

APPLICATION FOR ENLARGED SCOPE OF PRACTICE

Pursuant to Arizona Revised Statutes section 32-3104 this Sunrise Application for enlarged scope of practice is submitted by the Arizona Nurses Association, the Arizona Association of Nurse Anesthetists, the Arizona Affiliate of the American College of Nurse-Midwives and the Arizona Nurse Practitioner Council. Contained in this application is information for each professional role, addressing the factors set forth in Arizona Revised Statutes section 32-3106.

Organization of the Presentation of this Sunrise Application

The APRN Sunrise Application contains this opening section followed by four sections, one for each professional role, and a list of over 120 sources referenced in the document. Some of the references provide a website address which may be used to access the article or report. Otherwise the actual reference documents will be distributed electronically or will be available, along with the Sunrise Application, at the website of the Arizona Nurses Association; www.aznurse.org.

Nature of Scope Enlargement Request

This application seeks the amendment of Title 32, Chapter 15 (Nursing) to reflect a scope of practice for advanced practice nurses consistent with their education and training, including (Arizona state legislature, n.d.-f):

*Addressing the ambiguity of A.R.S. section 32-1606 B.12, by repeal (Arizona State Legislature, n.d.-d).

*Repealing existing scope of practice language for Certified Registered Nurse Anesthetists (32-1634.04) and incorporating with the scope of practice provisions for advanced practice nurses (Arizona State Legislature, n.d.-a).

*Providing Certified Registered Nurse Anesthetists and Certified Nurse Specialists the ability to obtain certification for prescribing authority. Such authority will be limited by the scope of practice of each role and consistent with rules adopted by the Board of Nursing after consultation with the Arizona medical board, the board of osteopathic examiners in medicine and surgery and the board of pharmacy”.

Sunrise Procedures

Sunrise laws originated as part of a movement among state governments that took place in the mid-seventies. It was a government reform effort that attempted to increase government transparency (sunshine/open meeting laws), react to the expansion of bureaucracy and the lack of legislative oversight of executive agencies (sunset laws) and the growth of regulation, particularly related to professions and occupations (sunrise laws).

The purpose of the sunrise laws as adopted in Arizona in 1985 was to assure that professions and occupations only be subject to regulation as necessary to protect the health and welfare of the public and provide an evidenced-based process for the expansion of the scope of practice of existing regulated professions. Prior to that legislation the process for evaluating new professional regulation and enlarged scopes often devolved into a battle between professional organizations. One Senator likened it to “medieval guild wars.” The sponsor of the legislation, Representative Jack Jewett (who was serving as the Chair of the Tourism, Occupations and Professions Committee) sought a more thoughtful alternative. In an interview Jewett explained he was concerned about the environment in

which important healthcare policy was being made (Personal communication, J. Jewett, April, 2015). He collected information about what other states were doing and sponsored what would become Laws 1985, Chapter 352. “I wanted applicants to submit a report which provided sufficient information for legislators to evaluate the educational preparation and training of professionals seeking regulation or an enlarged scope,” Jewett stated.

This application seeks to provide the Committee of Reference and the Legislature as a whole with sufficient information to make an evidence-based evaluation and recommendation for the proposed enlargement of scope.

Advanced Practice Registered Nursing

The term APRN (Advanced Practice Registered Nurse) refers to a nurse who has, through graduate level education, acquired advanced clinical knowledge and skills to provide direct patient care. Professional roles fall into four categories: Nurse Practitioners (NP), Certified Nurse-midwives (CNM), Certified Registered Nurse Anesthetists (CRNA) and Clinical Nurse Specialists (CNS). In addition to the didactic and clinical education APRNs receive in obtaining a Bachelor’s degree and qualifying for a license as a professional registered nurse, APRN graduate programs provide training in advance health assessment, physiology and pharmacology as well as other training which prepares them for the specialized practice of their role. The nature of these roles is described in the submissions for each profession.

Arizona statutes have, for more than half a century, recognized extended practice for nurses. Administration of anesthesia by nurses with physician oversight was authorized by legislation in 1923. The Board of Nursing was provided authority in 1974 to extend nursing practice in specialty areas, provide for the dispensing of drugs in certain circumstances and recognize by rule, nurse practitioners and nurse midwives. Statutes in 1982 defined “nurse practitioner” and provided that the Board of Nursing could (in collaboration with MD and DO Boards) establish education and training for the performance of “additional acts” including prescribing and dispensing.

Subsequent legislation has further clarified the role of the Board of Nursing in determining the qualifications and acts of Advanced Practice Nurses, provided a definition of “clinical nurse specialist” and defined and qualified the scope of CRNAs.

Expansion of Practice for APRNs

This request for expanded scope of practice for APRNs does not arise in a vacuum. The aging and growth of the U.S. population along with the expansion of health care coverage as a result of state and federal actions has increased the demand for health care services. A number of agencies and organizations have been studying the value of expanded APRN scope to address access to healthcare.

In 2010 the Institute of Medicine of the National Academies issued a report urging that advanced practice registered nurses be allowed to practice to the full extent of their education and training (Institute of Medicine, 2010a).

The National Governor’s Association (NGA) report in 2012 suggested states ease their scope of practice restrictions and modify their reimbursement practices to encourage greater Nurse Practitioner involvement in the provision of primary care. The NGAs

review of the literature indicated that “none of the studies reviewed raised concerns about the quality of care offered by NPs (Schiff, 2012).

Numerous other studies (see attachment from AARP and Robert Wood Johnson Foundation Future of Nursing Campaign for Action) provide evidence of the appropriate nature of the expansion of scope for APRNs (Future of Nursing: Campaign for Action, 2013).

The failure of states to adopt scopes of practice consistent with education and training has raised concerns of restriction of trade and consumer rights. This has been a factor in generating activity by the National Council of State Boards of Nursing. The Council has adopted a “consensus model” to provide guidance to states as they review their statutes and to encourage sufficient consistency among the states. This would allow for movement of APRNs within the states and facilitate “telepractice”, an important provider tool especially in rural areas.

THE BOARD OF NURSING HAS FUNCTIONED ADEQUATELY IN PROTECTING THE PUBLIC

The Arizona State Board of Nursing (BON) was established in 1921. It regulates the largest number of health care providers of any 90/10 Board: 80,885 Registered Nurses, 10,870 Licensed Practical Nurses, 27,396 Nursing Assistants and more than 6,000 Advanced Practice Nurses. Its stated mission is to protect the public health, safety and welfare through the safe and competent practice of nursing and nursing assistants.

Board of Nursing Sunrise Experience

Arizona’s sunrise process provides a procedure for reviewing the necessity and efficacy of state agencies. This is accomplished through the preparation of reports by the Office of Auditor General and public hearings conducted by Committees of Reference of the Joint Legislative Audit Committee. The BON was mostly recently audited in 2011, 2001 and 1991.

Auditor General reports concerning the BON have consistently found the Board to be compliant in its licensing procedures. Typically where problems were identified they were related to the timeliness of complaint processing (the Board receives over 1,800 complaints per year concerning its almost 125,000 licensees). But 18-month follow up reports from the Auditor General have found:

1. That the Board takes prompt action in high-priority cases;
2. Consistently adopts Auditor General recommendations, sometimes in less than six months.

This history of appropriate administrative conduct is reflected in legislative continuation of at least ten years for each of the last three reviews (Laws 1992, Chapter 308; Laws 2002, Chapter 17; Laws 2012, Chapter 33)

Board of Nursing Communication and Direction

The Board of Nursing has also taken several steps to maintain the education and standards of practice for all nurses, including APRNs.

In 2004 the rules of the Arizona Department of Health Services were revised to allow Nurse Practitioners to sign death certificates for their patients (Arizona Department of Health Services, 2004). The BON created and maintains an on-line education program NPs are required to pass before they may complete and sign a death certificate. The program contains information concerning statutory provisions related to reporting standards for forensic and public health purposes.

The BON also publishes a regulatory journal distributed to all licensees, certificate holders, student nurses and state legislators which typically contains a list of recent disciplinary actions, the status of educational programs and rules adoption procedures. The journal also publishes important up-to-date information regarding disease management, guidance for avoiding disciplinary action and standards of practice. Several issues have emphasized the standards for the proper use of controlled substances for the treatment of chronic pain. A recent edition of the Journal included the “Arizona Opioid Prescribing Guidelines” promulgated by the Arizona Department of Health Services in conjunction with a number of organizations.

But the BON has gone further than publishing voluntary guidelines. Under its authority to issue advisory opinions the Board has issued and updated opinions concerning the requirements of prescribing practice. The Board published a “White Paper” entitled “Registered nurse practitioner practicing in an acute care setting” in 2009, which set parameters for the nurse practitioner practice in hospitals. Other advisory opinions include:

- “Epidural analgesia by nurse anesthetists”
- “Ionizing radiation for Diagnostic and Therapeutic Purposes”
- “Nurse practitioner: description of role and function”
- “Off label prescribing: drugs and devices”,
- “Role of the advanced practice nurse: treating and prescribing of medications to self and/or family,” and
- “Controlled substances for treatment of chronic pain”.

The most recent opinion included direction for the use of the Controlled Substance Prescription Monitoring Program (Arizona State Board of Nursing, 2012).

The Arizona Board of Nursing has proven itself competent to regulate the nursing profession including Advanced Practice Nurses.

THE COST TO THE STATE OF IMPLEMENTING INCREASED SCOPE OF PRACTICE FOR APRNs

The Arizona State Board of Nursing currently regulates all categories of Advanced Practice Registered Nurses.

The relevant licensing, renewal and certification fees established pursuant to A.R.S. Section 32-1643 are established by the Board. The Board does not foresee changing its current fee structures and amounts except to provide for licensure for APRNs rather than

certification. The Board foresees no additional cost beyond the current fee structure for regulation related to the proposed increase in scope.

2015 SUNRISE APPLICATION REGISTERED NURSE PRACTITIONER

1. Introduction to Registered Nurse Practitioner

Registered Nurse Practitioners (NPs) are registered nurses who have completed masters or doctoral level preparation with advanced clinical training in addition to professional registered nursing education and training. NPs are prepared with specialized healthcare knowledge and clinical competency to practice in primary care, acute care, specialty care and long term care settings. NPs undergo rigorous national certification, periodic peer review, clinical outcome evaluations and adhere to a code for ethical practice. NPs are licensed and certified in all states and the District of Columbia and practice under the rules and regulations in the states in which they are licensed. NPs provide high quality care in urban, suburban and rural communities and in many types of settings including clinics, hospitals, emergency departments, private NP or physician practices, nursing homes, schools or public health departments. Alone and in collaboration with other healthcare professionals, NPs provide the full range of healthcare services including well and illness care, management of chronic health conditions, ordering and interpreting tests, prescribing medications and treatments, and educating patients about healthy lifestyle behaviors and how to avoid illness. What sets NPs apart from other healthcare professionals is their emphasis on health promotion and disease prevention and the inclusion of the client's mental, physical and social condition and personal preferences when addressing acute and chronic health concerns with patients and families (American Association of Nurse Practitioners, n.d.).

In 1965, Loretta Ford, RN, EdD, PNP, FAAN, FAANP, Professor and Chair of Public Health Nursing and Henry Silver, MD, Professor of Pediatrics, co-founded the first nurse practitioner education program at the University of Colorado Medical Center (University of Colorado Boulder, 2012). The role of the NP was created as a strategy to increase access to primary care for children. Through a rigorous academic program of study registered nurses completed a post-graduate education and training in the primary care of children. The model was rapidly adopted and expanded to create programs that would prepare NPs with expertise in the care of adults, women, families, critically ill newborns, older adults and children or adults living with mental or behavioral health conditions. Initially there was some resistance from nurse educators and physicians, however, the value and benefits to the public of well-educated nurses practicing at the full extent of their preparation fueled NP recognition and academic programs across the United States and many countries around the world.

