or drug diversion for personal use. APRNs found to have substance abuse or drug diversion issues were ordered to enter the Recovering Professional Program. Table 3 shows the data for the past eighteen (18) years.

Table 3. South Carolina Discipline Data for APRNs 1993-2011: Represents less than 0.1% of total APRNs licensed in South Carolina per year. Represents less than 0.003% of the total RN licensees per year.
http://www.llr.state.sc.us/POL/Nursing/index.asp?file=FinalOrders/Alpha/Alphaorders

Year and Types of infractions	Numbers and # of APRNs disciplined
1999 One case involved a failure to provide evidence of National Certification 2004 One case involved a failure to obtain annual protocol 2005 One case involved inappropriate delegation. Two cases involved substance abuse/drug diversion and were ordered to enter RPP. 2006 Three cases involved substance abuse/diversion and were ordered to enter RPP. One case involved a medication error 2007 Three cases involved substance abuse/diversion and were ordered to enter RPP. 2008 One case involved a failure to renew APRN license on time. One case involved a failure to identify patient scheduled for surgery. 2009 Eight cases involving substance abuse and were ordered to enter RPP. One case involved obtaining medications for a physician planning a mission trip. 2010 One case involved a medication error. One case involved inappropriate delegation. Eight cases involved substance abuse/diversion and were ordered to enter RPP. 2011 One case involved entering into a person and financial relationship with a patient. Three cases involved substance abuse. One case involved writing prescriptions for non-patients.	1993 None 1994 None 1995 None 1996 None 1997 None 1998 None 1999 1 2000 None 2001 None 2002 None 2003 None 2004 1 2005 3 2006 4 2007 3 2008 2 2009 9 2010 10 2011 4

Broadening the Scope of Practice for APRNs

The Boards of Nursing in twenty-four states authorize APRNs to practice and prescribe independently and to the fullest extent based on level of education and credentialing (Appendices A-C).[146] Several other states are reconsidering their laws to allow independent practice and to adopt the Advance Practice Nurse (APRN) Model Act generated by the National Council of State Boards of Nursing.[88] Under such laws, APRNs practice independently and are accountable "for recognizing limits of knowledge and experience, planning for the management of situations beyond their expertise; and for consulting with or referring patients to other health care providers as appropriate."[88]

The trend toward revamping state regulatory scope of practice restrictions to increase access to care is propelled by recent reports from several blue-ribbon panels. In addition to the IOM report, which specifically targets regulatory barriers, several policy briefs from other organizations, including the Macy Foundation, support broader scope-of-practice boundaries. One of the largest consumer groups, the AARP (formerly the American Association of Retired Persons), also supports an expanded role for APRNs in primary care.[41]

Effective October 2011, the Department of Veterans Affairs (VA) will authorize APRNs to practice independently provided that the APRN has graduated from an accredited (AACN, CCNE) post-graduate program, attained national board certification in the APRN role, and demonstrated competence in their area of practice (i.e. family practice, adult general practice, women's health, anesthesia).[147-149] The impetus is to reduce variability in APRN practice across the VA healthcare system, be consistent with the IOM report recommendations to remove practice barriers and improve access, and to require health professionals to practice at the top of their education, experience, and competence.[147] Under Federal Law 38 USC 7402(b), the Department of Veterans Affairs is authorized to establish licensure requirements, qualifications, and scopes of practice for the employment of health professionals in the VA system.[148-149] The US Supreme Court has held that federal laws are supreme, and that States may not regulate or control the activities of the Federal Government or the activities of federal employees acting within the scope of their employment.[148-149] Thus, the VA Handbook for Nursing has been revamped to authorize APRNs as independent providers within the VA system effective October 2011.[147]

Evidence emanating from a wide body of literature demonstrate there are no data to indicate or suggest that APRNs in states that impose greater restrictions on APRN practice provide safer and better care than those in less restrictive states or that the role of physicians in less restrictive states has changed or deteriorated. In fact the evidence overwhelmingly demonstrates that APRNs are safe providers, provide quality care, are cost effective, and deliver a high degree of patient satisfaction, even in independent roles.[3,11,20-30, 42-49, 51-58, 60-80, 114-122] Moreover, APRNs possess the necessary skills, knowledge, and licensure requirements to practice in many settings, in collaborative and independent roles. Finally, research in South Carolina shows that physicians overall trust the care given by APRNs and that patients have confidence in the APRNs' decision making.[3]