Since 1973, NPs have been providing the residents of Arizona with access to safe and effective health care as licensed independent professionals. The chronology of NP scope of practice, dispensing and prescribing follows (<http://www.azleg.gov> and <https://www.azbn.gov>):

1974 Laws, Chapter 204: dispensing of drugs by a nurse and limited to County Health Departments in rural areas of exceptional medical need. Provision for certification for extended nursing practice in specialty areas.

1974 Board of Nursing Rules: Nurse Practitioner in the extended role defined and requiring added knowledge and skill, functioning “with members of the health

- team and in collaboration with and under the direction of a licensed physician in this state.”
- 1978 Board of Nursing Rules: R4-19-55 Prerequisites and Acts for Practice of Family; Nurse Practitioners and Adult Nurse Practitioners (regulated or adjusts medication) “in collaboration with and under direction of a licensed physician.”
- 1980 Board of Nursing Rules: R4-10-56 Dispensing of Prepackaged Labeled Drugs; consistent with statutory circumstances requiring certification in NP specialty role, under direct order of a physician and limits dispensing of Class II or III to 48 hours with other drugs not more than 34 days.
- 1982 Laws, Chapter 174: created statutory definition of “registered nurse practitioner” and removes language setting conditions of dispensing pursuant to the rules of the Board of Nursing.
- 1982 Board of Nursing Rules: R4-19-56 Prescribing and Dispensing Authority; particular requirements for prescribing and dispensing privileges including continuing contact education hours; prescription only drugs up to five refills or one year; Class II and III for 48 hours, no refills; Class IV and V 34 days, no refills.
- 1992 Laws, Chapter 308: Changed the provision that additional acts of professional nursing be determined by the Nursing Board in “collaboration” with MD and DO Boards to the requirement that the rules be developed in “consultation”. Authorized the Board of Nursing to adopt rules “establishing those acts that may be performed by a registered nurse practitioner in collaboration with a licensed physician.”
- 1996 Board of Nursing Rules R-4-19-508A – Board of Nursing adopted rules regarding the requirement for consultation; failure to do so when indicated by the condition of the patient is an act of unprofessional conduct.
- 2002 Laws, Chapter 203: Provides that the practice of professional nursing includes the performance of acts “that require education and training as prescribed by the Board and that are recognized by the nursing profession as proper to be performed by a professional nurse.”

Definition of Nurse Practitioner includes particulars of expanded scope of practice (<http://www.azleg.gov> and <https://www.azbn.gov>). Under R-4-19-101 of the Arizona Board of Nursing the term “collaborate” means, “to establish a relationship for consultation or referral with one of more licensed physicians on an as-needed basis”. Collaboration in initial language was understood as working relationship as in consultation, not a mandated oversight relationship between physician and NP. It does not require any specific designation of a collaborator or any documentation of the collaboration. In fact the rule specifically provides “Supervision of the activities of a registered nurse practitioner by the collaborating physician is not required.” But in some other states the term “collaboration” has a different connotation. “Collaboration”, as used in nurse practice acts in other states, has evolved into a term of art to describe a contractual relationship between physicians and NPs. In Alabama, for example, performance of many advanced nursing functions can only be performed pursuant to protocols adopted formally with a physician or dentist. Some states, like Mississippi and Delaware, prohibit prescribing by Nurse Practitioners unless in collaboration with and pursuant to an agreement with a physician. Because of the manner in which “collaboration” is used in other states it has led to confusion with payors and has created a situation in which NPs in Arizona are being denied network provider status and other barriers that adversely impact the ability for patients to access healthcare from NPs.

In this report, the information presented will illustrate a rigorous body of research that documents the quality and safety of NP led care. There are 5,184 nurse practitioners credentialed in Arizona and the number is steadily increasing; in 2013, a total of 293 new NPs graduated from the five university based NP programs in Arizona (Arizona Board of Nursing, 2014). There are 205,000 NPs in the United States (American Association of Nurse Practitioners, 2014). As nurses with advanced clinical knowledge, NPs are experts in direct assessment and treatment of patients in primary care, acute care and long-term care settings with an ability to incorporate consideration of social, family, and environmental stresses on health and healthcare outcomes. Other NP roles include but are not limited to health care researchers, consultants and educators (Arizona Board of Nursing, 2009). NPs utilize critical judgment and advanced skills in diagnostic and therapeutic procedures; prescribe, administer and dispense therapeutic measures including immunizations, legend drugs, healthcare devices and controlled substances; provide health teaching and supportive counseling to individuals and families promote, maintain, and restore health; may work in independent practice; and are qualified to admit a patient to a health care facility, manage the care the patient receives at the facility, and discharge the patient from the facility (Arizona Board of Nursing, 2009).

Arizona's population will increase by 2.3 million (35%) by 2030 and create a greater demand for healthcare in a system that is already struggling to meet the need for care (AZ.gov, n.d.). NP per capita supply is low in rural Arizona compared to that of the United States (University of Arizona Health Sciences Center, 2014). Obstacles to nurse practitioner supply and distribution to areas and populations in need include state scope of practice laws and factors that restrict practice, such as language that explicitly or implicitly requires collaboration with physicians when practicing within one's scope of practice (Dower, Moore, & Langelier, 2013; Institute of Medicine, 2010a). Arizona is facing a severe shortage of primary care providers of all types as well as a maldistribution of the providers that are available. Rural locations and areas where there are high numbers of low income individuals feel the effects of this uneven distribution the most (University of Arizona Health Sciences Center, 2014). Relative to primary care physicians, nurse practitioners are more likely to serve in rural and underserved areas, and provide services to more minority patients, Medicaid enrollees and uninsured persons (Martin, 2000; Weinberg, Kallerman, Spetz, & Finkle, 2014).

2. The extent to which the public can be confident that qualified practitioners are competent

Through their BSN and graduate education, NPs are prepared to provide safe, effective and quality care to the public. The Institute of Medicine in its report that examined decades of research on NP practice - *The Future of Nursing: Leading Change, Advancing Health*- recommended that states remove barriers to full scope of practice for advanced practice nurses, including NPs (IOM, 2011). The National Governor's Association (NGA) conducted a comprehensive review of the literature to determine the effect of scope of practice changes on health care access and quality. The results of the NGA review confirmed that NPs provide high quality of care and that there is evidence that NPs can improve access to care (Schiff, 2012).

In the 50 years since the NP role was created, an extensive body of peer reviewed, rigorous research has been published that documents the safety, efficacy and outcomes of the care provided by nurse practitioners. The studies examine the quality of care provided by NPs in professional services and behaviors such as prescribing accuracy, patient satisfaction, time spent with patients, adherence to practice standards, and management of chronic conditions. In all of these areas, nurse practitioners practicing without physician involvement and in interprofessional teams were found to provide safe and effective care that resulted in positive changes in physiologic measures, including but not limited to, decreased blood pressure, lower cholesterol and weight loss (Dierick-van Daele, Metsemakers, Derckx, Spreeuwenberg, & Vrijhoef, 2009; Guzik, Menzel, Fitzpatrick, & McNulty, 2009; Laurant et al., 2008a; Lenz, Mundinger, Kane, Hopkins, & Lin, 2004; Mundinger et al., 2000; Newhouse et al., 2011; Venning, Durie, Roland, Roberts, & Leese, 2000). In studies that examined reviews of prescribing practices of nurse practitioners and physicians, no differences were found between the groups in the frequency of adjustments made to prescriptions (Thompson et al., 2009).

Based on substantial evidence and experience, expert bodies have concluded that APRNs are safe and effective providers of many health care services within the scope of their training, licensure, certification, and current practice (Institute of Medicine, 2010a). Given a broad scope of practice and prescriptive authority as found in Arizona, the NP enhances access to healthcare while maximizing patient safety, promoting wellness and expanding access to care that is based on the latest evidence. Consumer access to safe and effective health care is of critical importance. NPs play a vital role in alleviating provider shortages and expanding access to health care services for healthcare underserved populations (Jessee & Rutledge, 2012). Consumer choice in health care markets benefits consumers by helping to control costs and prices, improve quality of care, promote innovative products, services, and service delivery models, and expand access to health care services and goods (Federal Trade Commission, 2014b).

a) Evidence that the profession's regulatory board has functioned adequately in protecting the public.

In May 2011, the State of Arizona Office of the Auditor General provided the Governor of Arizona and the members of the Arizona Legislature with a Performance Audit and Sunset Review of the Arizona Board of Nursing. A summary of the report is available at http://www.azauditor.gov/Reports/State_Agencies/Agencies/Nursing_Board_of/Performance/11-02/pa11-02.htm (Davenport, 2011). The auditor found that the Board has met its prescribed objectives and purpose. The auditor reported that the Board operates in the public interest and conducts thorough investigations. The Board takes precautions to ensure that nurses that are licensed in other states are safe to practice before being endorsed to practice in Arizona. The Board takes steps to inform and involve the public before finalizing its rules and actively seeks input from stakeholder groups when considering rule changes. Since the completion of that report, the Board of Nursing has implemented additional protocols and procedures designed to expedite the investigations and dispositions of complaints regarding the practice of licensees under the jurisdiction of the Board.

b) Whether effective quality assurance standards exist in the health profession, such as legal requirements associated with specific programs that define or endorse standards or a code of ethics.

All NPs are required to maintain an unencumbered license in Arizona as a registered nurse in order to be granted authority to practice as an NP. NPs are required to demonstrate competency by completing an accredited graduate level nurse practitioner academic program that leads to a masters or doctoral degree in their population focus area. The NP certification applicant must also produce documentation of earning a passing grade on a national board certification in their population focus area. The national board exams assess candidates' knowledge and competency in their specialty areas in management of simple and complex health problems, health promotion, disease prevention, pharmacology, professional practice, health policy and ethical standards. To maintain their RN license that is required for continued state certification as an NP, Arizona NPs must complete a minimum of 960 hours of advanced nursing practice in the previous 5 years preceding renewal. National board certification organizations also require evidence of continued competency in the population focus area in order to maintain the national certification that is required for NP state certification to practice in Arizona. The types of evidence that are acceptable for national board certification include continuing education credits in the NP's area of practice, publication in peer reviewed journals and textbooks, and serving as a preceptor in supervised clinical experiences for nurse practitioners in training.

All educational programs in Arizona that prepare NPs are required to obtain and maintain accreditation by a national nursing accrediting agency (Arizona Administrative Code [AAC] R4-19-213 http://www.azsos.gov/public_services/Title_04/4-19.htm). The program content requirements for accreditation include those topics and skills that have been identified as essential in the preparation of advanced practice nurses by professional organizations that publish standards for nursing education and practice such as the Commission on Collegiate Nursing Education (CCNE) and the National Organization of Nurse Practitioner Faculties (NONPF). In order to obtain Board approval to operate a nursing program at the graduate level, schools must provide evidence that their curricula contain the elements and topics listed in A.A.C. R4 -19-502 (http://www.azsos.gov/public_services/Title_04/4-19.htm).