In addition to the data on the quality of care from APRNs, the expected dramatic increase in demand for primary care services, and the impending shortage of primary care providers, there are several other reasons to improve state regulations in order to increase access to care.[95] First, effective implementation of delivery models, such as medical homes, nurse practitioner practices, and accountable care organizations are needed to handle the increase in chronic disease management and transitional care. This will require the establishment of interdisciplinary teams in which APRNs provide a range of services, from case management to health and illness management as independent APRNs.[41]

As an example, a new VA delivery model for increasing access to care and making care more efficient and cost effective will go into effect October 2011. This new model of delivery will authorize APRNs to practice independently within the VA system.[147-149] These APRNs will be managing patients in primary care and specialty outpatient clinics, VA nursing homes, hospice, and conducting case management.

Second, nurse practitioner education is supported by federal and state funding, and some report that health care systems are underutilizing a valuable government investment.[41, 93] Moreover, APRN training is the fastest and least expensive way to address the primary care shortage. Between three (3) and twelve (12) nurse practitioners can be educated for the price of educating one physician, and more quickly.[93] For CRNAs, the cost of educating a CRNA is half the cost of educating an anesthesia physician provider.[129]

Third, legal considerations also seem to favor revamping regulations. The Federal Trade Commission recently evaluated laws in three states and found several whose stringent requirements for physician supervision of advanced practice nurses are considered anticompetitive or foster an economic monopoly. The agency has also investigated and found state policies protect professional interests of physicians rather than consumers.[41]

Despite the robust rationale and supporting evidence for broadening APRNs' scope of practice, several medical organizations oppose the idea. The American Medical Association, the American Osteopathic Association, the American Academy of Pediatrics, the American Society of Anesthesiologists, and the American Academy of Family Physicians all support the requirement for direct supervision of APRNs by physicians.[94] Of interest, surveys of individual family practice physicians show that they trust and support the role of the APRN.[3, 99]

Fighting the expansion of APRN's scope of practice is no longer a defensible or economical viable strategy. The challenge is for all health care professionals, government regulators, and policy makers to embrace these changes and come together to improve U.S. health care.

In summary, this is a critical time to support an expanded standardized scope of practice for APRNs by removing state barriers to practice in order to increase access to care. Economic forces, poor health statistics, rising poverty demographics, the gap between supply and demand, and the expansion of care necessitate changes in health care delivery. A growing shortage of primary care providers demands that APRNs be required to practice to their fullest capacity. Research overwhelmingly supports that APRNs are safe, cost effective, and competent providers who possess the necessary training, knowledge, and skills to provide autonomous care.

APRN Scope of Practice: Suggestions for Change

In addition to changing the Nurse Practice Act, it is recommended that the Board of Nursing adopt the Consensus Model for Licensure, Accreditation, Credentialing, and Education.[151-152] The following represent proposed changes in the SC Nurse Practice Act for APRNs. The Advanced Practice Committee is looking forward to developing specific language changes in the Nurse Practice Act. Conceptually, the changes include:

1. Authorize APRNs to practice to the fullest extent based on their education and training
2. Remove all requirements and references to physician supervision
3. Expand prescribing to include Class 2
4. Remove all references to delegated acts
5. Redefine delegated acts as APRN acts
6. Remove all references to a protocol/guideline agreement and replace with evidence based guidelines
7. Remove all references to a ratio of APRNs to physician
8. Remove all references to a mileage requirement for APRNs practicing at a distance from physicians
9. Insert words “autonomous practice” for APRNs
10. Re-define APRNs as autonomous providers
11. Delete any references to a physician supervisor listed on the anesthesia record
12. Delete any references to physician signature on APRN documents for licensure and or practice

The timeline for mapping legislative changes in the Nurse Practice Act is targeted for 2013. Sufficient time is warranted to dialogue and achieve consensus for proposed language changes in the Nurse Practice Act. The South Carolina Nurses Association and the South Carolina Association of Nurse Anesthetists are looking forward to collaborating with each other and other groups and agencies to discuss and craft proposed changes to the Nurse Practice Act.