The administrative Rules for NP practice include requirements to adhere to accepted standards of ethical practice. There are two major sources that provide guidance to nurses for ethical practice: 1. Code of Ethics for Nurses from the American Nurses Association, and 2. Code of Ethics from the International Council of Nurses. The administrative Rules for nursing practice in the A.A.C. describe in detail behaviors that would be considered unethical or unprofessional behavior for nurses (A.A.C. R4-19-403, http://www.azsos.gov/public_services/Title_04/4-19.htm). NPs that are deemed to have violated one or more ethical or professional nursing standards may be disciplined by the Board for unprofessional conduct, with sanctions imposed commensurate with the degree and severity of the violation.

One recent example of efforts to assure safety and quality in NP prescribing practices relates to safe prescribing of scheduled drugs. In an effort to prevent potential misuse of opioid and other scheduled drug prescribing, APRNs have taken a proactive position on

reducing unintentional deaths from overdose and misuse of scheduled substances. In April 2011, the United States Food and Drug Administration (FDA) released elements of a Risk Evaluation and Mitigation Strategy (REMS) to ensure that the benefits of extended-release and long-acting (ER/LA) opioid analgesics outweigh the risks (FDA, 2014). The FDA established a rigorous core curriculum for these courses which include didactic education on how to properly assess patients for treatment with Extended Release/Long Acting (ER/LA) opioid analgesics, how to safely initiate therapy, modify dose, manage ongoing therapy and discontinue use of ER/LA opioid analgesics. Training includes how to screen potential candidates for long term use of these medications and how to counsel patients & caregivers about safe use, storage & appropriate follow up. Comprehensive reviews of current general and product-specific drug information concerning ER/LA opioid analgesics are also included.

Recognizing the importance of responsible prescribing of these scheduled medications, NP leaders focused on efforts to engage NPs throughout Arizona in educational opportunities. In

July of 2013 at the Arizona Nurse Practitioner annual educational conference, over 150 NPs completed REMS training in one of the first large scale programs presented in our state (Annual

Regional SW Symposium, 2013). In a continued effort to encourage APRNs to acquire more education in this area, Arizona's Board of Nursing became the first nursing board in the United States to work with a REMS program. Our Board of Nursing co-sponsored a state of the art REMS program called "SCOPE of Pain" presented by faculty from Boston University & the Arizona Board of Nursing (Boston University www.scopeofpain.com). The program took place in February 2014 and approximately 170 providers attended; 90% of the registrants were NPs. NP leaders along with the Arizona Nurses Association have also participated with the Arizona Department of Health Services in developing and implementing the "Arizona Opioid Prescribing Guidelines" to further address Arizona's safety issues in relation to opioid use & disseminating detailed intervention strategies to NPs throughout Arizona. NPs are also registering with the Controlled Substance Prescription Monitoring Program (CSPMP) which is maintained by the Arizona State Board of Pharmacy.

c) Evidence that state approved educational programs provide or are willing to provide core curriculum adequate to prepare practitioners at the proposed level.

NPs are educated to provide service to diverse populations and to practice in a variety of settings. In addition to providing community based primary care, NPs practice in acute and long-term care facilities, and in emergency departments. NPs are prepared for specialty practice including neonatology, oncology, cardiovascular care, orthopedics, urology, and gerontology. Ninety-six percent (96%) of NPs in Arizona are educated at the graduate level with a masters or doctoral degree (University of Arizona, 2014). The 4% of NPs practicing in Arizona without graduate degrees were credentialed prior to the change in education requirements in 2004; NPs applying for privileges after that date must have a graduate degree and national board certification. NPs who desire prescribing privileges must provide evidence of successful completion of a graduate level 3-credit course in advanced pharmacology and pharmacotherapeutics.

The education and training of the NP begins with the completion of an accredited undergraduate program of study for a bachelor of science in nursing degree (BSN) following the *Essentials for Baccalaureate Nursing Education* established by the

American Association of Colleges of Nursing (AACN). A registered nurse who has earned a BSN, through completion of a traditional four year baccalaureate degree or a combined associate degree in nursing (ADN) and BSN completion program, will earn a total of 120 college credits and perform 960 hours of supervised clinical practice in acute care, long term care and community health settings providing physical, surgical and mental health nursing services to patients from birth to old age. The General Studies requirements for the baccalaureate degree and to support the nursing major include credits in humanities, lab sciences (anatomy and physiology, microbiology, chemistry), psychology, pathophysiology, mathematics (college level math, statistics and applications), social-behavioral sciences, communication arts (English and writing), ethics, nutrition, and pharmacology. The nursing professional program includes didactic and supervised clinical practicum hours in general health concepts and in specific populations including child health, childbearing/family health, adult health, geriatrics, psychiatry and behavioral health, community/public health, and leadership/healthcare management. A table outlining a sample program of study for a full time BSN student is included in the attachments.

The AACN criteria for NP education in the *Essentials of Doctoral Education for Advanced Practice Nurses* includes a recommendation that NP graduates earn a Doctor of Nursing Practice (DNP) that includes course work in theoretical foundations of health and illness, health promotion/disease prevention, advanced health assessment, pathophysiology, pharmacology, diagnosis and management of acute and chronic health problems, health policy, biostatistics, research methods, evidence based practice, communication, leadership, and healthcare systems. Other graduate level elective courses are offered including embryology, clinical procedures, and Molecular & Clinical Genetics/Genomics, or integrated within another course. Along with their course work, NP students complete 700 or more supervised clinical hours in a specific area of practice (American Association of Colleges of Nursing, 2012). For example, graduate students in the ASU program will complete over 1100 hours of clinical practicum (Arizona State University College of Nursing and Healthcare Innovation, 2014). The clinical practicum hours include opportunities in assessment, diagnosis, treatment and evaluation of real patients in addition to simulations or lab exercises with trained patient actors. Additional specialty or narrowly focused areas of practice require additional didactic and clinical hours beyond the basic DNP preparation (e.g., oncology, palliative care). A sample NP curriculum is included in the attachments.

There are five graduate level NP programs in Arizona and all are accredited by CCNE, as required by law in Arizona. CCNE is an autonomous, national accreditation agency that has been recognized by the United States Department of Education. The mission of CCNE is to ensure the quality and integrity of baccalaureate, graduate, and residency programs in nursing. The purpose of accreditation is to hold nursing programs accountable to the public – consumers, employers, and students – and insure the highest standards in professional practice. Accreditation by CCNE requires adherence to several nursing practice standards and guidelines established by the American Association of Colleges of Nursing (AACN) including *The Essentials of Master's Education in Nursing* (American Association of Colleges of Nursing, 2011) and *The Essentials of Doctoral Education for Advanced Nursing Practice* (American Association of Colleges of Nursing, 2006b). An APRN education program (degree or certificate) prepares students for one of the four APRN roles in at least one population

focus, in accordance with the Consensus Model for APRN Regulation: Licensure, Accreditation, Certification and Education (National Council of State Boards of Nursing APRN Advisory Committee, 2008). Both the Masters and Doctoral Essentials provide frameworks for the structure, content and expected outcomes of nurse practitioner education. In addition, the National Organization of Nurse Practitioner Faculties (NONPF) has published expected general competencies for all nurse practitioners upon completion of a graduate level academic education program (National Organization of Nurse Practitioner Faculties, 2012). In addition, NONPF has also published population-specific competencies for each NP practice focus area in care of adults, the elderly, children, women, fragile newborns and adults and children living with mental health problems (National Organization of Nurse Practitioner Faculties, 2013). Educational programs that prepare nurse practitioners must demonstrate adherence to one or more of these educational and program standards and that their graduates achieve competency in a comprehensive framework of practice domains in order for their graduates to be eligible to sit for national board certification exams offered by professional certification organizations and required by states as part of the criteria for granting practice authority.

In addition to earning a graduate degree in a specific area of practice as listed above, the NP must achieve a passing score on national NP board certification examination that corresponds with the role and population focus for which the graduate has been prepared. The board certification is required for entry into practice in Arizona. After the NP certification is obtained through meeting the education requirements, completing supervised direct patient care clinical hours, and passing national board certification examination, the privilege to practice in Arizona requires maintaining the national board certification through ongoing documentation of continued competency and evidence of a minimum number of hours of practice in a nursing position.

By the authority described in the Arizona Revised Statutes section 32 – 1602 et seq., the Arizona Board of Nursing (the Board) issues and maintains administrative rules that clarify or make the laws governing aspects of nursing preparation and practice more specific. The Rules can be found in the Arizona Administrative Code (AAC) Title 4, Chapter 19 (Arizona Secretary of State, n.d.). Regulations governing registered nursing and advanced practice registered nursing include the minimum requirements for the design and content of the educational programs that prepare NPs for practice. The Rules also set the standards for the preparation of faculty teaching in NP programs and who provide the required supervised clinical practice. Specific content that must be included in an approved NP program of study is listed in the AAC Rules R14 – 19 – 502 (Arizona Secretary of State, n.d.).

3. The extent to which an increase in the scope of practice may harm the public including the extent to which an increased scope of practice will restrict entry into practice and whether the proposed legislation requires registered, certified or licensed practitioners in other jurisdictions who migrate to this state to qualify in the same manner as state applicants for registration, certification and licensure if the other jurisdiction has substantially equivalent requirements for registration, certification or licensure as those in this state.

Licensure and certification are the means by which states protect the public from untrained and unqualified individuals. Without well-defined standards for entry into practice and demonstration of ongoing competency, the public may not be able to distinguish between clinicians that practice at a basic level and those that have education and skills at a more advanced level. The proposed change will not add to the current requirements of an unencumbered registered nurse license, earned graduate degree in nursing, and national board certification in their population focus area. Arizona has strong standards for NP entry into practice and demonstration of continued competency that are in line with accepted practice. University-based nursing programs in Arizona comply with national standards for graduate nursing education recommended by CCNE and NONPF to prepare nursing professionals that can safely and competently provide a broad range of primary and specialty health care services within their scopes of practice.

The FTC and IOM examined decades of research on NP safety and efficacy. They concluded that there is no data to support claims that patients cared for by NPs are at increased risk of harm. In addition, the FTC and IOM found no evidence that physician involvement in the practice of nurse practitioners adds anything to public safety (Federal Trade Commission, 2014b). Limiting NP practice to only those acts that can be performed in collaboration with physicians imposes restrictions on what NPs can do to respond effectively to increasing demands for safe and convenient healthcare and stifles innovation in healthcare delivery that could improve care, expand service and lower costs. Reduced access disproportionately affects our poorest citizens and those living in rural areas (Federal Trade Commission, 2014c). There is growing evidence among healthcare experts, however, that nurse practitioners could safely and effectively provide even more primary care services if practice restrictions were to be removed by state legislatures.

4. The cost to this state and to the general public of implementing the proposed increase in scope of practice.

Anticipated costs: There are no anticipated costs to the general public or to the state with this request for removal of the physician collaboration reference in ARS Title 32, Chapter 15 Board of Nursing, 32-1606 B12 under “Powers and duties of Board” (Arizona State Legislature, n.d.-d). The Board of Nursing already oversees Advance Practice Nurses and regulates our scope of practice, and there is no anticipated increase in cost of Board oversight. In fact it will facilitate Arizona Nurse Practitioners’ ability to practice to the full extent of their education and training and will eliminate confusion about our scope of practice, which could be a cost savings to the state and to the patients whom Nurse Practitioners serve.

Mandatory collaboration with another discipline for Nurse Practitioners has been identified as an unnecessary barrier to increasing and expanding a much needed primary care workforce (Federal Trade Commission, 2014b; National Academy of Sciences, 2010; Schiff, 2012; U.S. Congress Office of Technology Assessment, 1981, 1986; Yee, Boukus, Cross, & Samuel, 2013). As cited earlier, there have been no studies or findings to date showing evidence that physician involvement and/or supervision of Nurse Practitioners adds anything to public safety. A survey conducted in Massachusetts and cited by the National Institute for Health Care Reform (2014), provided evidence that compulsory collaboration with physician limits the range of practice settings for NPs, with the greatest adverse impact on underserved rural communities (Yee et al., 2013). In the same survey,

NPs indicated that insurance credentialing policies for in-network provider status and designation as a primary care provider for the insured had more of an effect on practice than scope of practice laws. Most insurance companies have policies that stipulate that network providers must be “licensed independent professionals”. In Arizona, this is the legal standing for NPs; however, when insurance companies do a word search of the Arizona Nurse Practice Act, the word “collaboration” is identified and insurance companies point to that as evidence that NPs in Arizona do not meet the criteria for credentialing in their provider network. Although there are no statutory limits preventing NPs from full practice authority in Arizona, the collaborative language as cited throughout this application can lead to misrepresentation of NPs’ plenary status in Arizona. This outdated language does not reflect the status of the practice authority for NPs in Arizona that has been in effect for more than two decades. Inclusion of the word “collaboration” in Title 32 has resulted in barriers to NPs to practice to their full authority as permitted by the legislature. For example, NPs who manage their own practices and who have applied for in-network provider status with a large healthcare system that operates in Arizona have been informed that they must have a “supervising physician” in order to be granted network provider status (Personal communication, H. McCoy and A. Oblas, February, 2015). In another case, patients in Yavapai County lost access to their cardiology nurse practitioner who was their primary care provider for a number of years because the hospital had a policy that required involvement of a collaborating physician. When that physician retired, the nurse practitioner was unable to identify a replacement for that physician and therefore lost her ability to perform diagnostic testing and provide other services to her long-standing patients (Personal communication, F. Stein). These are just a few examples of the misunderstandings related to the use of the word “collaboration” in Title 32 that resulted in decreased or elimination of access to care for Arizonans.

Reducing cost burdens to the state: In terms of reducing cost burdens to the state, national data reflect that 48% of Nurse Practitioners work in primary care settings, many of which are with underserved and vulnerable populations. (AANP compensation survey, 2013) NPs improve access to care in many rural and underserved areas in Arizona. While our five University- based Nurse Practitioner programs are increasing enrollment and graduating more NPs each year, recent data demonstrates that over 50% of NPs in Arizona work in primary care (Holder, 2014; Widemark, 2014). The increase in new graduate Nurse Practitioners thus translates into a more robust & qualified primary care workforce in Arizona.

Cost effectiveness of education and training: With a broad clinical and academic foundation as a baccalaureate prepared registered nurse, NPs can be out in the workforce with 2-3 years of additional education and training in rigorous graduate programs. This fact has been cited by numerous policy makers, federal agencies and economists as support for enlisting NPs as a strategic approach to rapidly expand the primary care workforce and respond to the increased demand for safe, convenient, accessible care. The cost of educating an NP is estimated at 1/3 or less the cost of educating our physician colleagues. Thus, in supplementing the workforce with Advanced Practice Nurse Practitioners, federal Graduate Nursing Education (GNE) and state dollars are used efficiently (American Association of Nurse Practitioners, 2010; Starck, 2005).

Improving access to care in Arizona: Health insurers, including Arizona’s Medicaid system would also benefit through wider use of NPs in primary care clinic settings, as is

evidenced in research by economists, the Federal Trade Commission, and well respected organizations such as the IOM and the Cochrane Collaboration (Bauer, 2010; National Academy of Sciences, 2010). Examples of cost effective NP care include studies demonstrating direct cost savings in reduced hospital admissions, fewer emergency room visits and shorter hospital stays among geriatric patients residing in long term care facilities, when NPs were the primary health care providers (American Association of Nurse Practitioners, 2013). The same findings have been cited in systematic reviews done in primary care populations with Nurse Managed Clinics, NP's in managed care organizations and NPs in Retail Clinics (American Association of Nurse Practitioners, 2013). Barriers to full practice, such as references to mandated collaboration in Title 32, have already been demonstrated to deter third party payers and other health insurers from empaneling NPs thus diminishing patient access to these and other NP services. Arizona has 363 designated Medically Underserved Areas (MUAs) in 15 counties, and 867 designated Health Professional Shortage areas (HPSAs) in all of these 15 counties (U.S. Department of Health and Human Services, n.d.). NPs can fill these positions and national as well as local trends show that NPs work in primary care settings and underserved in higher percentages than our physician colleagues (AARP, n.d.).

Actual cost savings are difficult to accurately project. However a growing number of state economists have published projected savings based upon removal of barriers that impede full scope of practice, also known as “full practice authority”. The Florida legislature’s Office of Economic & Demographic Research projected an annual cost savings of \$7 million to \$44 million annually for their Medicaid population, \$2.2 million for state employee health insurance and \$339 million across their entire health care system with granting full practice authority to their NP and PAs (Fusillo, 2011). Research in Massachusetts revealed projections of \$8.4 billion over a ten year span with APRN & PA ability to practice at their full capacity (Eibner, Hussey, Ridgely, & McGlynn, 2009). Unfortunately, neither of these states has passed full practice authority to date. Nationally recognized Economist & Health Policy directors Weinberg & Kallerman developed a model to analyze access, quality, value and cost savings for states that support full practice authority for Nurse Practitioners. In a recent report, California projected an increase of 2 million preventive care visits and a cost savings of \$1.8 billion over the first 10 years of enactment of full practice authorities for NPs (AARP, n.d.). Health care cost impact is complex and involves many factors beyond absolute costs. Illness prevention, health promotion, reduced hospital admissions, improved quality of care and the quality of cost effective care must be factored into cost analysis of Nurse Practitioners practicing to the full extent of their education and training. On all these fronts, NPs have research and stakeholder support to back effectiveness as high quality cost efficient healthcare providers. For over 2 decades, NPs in Arizona have had statutory & regulatory support to practice to the full extent of our education and training. Updating the language in ARS Title 32, Chapter 15 section 32-1606 B. 12 and removing the term of art “collaboration” will align our Nurse Practice Act (NPA) with the privileges and responsibilities we currently practice under and will enhance patient access and the continued development of a robust primary care workforce in Arizona.

2015 SUNRISE APPLICATION CERTIFIED NURSE MIDWIFE

1. Introduction to Certified Nurse Midwifery

Midwifery is an ancient profession, with a proud tradition of providing care for women during pregnancy and childbirth. Physician-attended birth is a relatively new concept in the United States. Midwives attended the vast majority of births until the 1930s when the place of birth moved from the home into the hospital. American nurse-midwives trace their history to the 1920s, to rural and urban settings where mothers and their babies frequently had little access to health care. From the beginning, nurse-midwives were able to provide essential primary care to women and their families in a variety of settings. These early experiences provided the first documented evidence in the US that nurse-midwives could reduce the rates of maternal and infant mortality and improve the health of women, especially among underserved populations (American College of Nurse-Midwives, 2009a). Over the past 86 years, Certified Nurse-Midwives (CNMs) in America have continued the tradition of providing comprehensive care to women.

Certified Nurse-Midwives are licensed, independent health care providers with prescriptive authority in all 50 states, the District of Columbia, American Samoa, Guam, and Puerto Rico (American College of Nurse-Midwives, 2015b). CNMs continue to be defined as primary care providers under federal law. While midwives are well known for attending births, many CNMs also, identify primary care as a main responsibility. Certified Nurse-Midwives offer care from adolescence to beyond menopause. These services include primary care, gynecologic and family planning services, preconception care, care during pregnancy, childbirth and the postpartum period, care of the normal newborn during the first 28 days of life, and treatment of male partners for sexually transmitted infections. CNMs provide initial and ongoing comprehensive assessment, diagnosis and treatment. They conduct physical examinations; prescribe medications including controlled substances and contraceptive methods; admit, manage and discharge patients from the hospital; order and interpret laboratory and diagnostic tests and order the use of medical devices. Midwifery care also includes health promotion, disease prevention, and individualized wellness education and counseling. These services are provided in partnership with women and families in diverse settings such as ambulatory care clinics, private offices, community and public health systems, homes, hospitals and birth centers. In 2012, 94.9% of CNM attended births occurred in hospitals, 2.6% occurred in freestanding birth centers, and 2.5% occurred in homes (in states where it is legal to provide care in that environment) (American College of Nurse-Midwives, 2012b, 2015b).

Certified Nurse Midwives are educated in two disciplines: midwifery and nursing. After obtaining an undergraduate degree and passing the NCLEX exam to be recognized as a registered nurse, they then must earn a graduate degree by completing an accredited midwifery education program.¹ In addition to earning a graduate degree, the Midwife candidate must have a written recommendation from her preceptors that she/ he is a safe practitioner and achieve a passing score on the American Midwifery Certification Board (AMCB) (American Midwifery Certification Board, n.d.). In 2011, the percentage of CNMs with a doctoral degree was 9.3%, the highest proportion of all APRN groups (Schuiling, Sipe, & Fullerton, 2013). To maintain the designation of CNM and to renew one's Advanced Practice Registered Nurse license in Arizona, CNMs must be recertified

through AMCB and must meet specific continuing education requirements (American College of Nurse-Midwives, 2009a).

There are currently 242 Certified Nurse-Midwives licensed by the AZ Board of Nursing. The first CNM license in AZ was issued in November 1973 (Bontrager, May 14, 2015). While there are some CNMs in private practice, the majority of CNMs practicing in Arizona are employees of a physician owned practice. Others are employed by Indian Health Service (since 1973); Federally Qualified Health Centers – El Rio since 1977; Hospitals – St. Joseph’s Hospital and Medical Center, Maricopa Integrated Health System; Universities - as instructors for both nursing and medical educational programs – Arizona State University, University of Arizona; birth centers and a few CNMs are in private practice. In 2013, CNMs attended 5,568 (6.51%) of the 85,600 births that occurred in AZ (Bontrager, May 14, 2015).

2. Definition of Problem

The existing scope of practice for Nurse Practitioners and Certified Nurse-Midwives licensed in Arizona are under the same statute and allows for patient responsibility and accountability without supervision of, or requiring a collaborative relationship with a physician. It also provides for obtaining prescribing authority (including controlled substances) by meeting the certification requirements prescribed by the Arizona Board of Nursing.

But the language of ARS 32-1606 B.12 has led to confusion particularly among payors about the nature of collaboration (Arizona State Legislature, n.d.-d). The statutory provision states that the Board shall: “12. Adopt rules establishing those acts that may be performed by a registered nurse practitioner in collaboration with a licensed physician.” The rule adopted by the Board that relates to this provision requires appropriate referrals. R4-19-508 A. provides “An RNP shall refer a patient to a physician or another healthcare provider if the referral will protect the health and welfare of the patient and consult with a physician and other health care providers if a situation or condition occurs to a patient that is beyond the RNP’s knowledge and experience.”

To eliminate this confusion 32-1606 B should be repealed, with the limitation on the performance of abortions placed in a different section. Most insurance companies have policies which stipulate that network providers must be “licensed independent professionals”. In the state of Arizona Certified Nurse-Midwives have that designation. This change will assist patients in receiving reimbursement for CNM services. The statues also need to be amended to reflect the status of Certified Nurse-Midwives as a separate professional licensee and not included as a category of Nurse Practitioner. Neither of the proposed changes would actually change the existing scope of practice for these two categories of Advanced Practice Nurses but has been included as part of the Sunrise Application for purposes of clarity.