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Appendices and Fact Sheets

Appendix A

State-by-State Analysis

2011 PEARSON REPORT SUMMARY

	2011 Rank for Patient Access	Doctorate NP legally addressed as "Dr"?	NP title(s) used:	Physician involvement in NP Diagnosing & Treating?	Physician involvement in NP Prescribing?	# NP Programs	2011 NP Role Expansion?
ALABAMA	F	No restrictions	CRNP (APRN)	Written protocol – oversight & direction	Written protocol – drugs in formulary	8	No
ALASKA	A	No restrictions	APRN	NONE	NONE	1	APRNs can delegate injections of certain drugs to CMAs
ARIZONA	A	No restrictions if clarify NP	APRN	NONE	NONE	5	Certified PMHNPs may testify at Court Hearings & conduct evaluations
ARKANSAS	D	MPA Restrictions	APRN, RNP	APRN-none; RNP-protocols, supervision	APRN & RNP: CPA	3	No

CALIFORNIA	C	No restrictions if clarify NP	APRN, NP	SP developed collaboratively & signed	SP + protocol for CS II-III	23	No
COLORADO	A-	No restrictions	APRN, NP	NONE	NONE (after one time signed Articulated Plan)	5	BON clarified Articulated Plan; APRNs may now order DNR and more
CONNECTICUT	B	State Statute restrictions	APRN, NP	Required collaboration	Required written collaboration	8	No
DC	A	No restrictions	APRN, CNP, CRNP, NP	NONE	NONE	4	Incorporated statute for APRN; Transit Authority recognizes NPs
DELAWARE	C	No restrictions	APRN, CNP, CRNP	Written CA	Approval by BOM	2	Title protection

FLORIDA	F	No restrictions	APRN	Written protocol - supervision	Written protocol - supervision	15		No
GEORGIA	F	No restrictions if clarify NP	APRN,NP	Delegation via protocol	Under delegated medical authority	13		No
HAWAII	B	No restrictions if clarify NP	APRN,NP	NONE	Collaborative Agreement for CS only	3		SOP aspect of NCSBN adopted
IDAHO	B	No restrictions	APRN,NP	NONE	NONE	1	No	
ILLINOIS	D	No restrictions if clarify NP	APRN, CNP	Written CA	Delegation - CA	10		DEA approved delegated CS II prescribing
INDIANA	D	No restrictions	APRN,NP	Required collaboration in WPA	Required collaboration in WPA	12		No

IOWA	B	No restrictions	APRN, CNP,NP	ARNP: NONE required	ARNP: NONE required	5	Maintained (over BOM objection) fluoroscopy SOP; reimbursement strides
KANSAS	C	No restrictions	APRN	MD signed collaborative practice agreement	Written protocol	5	No
KENTUCKY	B	No restrictions if clarify NP	APRN,NP	NONE	Written CPA	10	Broadened 9 statutes to include APRNs; Rx regulation limiting some CS was expanded
LOUISIANA	D	No restrictions	APRN,NP	Written CPG within CPA	CPA: "direction" in CPG	8	No
MAINE	A-	State Statute Restrictions	APRN, CNP	NONE - after initial 2 years	NONE - after initial 2 years	3	Includes NP as clinicians to treat pain; removed “physician supervision” wording
MARYLAND	A-	No restrictions if clarify NP	APRN,NP	NONE – except BON Attestation Plan promising	NONE – except BON Attestation Plan promising	6	Huge SOP Expansion with Autonomy

				collaboration	collaboration		
MASS-ACHUSETTS	D	No restrictions	NP	Direction within written guidelines	Direction & supervision within WG	11	No
MICHIGAN	F	State Statute Restrictions	NP	NP functions under Public Health Code definition of Nursing; to “diagnose” is delegated by medicine	Delegation & supervision; CS by Delegation of PAG	10	No
MINNESOTA	C	No restrictions if clarify NP	APRN, CNP	"Collaborative Management"	Delegated via written agreement	6	No
MISSISSIPPI	C-	No restrictions	APRN, NP-BC	Required collaboration: protocol	Required collaboration: protocols	5	Prevented BOM control

MISSOURI	F+	No restrictions	APRN, NP	Delegation or WCPA	Delegation through WCPA	13	PT may receive NP referrals
MONTANA	A	No restrictions	APRN, NP	NONE	NONE	1	No
NEBRASKA	D+	No restrictions	APRN, NP	Collaboration, supervision per IPA	Collaboration, supervision per IPA	3	No
NEVADA	C	No restrictions	APRN	Collaboration with protocols	Collaboration with protocols	2	No
NEW HAMPSHIRE	A+	No restrictions	APRN	NONE	NONE	2	No
NEW JERSEY	B	No restrictions	APRN	NONE	Collaboration via joint protocol	10	NP defined as Primary Care Provider
NEW MEXICO	A	No restrictions	CNP,NP	NONE	NONE	3	No