3. Education and Testing

Currently there are no Certified Nurse-Midwife education programs in Arizona. In order for a nurse living in Arizona to become a CNM, she/he will need to apply out of state to one of the 39 - certified nurse-midwife programs that have met the standards for accreditation by the Accreditation for Midwifery Education (ACME).

The pathway to midwifery education is highlighted in the American College of Nurse-Midwives website (American College of Nurse-Midwives, 2015b). Prior to being accepted into a nurse-midwifery education program, the candidate must have graduated from a Bachelors program and have passed the National Council Licensing Examination (NCLEX). In order to sit this exam the candidate must have maintained a 3.75 GPA in ENG 101 and 103, three out of the 4 required sciences (Chemistry, Human Anatomy and Physiology I & II, Microbiology) and in 8 additional classes; and a C or better in prerequisite classes with each semester's GPA no lower than 3.50. During the third or fourth semester the nursing candidate would have begun coursework specific to the Nursing degree. The Bachelor of Science in Nursing at Arizona State University requires 9 semesters with 50 lower division and 70 upper division courses to total 120 credits. The candidate will also have completed 1000 clinical hours. Skills needed to succeed as a registered nurse are: Detailed understanding of human anatomy and physiology; Ability to work within computerized health systems; Organization; Critical thinking; Analytical skills; Patience; Passion for helping others; Interpersonal skills (Arizona State University, 2015).

The curriculum for a Master's degree in Nurse-Midwifery includes 51 didactic credit hours of education and 15 clinical credit hours. In order to receive credit for the clinical hours the student must have performed under the supervision of another Certified Nurse-Midwife or Nurse-Practitioner – 10 preconception visits, 30 new OB histories and physical exams, 140 return OB visits, 40 labor management, 40 births, 40 newborn physical exams (less than 28 days), 20 breast-feeding support visits, 40 early (less than 2 weeks) post-partum assessments, 30 (2 – 8 week) postpartum exams, 40 common health problems, 30 family planning visits and exams, 35 gynecological exams, and 15 peri/post-menopausal assessments/ exams (American College of nurse-Midwives, 2009b, 2011, 2012a, 2014, n.d.; Frontier Nursing University, n.d.).

Within 24-months of graduation from a Nurse-Midwifery program with either a Master's, post-graduate degree, or a Doctorate of Midwifery 10 the candidate must apply, sit, and successfully pass the national certification exam of the American Midwifery Certification Board (ACMB).

To sit the examination the candidate must submit the following:

- a) Proof of licensure as a U.S. registered nurse, active on the date of the examination.
- b) Satisfactory completion of a graduate degree or has met the institutional requirements for a graduate degree from a program accredited by or with pre-accreditation status from the Accreditation Commission for Midwifery Education (ACME).
- c) Verification by the director of the nurse-midwifery program confirming the candidate has met the institutional requirements for a graduate degree, and the date it was completed.
- d) Attestation by the director of the nurse-midwifery program that the candidate is performing at the level of a safe, beginning practitioner.
- e) The fee for the national certification examination is \$500.00. The national certification examination is administered without regard to age, sex, race, religion, national origin, disability, or marital status of the candidate.

The national certification examination in nurse-midwifery consists of questions in a multiple-choice format. Examination items are presented in a random order and are not

grouped according to content area. This practice resembles a clinical practice in which the midwife encounters a variety of patient care issues throughout the day. Each question contains either three or four options from which the candidate must choose the **best** response.

Each exam includes some items that are being pre-tested for future use, but are not included in scoring the exam. Those items being pre-tested are scattered throughout the exam and are not identified. The national certification examination is designed to test the knowledge and clinical judgment needed to practice as a certified nurse-midwife. Questions used on the examination are not based on any particular reference but reflect current practice as documented in the nursing, medical and midwifery literature.

The exam has a four-hour time limit. The content areas covered by the certification examination include: antepartum, intrapartum, postpartum, newborn, well woman/gyn, women's health/primary care. Knowledge and judgment abilities of both normal and deviations from normal will be tested in all clinical areas. Approximately two-thirds of the content for each clinical area is devoted to normal phenomena and one-third to deviations from normal. In addition at least two-thirds of the content for each clinical area is devoted to items testing clinical judgment with the balance made up of items testing knowledge. When a candidate successfully completes the certification examination a certificate in nurse-midwifery (CNM) is awarded (American College of nurse-Midwives, 2010).

Maintenance of Certified Nurse-Midwife Certification

The American Midwifery Certification Board (AMCB) believes that it is important to assure the public that an individual certified by the AMCB maintains safe, minimal competencies as described by the ACNM core competencies. It is the professional responsibility of every CNM to maintain competence in accordance with the Standards for the Practice of Nurse-Midwifery as specified by the American College of Nurse-Midwives (ACNM). Individuals who have not completed the requirements of the Certificate Maintenance Program at the end of their current certification cycle will not be issued a new certificate. Individuals without current/valid CNM certificates will not be able to continue to practice as a Certified Nurse-Midwife in Arizona (American Midwifery Certification Board, n.d.).

The objectives of the Certificate Maintenance Program are to:

- Keep CNMs certifications valid and current.
- Foster critical review of recent advances in midwifery practice.
- Provide documentation of CNMs certification status as required to credentialing/licensing authorities.

Certification for CNMs can be maintained by one of the following two methods:

Option 1: AMCB Certificate Maintenance Module Method

Successfully complete 3 AMCB Certificate Maintenance Modules during the certification cycle. One module must be completed in EACH of the three areas of practice: Antepartum and Primary Care of the Pregnant Woman; Intrapartum, Postpartum and Newborn; and Gynecology and Primary Care for the Well-Woman.

AND

Obtain 20 contact hours (2.0 CEUs) of ACNM or ACCME Category 1 approved continuing education units.

OR

Option 2: Reexamination Method

Take the current AMCB Certification Examination.

Once the exam is taken, the CNM may not change to Option 1.

Criteria for passing and retaking the exam will be the same as those in effect for first time candidates at the time the exam is taken (American Midwifery Certification Board, n.d.)

4. The extent to which an increase in the scope of practice may harm the public including the extent to which an increased scope of practice will restrict entry into practice and whether the proposed legislation requires registered, certified or licensed practitioners in other jurisdictions who migrate to this state to qualify in the same manner as state applicants for registration, certification and licensure if the other jurisdiction has substantially equivalent requirements for registration, certification or licensure as those in this state.

Licensure and certification are the means by which states protect the public from untrained and unqualified individuals. While state licensure provides the legal basis for practice in most states including Arizona, AMCB certification is required for licensure, and many institutions require this specific certification to grant practice privileges. Accreditation Commission of Midwifery Education (ACME) has more than 40 years of expertise in setting standards of accreditation and has been continuously recognized as an accrediting agency by the U.S. Department of Education since 1982. ACME currently accredits independent institutions as well as nurse-midwifery and midwifery programs affiliated with institutions of higher learning, and accredits programs in institutions that offer distance education options (American College of Nurse-Midwives, 2014). The AMCB is responsible for developing and administering the national certification examination. AMCB is a member of the National Organization for Certifying Agencies (NOCA) and is accredited by the National Commission for Certifying Agencies (NCCA) (American Midwifery Certification Board, n.d.).

The mission of AMCB is to protect and serve the public by leading the certification standards in midwifery. The vision of the Corporation is to advance the health and wellbeing of women and newborns by setting the standard for midwifery excellence. The objectives of the Corporation are to:

- Set the national certification standard for the profession of midwifery.
- Develop and administer the certification examination for assessment of entry-level competencies for the practice of midwifery.
- Award national certification as a certified nurse-midwife (CNM) or certified midwife (CM) to candidates who have met the specified qualifications.
- Provide a mechanism for maintenance of certification for all CNMs/CMs.
- Maintain professional discipline of all CNMs/CMs.
- Adhere to national standards for certification bodies.

- Liaison with other organizations to assure quality processes of midwifery certification and professional discipline (American Midwifery Certification Board, n.d.)

The American College of Nurse Midwives established a Code of Ethics to guide its members in fulfilling their obligations as professionals. Each member of the ACNM has a personal responsibility to uphold and adhere to these ethical standards. The standards emphasize the following: Certified nurse-midwives (CNMs) have three ethical mandates in achieving the mission of midwifery to promote the health and well being of women and newborns within their families and communities.

- The first mandate is directed toward the individual woman and her family for whom they provide care.
- The second mandate is to a broader audience for the “public good” for the benefit of all women and their families.
- Third mandate is to the profession of midwifery to assure its integrity and in turn its ability to fulfill the mission of midwifery.

In addition to the umbrella ethical mandates, midwives in all aspects of professional relationships will:

- Respect basic human rights and the dignity of all persons.*
- Respect their own self-worth, dignity and professional integrity.*
- Develop a partnership with the woman, in which each shares relevant information that leads to informed decision-making, consent to an evolving plan of care, and acceptance of responsibility for the outcome of their choices.*
- Act without discrimination based on factors such as age, gender, race, ethnicity, religion, lifestyle, sexual orientation, socioeconomic status, disability, or nature of the health problem.*
- Provide an environment where privacy is protected and in which all pertinent information is shared without bias, coercion, or deception.*
- Maintain confidentiality except where disclosure is mandated by law.*
- Maintain the necessary knowledge, skills and behaviors needed for competence.*
- Protect women, their families, and colleagues from harmful, unethical, and incompetent practices by taking appropriate action that may include reporting as mandated by law. Midwives as members of a profession will:*
 - Promote, advocate for, and strive to protect the rights, health, and well-being of women, families and communities.*
 - Promote just distribution of resources and equity in access to quality health services.*
 - Promote and support the education of midwifery students and peers, standards of practice, research and policies that enhance the health of women, families and communities (American College of nurse-Midwives, 2015a).*

In the state of Arizona CNMs are licensed independent practitioners. The proclaimed mission of the Arizona State Board of Nursing (BON) is to protect and promote the welfare of the public. All Certified Nurse Midwives are required to maintain an unencumbered license in Arizona as a registered nurse in order to be granted authority to

practice as a Certified Nurse Midwife. The Board takes precautions to ensure that a Certified Nurse Midwife licensed in other states are safe to practice before being endorsed to practice in Arizona as a Certified Nurse Midwife. But typically all states require certification through the AMCB, so any changes proposed by this sunrise application should create no impacts on entry to practice for CNMs wishing to move from other states.

In the United States, Certified Nurse Midwives have an established record of safety and quality of care. The most recent concentrated evaluation of midwifery care encompasses data over an 18-year period ending in 2011. The Quality/Safety/Economic Value: A 2011 meta-analysis of 18 years of obstetrical data presented in *Nursing Economics*, demonstrates overwhelming evidence of high, quality care of CNMs in which CNMs outperformed physicians in the following categories:

- Lower C-section rates
- Fewer epidurals
- Less analgesia
- Better breastfeeding rates
- More VBACs (vaginal births after cesarean)
- Fewer NICU admissions
- Fewer episiotomies
- Fewer perineal lacerations after birth
- Lower rate of labor induction and augmentation (Newhouse et al., 2011)

In the last year, a recent publication in the *Lancet*, June 23, 2014 provides further evidence of the quality, safety and economic value of CNM care. An international, multidisciplinary team of experts convened to review the most recent comprehensive body of evidence to date on the potential of midwifery. Their findings demonstrated how the normalization of childbirth provided by midwives, coupled with collegial, inter-professional collaboration results in impressive outcomes.