NEW YORK	B	No restrictions if clarify NP	NP	Collaboration with WPA & WPP	Collaboration with WPA & WPP	28	DMV accepts NPs
NORTH CAROLINA	F	No restrictions	NP	Supervision & collaboration within CPA	Supervision & collaboration: CPA	8	Removal of refill restrictions
NORTH DAKOTA	C+	No restrictions	APRN,NP	NONE	Collaboration via CPAPA-PA	3	No
OHIO	C	MPA “restrictions”; NPs are using “Dr” with specialty clarification	CNP, CRNP	Collaboration via SCA	Collaboration via SCA	11	Primary Care includes NPs
OKLAHOMA	C	No restrictions if clarify NP	APRN, APN	NONE	Supervision via EF	1	No

OREGON	A+	No restrictions if clarify NP	NP	NONE	NONE	2	No
PENN-SYLVANIA	C	No restrictions if clarify NP	CRNP, APRN	Collaboration	Collaboration via written CA	23	Expanded sampling, dispensing, & refill rules
RHODE ISLAND	A	No restrictions	RNP	NONE	NONE	1	No
SOUTH CAROLINA	F	No restrictions if clarify NP	APRN,NP	Supervision via AWP	Supervision & delegation via AWP	3	No
SOUTH DAKOTA	D	No restrictions if clarify NP	CNP	Collaboration via approved CA	Collaboration via approved CA	1	No
TENNESSEE	C	No restrictions	APN,NP	NONE	Supervision via protocol, formulary	11	No

TEXAS	D	No restrictions if clarify NP	NP (+ specialty), APRN	Delegation & written authorization	Delegation & written authorization	21	No
UTAH	B	No restrictions if clarify NP	APRN, RNP,NP	NONE	NONE(Except Consultation for CS II-III only)	3	No
VERMONT	C	Statutory Restrictions	APRN	Collaboration via WPG	Collaboration via WPG	1	No
VIRGINIA	D	No restrictions if clarify NP	LNP, NP	Collaboration & direction via WP	Supervision via WPA	9	No
WASHING-TON	A+	No restrictions	ARNP, APRN	NONE	NONE	6	Specific rules for APRNs to be involved in pain management; APRNs can recommend medical marihuana
WEST VIRGINIA	C-	No restrictions	ANP	NONE	Collaboration: CA	4	BOM usurped legislative authority

					with WP or WG		
WISCONSIN	**C**	**No restrictions**	**APRN**	**Supervision & delegation**	**Collaboration & delegation**	**8**	**Added NPs to tort reform**
WYOMING	**A**	**No restrictions if clarify NP**	**APRN**	**NONE**	**NONE**	**1**	**No**

TABLE KEY:

NP – Nurse Practitioner
CRNP – Certified Registered Nurse Practitioner
ANP – Advanced Nurse Practitioner
RNP – Registered Nurse Practitioner
ARNP – Advanced Registered Nurse Practitioner
APRN – Advanced Practice Registered Nurse
APN – Advanced Practice Nurse
APNP – Advanced Practice Nurse Prescriber
APPN – Advanced Practice Professional Nurse
CNP – Certified Nurse Practitioner
LNP – Licensed Nurse Practitioner

IPA – Integrated Practice Agreement
WPP – Written Practice Protocol
CPAPA-PA – Collaborative Practice Affidavit
Physician Agreement - Prescribing Authority
SCA – Standard Care Arrangement
EF – Exclusionary Formulary
AWP – Approved Written Protocols
COF – Certificate of Fitness
WPG – Written Practice Guideline
WP – Written Protocol
MPA – Medical Practice Act

CPA – Collaborative Practice Agreement

SP – Standardized Procedure

CA – Collaborative Agreement

WRA – Work Relationship Agreement

WPA – Written Practice Agreement

CPG – Clinical Practice Guideline

WG – Written Guideline

PAG – Prescriptive Authority Agreement

WCPA – Written Collaborative Practice Arrangement

Column 1 lists an NP autonomy "grade" for each state based on the 2007 Consumer Choice Ranking of the state's NP regulation and on the Descriptive Ranking, a groundbreaking study that assessed the regulatory environment for NP practice and consumer healthcare choice for each state by evaluating NPs' legal capacity, patient access to NP services, and patient access to NP prescriptions [Lugo NR, O'Grady ET, Hodnicki DR, Hanson CM. Ranking state NP regulation: practice environment and consumer healthcare choice. Am J Nurse Practitioner. 2007;11(4)]. The 2010 Pearson Report has raised the grade of a few states that have granted notably increased autonomy to NPs since the 2007 ranking: COLORADO, HAWAII, ILLINOIS, MAINE, MASSACHUSETTS, OKLAHOMA, and RHODE ISLAND. "A" represents the best grade to access, "F" represents the worst grade for access.

http://www.pearsonreport.com/tables-maps/category/2011-summary-table/

Appendix B

Summary of State Supervision Requirements for Nurse Anesthetists

No Supervision Requirement (not including hospital statutes/regulations)

The following **40** states, and the District of Columbia, have **no supervision** requirement concerning nurse anesthetists in nurse practice acts, board of nursing rules/regulations, medical practice acts, board of medicine rules/regulations, or their generic equivalents:

Alabama
Alaska
Arizona
California
Colorado
Connecticut
Delaware
District of Columbia
Georgia
Hawaii
Idaho
Illinois
Indiana
Iowa
Kansas
Kentucky
Maine
Maryland
Massachusetts
Minnesota
Mississippi
Montana
Nebraska
Nevada
New Hampshire
New Jersey
New Mexico
New York
North Carolina
North Dakota
Oregon
Pennsylvania
South Dakota
Tennessee
Texas
Utah
Vermont
Washington
Wisconsin
Wyoming

Appendix C

State-by-State Analysis for Prescriptive Authority (including DEA) for CRNA

Alaska
Arizona
Arizona
Colorado
Connecticut
Delaware
DC
Florida
Idaho
Illinois
Iowa
Kentucky
Louisiana
Massachusetts
Minnesota
Missouri
Montana
New Hampshire
New Jersey
New Mexico
North Dakota
Oklahoma
Tennessee
Texas
Vermont
Washington
West Virginia
Wisconsin
Wyoming

Appendix D

History of the CRNA

In the 1840s, the anesthetic qualities of drugs such as nitrous oxide, ether, and chloroform were first demonstrated in the United States and paved the way for modern surgical procedures. Florence Nightingale's work as a nurse in the Crimean War during the 1850s ushered in the advent of professional nursing, and women began to choose nursing as a vocation. Soon after, nurses first gave anesthesia while caring for wounded soldiers on the battlefields of the Civil War. It is from these beginnings that the specialty of nurse anesthesia was formed.

Nurses were the first professional group to provide anesthesia services in the United States, and nurse anesthesia has since become recognized as the first clinical nursing specialty. The discipline of nurse anesthesia developed in response to surgeons seeking a solution to the high morbidity and mortality attributed to anesthesia at that time. Surgeons saw nurses as a cadre of professionals who gave their undivided attention to patient care during surgical procedures, unlike medical residents who often were more interested in observing the surgery. Serving as pioneers in anesthesia, nurse anesthetists became involved in the full range of specialty surgical procedures, as well as in the refinement of anesthesia techniques and equipment.

Early Nurse Anesthetists

The earliest existing records documenting the anesthetic care of patients by nurses were those of Sister Mary Bernard, who assumed her duties at St. Vincent's Hospital in Erie, Pennsylvania in 1887. The most well-known nurse anesthetist of the nineteenth century, Alice Magaw, worked at St. Mary's Hospital (later the Mayo Clinic) in Rochester, Minnesota. Dr. Charles Mayo conferred upon Magaw the title "Mother of Anesthesia" for her many achievements, particularly her mastery of the open-drop inhalation technique of anesthesia using ether and chloroform. Magaw subsequently published her findings between 1899 and 1906, in one article documenting more than 14,000 anesthetics without a single complication attributable to anesthesia. Together Mayo and Magaw were instrumental in establishing a showcase of professional excellence in anesthesia and surgery. Hundreds of physicians and nurses from the United States and throughout the world came to observe and learn their anesthesia techniques.

In Cleveland in 1908, surgeon George Crile asked nurse Agatha Hodgins to become his anesthetist. Hodgins soon became adept at administering anesthesia and began to teach nurses, doctors, and dentists on an informal basis. In 1914, Crile and Hodgins went to France with the American Ambulance group to assist in planning for the establishment of hospitals that would provide care to sick and wounded members of the Allied Forces. While there, Hodgins taught both physicians and nurses from England and France how to administer nitrous oxide-oxygen anesthesia. Upon her return to Cleveland, she formally established the Lakeside Hospital School of Anesthesia, and her graduates spread across the country providing quality anesthesia care. In 1931 Hodgins called her

alumnae back to Cleveland to found the National Association of Nurse Anesthetists, which was renamed the American Association of Nurse Anesthetists (AANA) in 1939.