Key messages outlined in the Series that are notable include:

- a) Women's experiences and perspectives are essential to planning health services in all countries
- b) The key to forward movement in maternal and newborn health is a system-wide shift from pathology to skilled care with multidisciplinary teamwork and integration across hospital and community settings.
- c) Evidence demonstrates that care provided by midwives is cost-effective, affordable and sustainable.
- d) Midwives are most effective when educated, licensed, trained and regulated and integrated into the health care system.
- e) The world cannot achieve universal access to perinatal care without drastic increases in the number of midwives.
- f) Systemic barriers to high quality midwifery must be addressed, including lack of awareness of midwifery, the low status of women, inter-professional rivalries and unregulated commercialization of childbirth (Renfrew et al., 2014).

The Federal Trade Commission and the Institute of Medicine examined decades of research on APRN CNM Safety and efficacy. They concluded that there is no data to support claims that patients cared for by APRN CNM are at increased risk of harm. In

addition both the Federal Trade Commission and the Institute of Medicine found no evidence that physician involvement in the practice of midwifery adds anything to Public Safety (Federal Trade Commission, 2014a; Institute of Medicine, 2010a).

Certified Nurse Midwives do not work in a vacuum and very much appreciate the consultative support physician colleagues render. Certified Nurse Midwives are also respectful of our physician as consultants when the patient is in need of advanced surgical skills and care that are out of the scope of practice for the CNM. But ambiguity in existing statutes interferes with the ability of CNMs to practice within the scope for which they are prepared and provide patients choice in their healthcare provider. In the state of Arizona, Certified Nurse Midwives could be instrumental in meeting the healthcare needs of women throughout a woman's life span in every community and in most of the healthcare facilities and organizations within this state. These issues can be appropriately addressed by the changes requested in this sunrise application.

2015 SUNRISE APPLICATION CLINICAL NURSE SPECIALIST

I. Introduction to Clinical Nurse Specialist (CNS)

The CNS is one of four recognized Advanced Practice Registered Nurse (APRN) roles in the United States: the CNS, the Nurse Practitioner (NP), the Certified Nurse Midwife (CNM), and the Certified Nurse Anesthetist (CRNA). The CNS, either independently or as part of a multidisciplinary team, can diagnose and treat acute or chronic illness in a specified population, identifying the need for specialist care for individuals with or at risk for chronic conditions. Clinical Nurse Specialists function in their role as leaders and facilitators of change, coordinators of specialized care, and implementers of evidence-based care within/between organizations to facilitate quality improvement, patient safety, and lower healthcare costs. The recommended proposal for expansion of scope and prescriptive authority would allow a CNS to do the following: a) Prescribe pharmacological interventions, non-pharmacological interventions (e.g. physical therapy, respiratory therapy), and medical supplies (e.g. ostomy supplies for a patient with a colostomy, diabetic supplies such as glucometers and testing strips); b) Order, perform, and/or interpret diagnostic tests including lab work and x-rays. The CNS must be a registered nurse and must have specialized graduate education with a minimum of a master's degree in nursing or doctorate of nursing practice (DNP).

The use of the term “specialist” in nursing emerged in the 1900s. An article published in the first issue of the *American Journal of Nursing* noted the importance of specialty practice among nurses (Dewitt, 1900). Psychiatric nursing was the first nursing specialty, originating from the Quaker reformers who challenged the brutal treatment of the insane and advocated for gentler methods of social control in the second half of the nineteenth century (Hamric, Spross, & Hanson, 2009). The CNS role grew substantially in the following decades. The CNS role was based on the premise that patient care would improve when advanced practitioners, with specialized knowledge and skills, stayed at the patient's bedside (Haycraft & Voss, 2014). The American Nurses Association (ANA) officially recognized the CNS as an expert practitioner in 1974 and included master's education as a requirement for the CNS (Hamric et al., 2009). CNS programs were the first advanced practice nurse programs to require graduate level preparation (Delametter, 1999). Nurse practitioners, nurse midwives, and certified registered nurse anesthetists have followed in the footsteps of the clinical nurse specialist by enhancing their practice through advanced education.

There are differences between the CNS and the NP. Both the CNSs and NPs are responsible and accountable for health promotion; prevention of illness and risk behaviors; diagnosis and treatment of health/illness states, and disease management for individuals and families. But additional aspects of CNS professional practice more specifically associated with their role include: 1) specializing in a population; 2) specializing in the care of particular groups and communities; and 3) providing acute and chronic care through the spectrum of wellness to illness (National Association of Clinical Nurse Specialists (NACNS), 2004). These aspects include, but are not limited to, health maintenance and prevention, management of patients with chronic conditions and care transition needs, management of patients with physiologically unstable conditions, rehabilitation, palliative, and end-of-life care which are Core CNS Competencies (National CNS Competency Task Force, 2010).

CNSs are expert clinicians who work in a wide variety of clinical practice areas (National Association of Clinical Nurse Specialists (NACNS), n.d.). Generally their practice is specialized in a clinical area that may be identified in terms of:

- a. Population (e.g. pediatrics, geriatrics, women's health)
- b. Setting (e.g. critical care, emergency room)
- c. Disease or Medical Subspecialty (e.g. diabetes, oncology)
- d. Type of Care (e.g. psychiatric, rehabilitation)
- e. Type of Problem (e.g. pain, wounds, stress)

In Arizona, there are 182 CNSs who are APRNs. They are registered nurses (RN) who, in addition to their RN licensure and training, have completed an accredited graduate level educational program, have passed a national certification exam that matches the specialty area educational preparation, and obtained a certificate to practice as an APRN in the state of Arizona (Arizona State Legislature, n.d.-c).

Here are four descriptions and actual examples of Clinical Nurse Specialists practicing in the state of Arizona:

1.1.1 Psychiatric CNS: Description of Role

In private practice and as part of health care teams, psychiatric CNSs have implemented interventions that increased recognition of depression and provided effective behavioral health care to reduce depression. CNSs provide behavioral health care to individuals in private practice and to communities through special programs. The Insight Program, which was implemented by CNSs in a community setting to address depression in women, had a statistically significant and clinically relevant improvement in scores on all tools used (Adams, 2000). Another study demonstrated that CNSs who worked as members of the primary care team in providing care in a Veterans Administration hospital, improved the recognition of depression and its initial management (Dobscha, Gerrity, & Ward, 2001).

EXAMPLE: Psychiatric/Mental Health CNS

The Psychiatric/Mental Health CNS has a role at many points along the continuum of care of the Behavioral Health patient. As a consultant at a facility in Arizona, the CNS does the initial comprehensive psychiatric evaluations of patients, performs consultation assessment, refers management of the patient to other specialties if indicated, and receives referrals for psychotherapy. However both in the inpatient setting as well as the outpatient setting, the CNS must rely on other providers to follow through with medication management, additional testing and interpretation to be done in order to complete the comprehensive care management of patients requiring psychiatric care, treatment, and monitoring.

Providing the CNS in this situation the ability to prescribe medications and order appropriate lab and diagnostic tests ensures that the patient gets appropriate, comprehensive care. Without the ability to provide these additional services, this vulnerable patient population is at further risk for non-compliance. If referral for medication or lab services is not available at the time of assessment, it is necessary for the patient to locate an additional provider of these services, schedule an additional appointment and incur an additional charge, either for the patient or the insurance company. Due to the chronic nature of mental health impairment, the result of the lack of immediate appropriate services available may lead this population to non-compliance and a resulting need for higher, more costly levels of service. The inclusion of prescribing in

the role of the Psychiatric/Mental Health CNS builds a trusting and highly valued nurse-patient relationship. Patients report nurses are easier to talk to about their medications which allows the CNS to provide more holistic care than what is currently being practiced in the state of Arizona (Ross, 2015).

1.1.2 Women's Health CNS: Description of Role

The CNS has demonstrated improved outcomes when providing home care to mothers at high risk of delivering low-birth weight infants and has allowed earlier discharge of very low birth weight infants through provision of follow-up care. Brooten, Youngblut, Brown, Finkler, Neff, & Madigan showed in a randomized, controlled clinical trial that the group receiving prenatal home care by a CNS saved 750 hospital days, yielding 2.9 million dollars saved (Brooten et al., 2001). The CNS has also been shown to be an effective member of the prenatal care team resulting in the greatest client satisfaction and the lowest cost per visit when providing prenatal care (Gravely & Littlefield, 1992).

EXAMPLE:

As a Women and Infants CNS practicing in Arizona, the role requires working to ensure that women: (1) have adequate knowledge and skills of healthcare needed for themselves and their infants; (2) have adequate control of their conditions; (3) have received proper education and discharge instructions; and, (4) have a plan when they are home to problem-solve their potential complications as well as maintaining and sustaining life to their new infant. The types of patients this CNS works with are women who have gestational or pre-gestational diabetes, chronic hypertension, preterm labor, or other high risk preterm labor conditions to ensure they have a positive and safe birthing experience. Bridging women home after delivery, regardless of a positive outcome or negative outcome, is complex and resource-consuming. An increase in scope and prescriptive authority would afford the opportunity to ensure these patients are referred to the appropriate community resources for themselves as well as their infants. Prescriptive authority would allow the ability for breast-feeding moms to have the necessary equipment and potential medications and supplements essential for a successful experience. Often the CNS is the only consistent health care professional who communicates with all those caring for the patient and infant, because physicians rotate call and services. With the increase in scope and prescriptive authority, this Women and Infants CNS would be able to close the potential gaps in care and keep all parties informed by working with the multidisciplinary team as well as keeping the electronic medical record up-to-date.

1.1.3 Medical/Surgical Chronic Disease Management CNS: Description of Role

CNSs, as part of a disciplinary team, have distinguished themselves as effective coaches for those with chronic illness (e.g. diabetes, cardiac conditions, and cancer) through promotion of self-care, resulting in decreased costs and decreased readmissions. Several studies document their efforts in the care of the chronically ill, including those with heart failure (Creason, 2001; Knox & Mischke, 1999; Blue, 2001; Ryan, 2009); asthma (Horner, 2008); and epilepsy (McNelis, Buelow, Myers, & Johnson, 2007). In addition, CNSs have developed and demonstrated the effectiveness of their community programs through early identification of those with COPD which slowed down the progression of their disease (DeJong & Veltman, 2004).

EXAMPLE: Medical Chronic Disease Management by an Acute Care CNS for Diabetes Management

In this situation the facility does not employ Diabetes Education Specialists, but relies on bedside nursing to educate and advocate for patients with diabetes. This is a trend within several hospital systems as a way to reduce cost and redirect spending on other services. This change has reduced the availability of diabetes expert nurses within the hospital setting. This change can also potentiate delays in proper care and management of diabetes, as staff RNs are not experts in proper disease management and troubleshooting. The Acute Care Clinical Nurse Specialist (CNS) in this facility routinely sees the diabetes patients, educating on important care concepts and working with the multidisciplinary team (Physicians, Residents, Physical Therapy, Dietitians, Social Work, and Case Management) to ensure patients with complex situations have met the requirements to be discharged from the hospital safely, with their diabetes under control, and reduce readmission rates. While this partnership with the multidisciplinary team has provided great outcomes for patients and this facility, there are some challenges. Permitting the CNS to practice to the fullest extent of education and training by allowing for prescriptive authority and an increased scope of practice would alleviate existing challenges and delays in care. Often times, physician colleagues are very busy and rotate on and off service, The Acute Care CNS rounds on these patients together with nursing every day during the week with each of the different providers. There are times where physicians may not have time to address the specific needs of the diabetes patients. Furthermore, many do not address the discharge needs of the patients due to time constraints and lack of awareness of community resources. The physician resident program also has challenges in management of these patients, as the physicians are still in training and therefore are not comfortable (at times) addressing clinical situations with this patient population. This particular Acute Care CNS practice would be greatly enhanced by having prescriptive authority, as the CNS would be able to: (1) order pertinent laboratory testing specific to diabetes management; (2) interpret test results and tailor treatment regimens to ensure their glucose levels are properly managed; therefore reducing complications and reducing overall healthcare costs by keeping patients out of the hospital system. For example, the Acute Care CNS would be able to order specific diabetic equipment that is easier for patients to utilize if they have neuropathy in their hands or if they have difficulty checking blood glucose levels and administering insulin due to neuropathy (neuropathy is a condition that can result in numbness of the hands and feet).