Education

In 1909, Agnes McGee established the first formal educational program at St. Vincent's Hospital in Portland, Oregon. World War I increased the demand for nurse anesthetists, and subsequently more training programs were established. Notable early programs included Barnes Hospital in St. Louis, St. John's Hospital in Springfield, Illinois, Johns Hopkins in Baltimore, Charity Hospital in New Orleans, and University Hospital at the University of Michigan. In 1922, Alice Hunt was appointed instructor in anesthesia with university rank at the Yale Medical School, where she taught until 1948.

Catholic nuns played an important role in the history of nurse anesthesia. Many early hospitals in the United States were established by religious orders, and in the process of providing patient care the sisters were often trained in the administration of anesthesia. They also set up nurse anesthesia programs at their hospitals, training religious sisters and lay nurses.

The education of nurse anesthetists has been a priority since the founding of the AANA. Although not implemented until 1952, accreditation of nurse anesthesia educational programs was discussed as early as 1934. The AANA's certification exam was first administered in 1945, a voluntary continuing education program was approved in 1969, and mandatory continuing education became effective in 1978. In 1986, a bachelor's degree in nursing or a related degree was required for admission to nurse anesthesia programs, and by 1998 all programs were required to be at the graduate level, awarding at least a master's degree. In 2007, the AANA adopted a position statement supporting doctoral education for entry into practice by 2025.

Military Service

Military nurse anesthetists have been honored and decorated by the United States and foreign governments for outstanding achievements, dedication to duty, and competence in treating the seriously wounded. Since World War I, nurse anesthetists have been the principal anesthesia providers in combat areas of every war in which the United States has been engaged, including the current conflicts in Afghanistan and Iraq. Nurse anesthetists have been held as prisoners of war, suffered combat wounds during wartime service, and have lost their lives serving their country. The names of two CRNAs killed during the Vietnam War are engraved on the Vietnam Memorial Wall in Washington, DC. Three nurse anesthetists have served as chief of the Army Nurse Corps: COL Mildred Irene Clark, 1963-1967; BRIG GEN William Bester, 2000-2004; and MAJ GEN Gail Pollock, 2004-2008.[141]

Appendix E

History of the Nurse Practitioner

The history of the Nurse Practitioner role began in the early 1960's as a strategy to increase primary care for vulnerable populations, especially pediatrics and women. The first program was initiated in the state of Colorado preparing Registered Nurses to become primary care providers. Over time, each state has developed NP programs at the University level, requiring a minimum of a master's degree in advanced practice nursing.

Course work involves advanced pathophysiology, advanced health assessment, advanced physical assessment, advanced pharmacotherapeutics, advanced diagnostics, advanced management of patients with primary and acute care problems, advanced management of women's health, and advanced management of pediatrics. Clinical practicum experiences total about 1000 hours that involve direct management of patients, including assessment, diagnosing, prescribing, and performing procedures.

As of 2015, all Nurse Practitioners will graduate with clinical doctorate degrees. This will include another 1000 hours of direct patient care management. This role has evolved into additional education and training because of the complexity of patient care, the demand for evidence based application, the need to improve patient outcomes, and the demand for nursing leadership in health care systems.

All states recognize Nurse Practitioners, and all states authorize them to prescribe, including controlled substances. Seventeen states recognize NPs as independent providers. Twenty-eight states require collaborative agreements for practice between the NP and the physician.

In South Carolina, all APRNs must have at least a master's degree in advanced practice nursing specialty (i.e: family practice, acute care, pediatrics). All Nurse Practitioners must achieve and maintain national certification. Continuing education is required to maintain national certification and prescriptive authority. At least 120 hours of continuing education in advanced practice nursing is required to maintain national certification. Additionally, the Board of Nursing requires 20 hours every two years in pharmacotherapeutics (including 2 hours in controlled substances) to maintain prescriptive authority.

In South Carolina, practice has evolved whereby NPs practice offsite from physicians, establish practices, establish rural health clinics, enroll in some payer systems, perform minor procedures, and round on hospital patients. Delegated acts include formulating diagnoses and prescribing, requiring physician collaboration. However, conducting assessments, research, consultation, teaching, and counseling are considered the practice of APRNs.

Appendix F

APRN ACTS and DELEGATED ACTS

Frequently, APRNs and agencies are asked about delegated acts. Other providers and agencies seek to understand the difference between delegated acts and non-delegated acts or those acts considered the practice of nursing and advanced practice nursing. For example, agencies have asked "Is it within the role and scope of practice for APRNs to conduct assessments without physician collaboration or preceptors?

The State Board of Nursing for South Carolina recognizes that APRNs receive advanced education and clinical training in advanced health assessment as part of the foundation for APRN practice. The State Board of Nursing for South Carolina recognizes that advanced health assessment is part of the graduate education, a masters or doctoral curriculum, and is required for APRN national certification.

The State Board of Nursing for South Carolina also recognizes that assessments are conducted in a variety of settings to promote access to care including hospice, home health, office based, hospitals, mental health, and community organizations. The State Board of Nursing further recognizes that the practice of APRN role includes the practice of registered nursing which includes performing assessments. According to the Nurse Practice Act:

> "Practice of registered nursing" means the performance of health care acts in the nursing process that involve assessment, analysis, intervention, and evaluation. This practice requires specialized independent judgment and skill and is based on knowledge and application of the principles of biophysical and social sciences. The practice of registered nursing includes, but is not limited to:
>
> (a) assessing the health status of persons and groups;
> (b) analyzing the health status of persons and groups;….."
> (http://www.scstatehouse.gov/code/t40c033.htm).

The State Board of Nursing for South Carolina further recognizes that traditionally assessments have been conducted as part of the APRN scope of practice and are not considered a delegated act requiring or mandating physician collaboration or protocol. Currently, the Nurse Practice Act defines delegated medical acts as:

> "Delegated medical acts" means additional acts delegated by a physician or dentist to the NP, CNM, or CNS and may include formulating a medical diagnosis and initiating, continuing, and modifying therapies, including prescribing drug therapy, under approved written protocols as provided in Section 40-33-34. Delegated medical acts must be performed under the general supervision of a physician or dentist who must be readily available for consultation….."
> (http://www.scstatehouse.gov/code/t40c033.htm)

Over the years, the State Board of Nursing for South Carolina recognized that delegated acts do not include conducting assessments but may include formulating medical diagnoses and prescribing as defined by the Nurse Practice Act. Thus, APRNs conducting assessments do not need a physician preceptor or collaboration. APRNs finding abnormalities would need to refer a patient to another provider for further care, if warranted.

FACT SHEET ON NURSE PRACTITIONERS

Definition:
Certified Nurse Practitioners (NPs) are high quality primary and acute care healthcare providers who practice in primary care, ambulatory, acute care, specialty care, and long term care settings. These are registered nurses with graduate degrees (masters or doctorate) in advanced practice nursing who have had specialized clinical training and education in physical assessment, diagnosing, and prescribing therapeutic interventions including medication, therapies, and patient education for patients across the lifespan. They conduct research, translate evidence based clinical guidelines into practice, and serve as leaders in health care settings for quality improvement in patient outcomes.

Education:
Must hold at a minimum of master's degree in advanced practice nursing. By the year 2015, Nurse Practitioners must obtain a doctorate.

Certification:
Must achieve and maintain national certification as a Nurse Practitioner through an approved organization by the Board of Nursing.

Research on Quality, Cost Effectiveness, Safety:
The evidence overwhelmingly demonstrates that APRNs are safe providers, provide quality care, are cost effective, and patient satisfaction is high. Moreover, APRNs possess the necessary skills, knowledge, and licensure requirements to practice in many settings, in collaborative and independent roles. Finally, research in South Carolina shows that physicians overall trust the care given by APRNs and that patients have confidence in the APRNs' decision making.

FACT SHEET ON CERTIFED REGISTERED NURSE ANESTHETISTS

Definition:
Certified Registered Nurse Anesthetists are high quality anesthesia providers who practice in hospital, ambulatory and office based settings. As of 1995 in SC, these registered nurses must obtain at least a graduate degree (masters or doctorate) in advanced practice nursing who have had specialized clinical training and education in anesthesia care during the pre, peri, and post-operative periods. They conduct research, translate evidence based clinical guidelines into practice, and serve as leaders in health care settings for quality improvement in anesthesia patient outcomes.

Education:
As of 1995 in SC, CRNAs graduating from an accredited program must obtain at a minimum a master's degree. The Council on Accreditation has adopted the practice doctorate credential as the entry degree for practice effective to programs accredited/reaccredited as of 2018. All graduates as of 2022 must possess a practice doctorate credential upon graduation.

Certification:
Must achieve and maintain national certification as a Certified Registered Nurse Anesthetist through an approved organization by the Board of Nursing.