EXAMPLE: Chronic Disease Management by an Acute Care CNS for Hematology/Oncology and Bone Marrow Transplant

The number of Americans with a history of cancer is growing due to the aging and growth of the population, as well as improving survival rates. Nearly 14.5 million Americans with a history of cancer were alive on January 1, 2014, not including carcinoma in situ (non-invasive cancer) of any site except urinary bladder, and not including basal cell and squamous cell skin cancers. It is estimated that by January 1, 2024, the population of cancer survivors will increase to almost 19 million: 9.3 million males and 9.6 million females (American Cancer Society, 2014).

As a part of the team in the acute care setting, the CNS for Hematology/Oncology and Bone Marrow Transplant in this facility in Arizona works collaboratively with physicians, pharmacists, nurses and multiple support team members such as occupational therapy, speech therapy, physical therapy, pain management, nutritional support, psychology. Patients are seen by the CNS upon their initial diagnosis, across the continuum of care, which includes treatment, through palliative care and hospice. Cancer is now a chronic disease that does require multiple resources to ensure quality of life and prevention of

complications and readmission. In the hospital this CNS rounds with each hematologist and oncologist when they see the patients. This necessitates being at the hospital 5 days a week, 8-10 hours a day, interacting with patients and care teams to manage complications and questions that arise. The CNS is also available to the team 24 hours a day on call. A common example is the following situation. A patient develops a headache as a side effect of an anti-nausea medication that was prescribed because it was listed on the approved formulary of the hospital's medications that can be used. In order to change to another anti-nausea in the same class of medications, a prescribing provider has to be contacted, the recommendations for a substitute medication by the CNS discussed, ordered and entered into the electronic medical record. Another situation that has occurred is when standard medications or follow up testing and monitoring are not ordered as outlined by treatment protocols according to established national evidence-based standards, the CNS must track down and call a prescribing authority to have these ordered. Cancer is a life-changing event, not a life-ending event. A portion of this CNSs time is spent at the bedside caring for patients with complex needs. Increasing the CNS scope of practice and adding prescriptive authority in this particular institution would afford the opportunity to order interventions such as psychosocial support. For example, consider the patient with cervical cancer who has had multiple doses of vaginal radiation therapy to treat her cancer and is admitted to the hospital because of complications. After the physical symptoms have resolved and she is physically ready for discharge, there are still multiple needs often not addressed in order for her to resume her quality of life. For her to be able to engage in a healthy sexual relationship, she will need physical treatment of her strictures (an abnormal narrowing of the vagina due to scar tissue attributed to the side effects of radiation therapy) and hormone therapy. She will need referrals and follow-up care. The CNS with prescriptive authority and expanded practice would be able to address these needs. It was noted from a study out of the University of Chicago that only 20% of patients are asked about sexual dysfunction when they were being treated with for a chronic illness. In this study it was also noted that patients are more comfortable talking about the subject when it is initiated by a nurse (University of Chicago Medicine, 2012).

1.1.4 Acute Care CNS: Description of Role

CNSs who work in the acute care setting (e.g. hospital) have significantly decreased patients' length of stay. To improve the outcomes of those having a stroke, a CNS led team implemented practice guidelines and developed best practice tools resulting in reduced length of stay for those patients admitted with a diagnosis of stroke (Fuhrman, 2011). For geriatric patients having a hip fracture, a CNS led the team to achieve The Joint Commission certification in Geriatric Hip Fracture Disease that led to decreased costs by 15%, a 28% decrease in length of stay and 0.5% decrease in mortality (McWilliam-Ross, 2011).

EXAMPLE: Inpatient Acute Care Pain Management CNS

In a hospital in Arizona, the inpatient, acute care Pain Management CNS consults with patients who have difficult acute and/or chronic pain management issues that exceed the bedside nurse's and hospitalist's ability to manage. There are no pain management physicians at this facility; the management of pain is left to generalist practitioners (nursing, nurse practitioners and physicians). The Pain Management CNS spends in-depth time at the bedside with patients, reviewing medical records, working with patients' pain management physicians (outpatient) and/ or primary care physicians in the community, understanding the physiology (causes/origins) of the patients' pain experience, and

developing a plan of care. This CNS spends an average of 1-3 hours per initial consult and sees about 10-15 new patients each week. After assessing the patient, the CNS makes recommendations for pain management based on the individual patient. There are consistent delays in care as the CNS must have a provider with prescriptive authority order the recommendations and any additional testing that may be necessary to ensure there are not any additional underlying problems, as pain management encompasses more than just ordering and discontinuing pain medication. The Pain Management CNS then monitors the interventions, notifies the provider when testing results are complete, interprets the information to the provider, and again makes recommendations that have to be ordered by another provider. The CNS role continues with the patient throughout the patient's hospital stay. The CNS rounds daily and makes recommendations to decrease, increase, or transition to long-acting oral medications in preparing the patient for either discharge or transition to a different level of care such as rehabilitation or a skilled nursing facility. Each one of the recommendations made has to be ordered by a provider with prescriptive authority. Setting patients up for success with discharge is another part of the Pain Management CNS role. Currently the CNS makes recommendations for non-pharmacological interventions such as acupuncture, or physical therapy, but has to ensure that a prescribing provider reviews the notes and orders the intervention. This often delays the discharge or is missed by those providers. For chronic pain management the Pain Management CNS is also involved in working with social workers and case management to ensure patients have psychosocial support and resources such as follow up with psychiatry or psychology. Again with a limited scope the CNS can only make recommendations but must rely on providers to order and follow up on the orders that are made. Providing holistic patient care becomes fragmented and disjointed when having to rely on generalist providers to order recommendations that come from a Pain Management CNS who is educated and trained as a specialist. The increased scope and prescriptive authority would afford this CNS the ability to order ongoing titration (adjustment) of pain medication, treatments, and therapies to assist with pain reduction if allowed to practice to the full extent of the education and training. This Acute Care CNS can impact patient satisfaction and the patient length of stay, which directly impacts the cost of healthcare.

1.2 What is the Current Scope of Practice?

The CNS role includes a wide variety of clinical specialties in nursing. CNSs deliver care in acute and chronic settings to a wide range of patient populations. CNSs can be seen in hospital facilities, doing research, working with physicians and other providers in private practice, providing care at community based organizations, expanding their role as a school health provider, and working in nurse managed clinics. The basic components of the CNS role hold true regardless of the setting (Rose, All, & Gresham, 2003).

The CNS provides care to individual clients and populations, facilitates attainment of health goals, and provides innovation in nursing practice based on clinical expertise, evidence-based decision making, and leadership. The CNS influences best practice with nurses, multidisciplinary team members, and organizations to impact system wide changes to improve programs of care.

The CNS regularly consults with physicians both within their specialty and those in other specialties, as relevant to the care of each patient. The CNS has the ability and training to medically diagnose and manage the patient, to work as an expert nurse within systems to monitor and improve the quality of care, to provide training to practicing nurses, other

providers, as well as students, and to collaborate with and/or lead the multidisciplinary team in team efforts such as program development (Gordon, Lorilla, & Lehman, 2012).

The CNS incorporates and applies theories of nursing as well as consultation, research generation and utilization, education, and leadership to improve outcomes for patients and populations, nursing personnel, and systems. Refer to Doyle, Pennington, & Kliethermes (2010) for key elements of the CNS practice.

In addition to the functions of a registered nurse (RN), a CNS, under A.R.S. 32-1601(6), may perform a number of additional functions for an individual, family, or group within the population focus of certification and for which competency has been maintained (Arizona State Legislature, n.d.-c). These functions include, but are not limited to, evaluation of the patient's complex health needs and directing the patient to appropriate healthcare providers and/or resources.

1.3 History of CNS

The concept of the CNS began to evolve in 1943 when Frances Reiter first coined the term "nurse clinician," described as a master's-prepared nurse who remained at the bedside (Reiter, 1966). The CNS role in medical and surgical nursing was originally designed to assist head nurses to prepare staff for clinical quality.

Acceptance of the CNS role grew during the 1960s with the establishment of Medicare and Medicaid, technological advances such as cardiac-thoracic surgery and coronary care, and the development of the clinical specialist role in psychiatric nursing. These advances led to increased opportunities for the CNS in the hospital (Chitty & Black, 2007). In 1974, the American Nurses Association officially accepted the CNS as an expert practitioner. The expanded roles of educator, expert clinician, change agent, manager, and advocate occurred in the early 1980s. Requirements were instituted for nurses wishing to assume the title of CNS. The ANA's Social Policy Statement stated that to use the title CNS, study and supervised clinical practice must occur at the graduate level of education and requirements should be met for specialty certification through nursing's professional society (American Nurses Association, 2010). In the early 1980s, CNSs were sought after and new training programs were being demanded. By 1984, the National League for Nursing (NLN) had accredited 129 programs for preparation for the CNS (Hamric et al., 2009). Changes to healthcare during the late 1980s and early 1990s resulted in many CNSs obtaining positions in education and administration rather than being bedside expert clinicians. However, in 1995 the National Association of Clinical Nurse Specialists (NACNS) was established, and CNSs were subsequently identified for Medicare reimbursement eligibility in 1997 (Hamric et al., 2009). Organizational development of CNSs and legal inclusion of the CNS in reimbursement during the 1990s were vital to the continuation of the CNS role. The CNS has regained support in recent years because of the noted contribution of the CNS to health care systems. The Institute of Medicine (IOM) released reports focusing on the need for increased quality and safety in health care (Institute of Medicine, 2000). The CNS plays a pivotal role in quality improvement, patient safety, and improved health outcomes.

In Arizona, the definition for a CNS was first placed in Arizona statute in 1983 as an APRN. The CNS is required to hold a Registered Nursing (RN) license in good standing with the Arizona State Board of Nursing, hold a Master's degree in Nursing from an accredited university, and hold a certification in a specialty.

In 1998, NACNS established the first set of competencies that clearly identified the CNS from other APRN roles (Rose et al., 2003). CNSs perform seven core competencies regardless of the specialty or setting (National CNS Competency Task Force, 2010).

Direct Care Competency

- a. Consultation Competency
- b. Systems Leadership Competency
- c. Collaboration Competency
- d. Coaching Competency
- e. Research Competency
- f. Ethical Decision-Making, Moral Agency and Advocacy Competency

1.4 Where do CNS Groups Currently Practice (setting and geography)

CNSs are expert clinicians in a specialized area of nursing practice ranging from particular patient populations to disease type to rehabilitation to type of problem. CNSs also practice in a wide variety of healthcare settings which include, but are not limited to, clinics, hospitals, and outpatient facilities. In addition to providing direct patient care, CNSs influence care outcomes by providing expert consultation for nursing staffs and by implementing improvements in health care delivery systems (National Association of Clinical Nurse Specialists, 2015a).