Research on Quality, Cost Effectiveness, Safety:
The evidence overwhelmingly demonstrates that APRNs are safe providers, provide quality care, are cost effective, and patient satisfaction is high. Moreover, APRNs possess the necessary skills, knowledge, and licensure requirements to practice in many settings, in collaborative and independent roles. Finally, research in South Carolina shows that physicians overall trust the care given by APRNs and that patients have confidence in the APRNs' decision making.

FACT SHEET ON CERTIFIED NURSE MIDWIVES

Definition:
Certified Nurse Midwives are high quality women's health providers who practice in primary care, ambulatory, and acute care settings for comprehensive gynecological and obstetrical care, including deliveries. These are registered nurses with graduate degrees (masters/or doctorate) in advanced practice nursing who have had specialized clinical training and education in physical assessment, diagnosing, and prescribing therapeutic interventions including medication, therapies, and counseling for women across the lifespan. They conduct research, translate evidence based clinical guidelines into practice, and serve as leaders in health care settings for quality improvement in women's health outcomes.

Education:
Must hold at a minimum of master's degree in advanced practice nursing.

Certification:
Must achieve and maintain national certification as a Certified Nurse Midwife through an approved organization by the Board of Nursing.

Research on Quality, Cost Effectiveness, Safety:
The evidence overwhelmingly demonstrates that APRNs are safe providers, provide quality care, are cost effective, and patient satisfaction is high. Moreover, APRNs possess the necessary skills, knowledge, and licensure requirements to practice in many settings, in collaborative and independent roles. Finally, research in South Carolina shows that physicians overall trust the care given by APRNs and that patients have confidence in the APRNs' decision making.

FACT SHEET ON CLINICAL NURSE SPECIALISTS

Definition:
Clinical Nurse Specialists, if recognized/licensed by the Board of Nursing in the advanced practice nursing role, are high quality care health providers who practice in primary care, ambulatory, and acute care settings in a variety of roles, including mental health. These are registered nurses with graduate degrees (post-masters/or doctorate) in advanced practice nursing who have had specialized clinical training and education in physical assessment, diagnosing, and prescribing therapeutic intervention including therapies and mental health counseling for families and patients. They conduct research, translate evidence based clinical guidelines into practice, and serve as leaders in health care settings for quality improvement.

Education:
Must hold at a minimum of master's degree in advanced practice nursing.

Certification:
Must achieve and maintain national certification through an approved organization by the Board of Nursing.

Research on Quality, Cost Effectiveness, Safety:
The evidence overwhelmingly demonstrates that APRNs are safe providers, provide quality care, are cost effective, and patient satisfaction is high. Moreover, APRNs possess the necessary skills, knowledge, and licensure requirements to practice in many settings, in collaborative and independent roles. Finally, research in South Carolina shows that physicians overall trust the care given by APRNs and that patients have confidence in the APRNs' decision making.

SC Primary Care Physician Perceptions of Nurse Practitioners, Physician Assistants, and Certified Nurse Midwives
(*n* = 681)

- 75.59% of the primary care physician respondents agreed that Nurse Practitioners and Certified Nurse Midwives have skills and knowledge to provide primary care.
- 70.67% of the primary care physician respondents agreed that Nurse Practitioners and Certified Nurse Midwives could free the physician's time for more critical care or a higher level of care.
- 69.58% of the primary care physician respondents agreed that Nurse Practitioners and Certified Nurse Midwives are an asset to a physician's practice.
- 52.78% of the primary care physician respondents agreed that Nurse Practitioners and Certified Nurse Midwives provide an economic advantage to a practice.
- 47.21% of the primary care physician respondents agreed that patients will see a Nurse Practitioner or a Certified Nurse Midwife as a primary care provider.
- 30% of the primary care physician respondents agreed that a lack of payer acceptance of Nurse Practitioners and Certified Nurse Midwives impedes patient care access.
- 19.18% of the primary care physician respondents agreed that Nurse Practitioners and Certified Nurse Midwives could see the same amount of patients in a given day as a physician.
- 69.90% of the primary care physician respondents agreed that hiring a Nurse Practitioner or Certified Nurse Midwife could increase the physician's time in administrative duties.
- 61% of physician respondents perceived that Nurse Practitioners are able to collaborate using agreed protocols to make a diagnosis and treat.
- 40% of the physician respondents perceived that Nurse Practitioners are able to diagnose and initiate treatment for stable conditions independently.

Burgess, S., Pruitt, R., Maybee, P., Metz, A., & Leuner, J. (2003). Rural South Carolina: A collaborative investigation of barriers to practice for Nurse Practitioners, Physician Assistants, and Certified Nurse Midwives.