There are over 40 CNS specialty areas that developed over time. These specialty areas were developed to meet society's need for expert/specialty nursing care. The CNS is a clinical expert within a specialty area of nursing practice.

According to a 2014 NACNS survey, over 70% of CNSs work with adult patients from the age of 19-85 years of age. Common clinical care specialties noted were gerontology, oncology, cardiovascular, diabetic, and psychiatric mental health (National Association of Clinical Nurse Specialists, 2015b).

CNSs provide advanced nursing care in hospitals and other clinical sites; provide acute and chronic care management; develop quality improvement programs; and serve as mentors, educators, researchers and consultants (Brassard & Smolenski, 2011).

1.5 How many are there in the state?

Today, approximately 70,000 CNSs practice in all 50 states and the District of Columbia; of these, 182 CNSs are certified to practice in Arizona. CNSs have been providing care in the United States for more than 70 years and are officially recognized by the American Nurses Association (ANA) since 1974.

The following represent an example of the various types of CNSs in the metropolitan areas in Arizona:

Dignity Health Arizona (St. Joseph's Hospital):

Neurosciences: 3 CNSs

Medical/Trauma ICU: 1 CNS

Cardiac/Thoracic and Cardiac Stepdown: 1 CNS

Honor Healthcare

Hematology and Bone Marrow Transplant: 1 CNS

Psychiatric Mental Health: 1 CNS

Increasing CNS roles at all five hospitals throughout 2015 - 2016

Banner Health

Banner Home Care: 1 CNS

Baywood: 1 CNS

Cardons Childrens: 1 CNS

Desert: 4 CNS

Estrella: 1 CNS

Gateway: 2 CNS

Good Samaritan: 7 CNS

Thunderbird: 2 CNS

Banner University Medicine Center Tucson:

Surgery Oncology: 1 CNS

Women & Children's: 1 CNS

Emergency Services: 1 CNS

Cardiology: 1 CNS

2 Clinical Specialists in school at GCU for CNS track (Good Samaritan and Gateway)

Mayo Clinic Hospital in Phoenix, Arizona

Bone Marrow Transplant: 1 CNS

Oncology: 1 CNS

Progressive Care/Cardiovascular: 1 CNS

1 Clinical Specialist in school at Purdue University for CNS track

Arizona Partnership for Immunization

Public Health: 1 CNS

In 2010, there were 122 CNSs statewide, an 18.4 percent increase from 2007. Most of the CNSs were located in urban areas (95.9%). The CNSs-population ratio increased from 1.7 to 1.9 from 2007 to 2010. There were no active CNSs reported in Apache, Gila, Graham, Greenlee, La Paz, Santa Cruz, and Yuma counties from 2007 to 2010 (Tabor & Eng, 2012). In 2013 the CNS faction peaked at 286. Since then, 86 have either become nurse practitioners no longer practicing as a CNS or relocated to a state that allows them to practice to the full extent of their education and training (Arizona State Board of Nursing, 2015).

II. Definition of Problem

Increased Advanced Practice Nursing autonomy is necessary to fill the gaps in healthcare, as identified in Healthy People 2020 (U.S. Department of Health and Human Services, 2010) and applied to Arizona. CNS practice areas tend to align with underserved groups or action items in the report—maternal /child and neonatal health, chronic disease management, reducing infection rates, and mental health (Arizona Health Matters, n.d.). Advanced practice nurses provide this service at a lower cost than an all-physician workforce would allow. Public health is better served by removing the barriers to full CNS practice.

A significant deficit in the state of Arizona is the Psychiatric Mental Health CNS. These providers are limited in their scope of practice and the role is not attracting psychiatric CNSs to the state of Arizona because the CNS in Arizona does not have prescriptive authority. This limits access to care of those with need.

If CNSs are permitted to practice to the extent of their education, training, and abilities, Arizona could benefit from enhanced competition, including potentially lower costs and greater patient access to care. The need for this expanded practice is reflected in healthcare demographics. The current state of health and longevity among aging adults in Arizona is unprecedented, providing realities that are both exciting and troublesome. Due mainly to broad public health initiatives, the major causes of death in developed countries have shifted from infectious to chronic diseases over the past century. As chronic diseases typically manifest among older adults, this transition has increased overall life expectancies, meaning a greater proportion of the population is living longer than ever before (National Center for Health Statistics, 2015). Coupled with increasing longevity, birth rates in the United States spiked after World War II but decreased sharply by the mid-1970s (Centers for Disease Control and Prevention, 2003). The combination of increased longevity and changing birth rates has caused our population's age-structure to shift, increasing the proportion of older adults facing the costs of chronic diseases, while simultaneously decreasing the number of younger working adults who contribute to Social Security and welfare systems through wage deductions. As the Baby Boomer generation is reaching older adulthood, the impact of these population dynamics is upon us. In 2010, about 14 percent of Arizonans were 65 years of age or older, with about 83 percent of these residents being White non-Hispanic. Changes in aspects of fertility, mortality, and immigration will affect the age-structure of Arizona's population, placing increasing stress on welfare systems designed to care for older adults. For example, the entire population of Arizona is projected to increase by more than 80 percent from the 6,401,568 residents estimated to have lived in Arizona on July 1, 2010 to a projected 11,562,584 by 2050 (Arizona Department of Health Services, 2012).

The problems are especially notable in cancer care. As stated previously, nearly 14.5 million children and adults with a history of cancer were alive on January 1, 2014, in the United States. The 10 most common cancer sites represented among male and female survivors. Prostate (43%), colon and rectum (9%), and melanoma (8%) are the three most common cancers among male cancer survivors and breast (41%), uterine corpus (8%), and colon and rectum (8%) are the most common among female survivors. The majority of cancer survivors (64%) were diagnosed 5 or more years ago, and 15% were diagnosed 20 or more years ago. Nearly half (46%) of cancer survivors are 70 years of age or older, while only 5% are younger than 40 years. As mentioned earlier, by January 1, 2024, it is estimated that the population of cancer survivors will increase to almost 19 million: 9.3 million males and 9.6 million females (American Cancer Society, 2014). It is anticipated that the primary care and hematological oncology community are not prepared in volume and education to adequately care for this aggregate with the increase in chronic disease population.

III. Educational Programs and Clinical Preparation

3.1 Educational Requirements: Pre-graduate

In Arizona, CNSs are advanced practice registered nurses (APRNs) who have completed an accredited graduate level educational program, have passed a national certification exam that matches the educational preparation, and obtained a certificate to practice as an APRN in the state of Arizona (Arizona State Board of Nursing, 2014c).

Pre-graduate educational preparation requires RN education and licensure with a Bachelor's degree in nursing. Arizona State University, for example, describes the necessary requirements for a program of study for a traditional Bachelor of Science in Nursing (BSN) with credits and clinical hours that follow the American Association of Colleges of Nursing (AACN) essentials for BSN education (Arizona State University, 2015). Upon obtaining a BSN, then enrollment in an accredited graduate level program (master's or doctoral) can occur.

3.2 Educational Requirements: Post-graduate

In 1998, the NACNS published the first edition of "The Statement on Clinical Nurse Specialty Practice and Education." This included recommendations for both core practice competencies and educational preparation. Subsequent editions were released in 2004 and 2008, both of which specified that CNS curricula was to include a clinical core of advanced pathophysiology, advanced pharmacology, and advanced health assessment in addition to the other practice competencies of the CNS role.

In December, 2011, the ANA and the NACNS affirmed the definition of a CNS as a registered nurse prepared at the master's or doctoral level as a CNS from an accredited educational institution and recognized by his/her state to practice as a CNS. States determine the practice requirements for all APRNs.

The CNS receives education at the graduate level in the specific area of a clinical nurse specialty. This education is specific to the diagnosis and treatment of health/illness states, disease management, health promotion, and prevention of illness and risk behaviors among individuals, families, groups, and communities. CNS education includes the study of a specific population and requires all programs to offer content on advanced pharmacology, advanced pathophysiology, and advanced health assessment. CNSs hold a registered nursing license and a document of recognition as a CNS.

In 2002, Grand Canyon University opened its designated CNS track as the demand for nurses prepared in the CNS role was increasing. In May, 2002 legislation was signed into law in Arizona that provided title protection for the role and increased the educational requirements for the CNS to include a Master's Degree in Nursing from a designated CNS track. A portfolio process for the CNS who met previous board requirements was created to document competencies for those nurses who were already practicing in the CNS role and were seeking certification. Nine CNS applied and seven CNS were granted certification restricted to the state of Arizona. The current education requirements include 500 clinical hours, advanced pharmacology, advanced pathophysiology, advanced physical assessment and differential diagnosis, and certification in a CNS specialty. If prescriptive authority in the state of Arizona is added to the scope of practice for the CNS, then additional education would be required for CNS whose academic transcript is missing one or more of the current Arizona CNS educational requirements.

Rush University College of Nursing's program of study for a doctor of nursing practice (DNP) for the adult-gerontology CNS is an example of educational requirements needed to become a CNS in this patient population (Rush University College of Nursing, 2015). Grand Canyon University is an additional example of a program of study for a master of science in nursing for the adult CNS (Grand Canyon University, 2010).

The Arizona State Board of Nursing has specific criteria for curriculum and testing per Arizona R4-19-502 (Arizona State Board of Nursing, 2014b).

3.3 CNS Certification

According to the Arizona State Board of Nursing, professional nurses seeking certification as a CNS shall meet the following requirements (Arizona State Board of Nursing, 2014a):

- a. Current Arizona licensure in good standing or current RN licensure in good standing in another compact party state,
- b. Graduate degree with major in nursing,
- c. Completion of a CNS program in the specialty area pertinent to the practice of a CNS as part of the graduate program or post-Master's program,
- d. Current certification as a CNS by a national nursing credentialing agency in the specialty area of nursing practice.
- e. Each applicant for initial certification is required to submit a full set of fingerprints. All applicants must show evidence of United States citizenship.

3.4 Testing Requirements

National certification or recertification is required to obtain licensure as a Clinical Nurse Specialist in the State of Arizona. Certifications awarded by the American Nurses Credentialing Center (ANCC) and the American Association of Critical-Care Nurses Certification Corporation (AACN) are approved by the AZBN (Arizona State Board of Nursing, 2014c).

3.4.1

The first of the two credentialing bodies, American Nurses Credentialing Center (ANCC), is a subsidiary of the American Nurses Association (ANA). The ANCC promotes excellence in nursing and healthcare through credentialing examinations that allow nurses to demonstrate expertise in their specialty and validate their knowledge (Arizona State Board of Nursing, 2014a). The examinations are developed by ANCC in cooperation with a Content Expert Panel (CEP) comprised of carefully chosen experts in the field being tested. The content expert panel analyzes the professional skills and abilities from the role delineations studies, which provide the evidence for the test content. Content-based questions are then developed by advance practice nurses who have received training by ANCC. These items are reviewed by the content expert panel and the ANCC staff and pilot-tested to ensure validity and psychometric quality before being used as scored items on the actual examinations. The ANCC adheres to a variety of guidelines during the development of items to ensure that the questions are appropriate for the specialty and certification level. Items are referenced to the approved test content outlines and reference books, and items are screened for bias and stereotypes and meet the accreditation standards of the Accreditation Board for Specialty Nursing Certification (ABSNC) and the National Commission for Certifying agencies (NCCA). The examinations are monitored by the ANCC staff for continued validity and reliability and are updated approximately every three years (American Nurses Credentialing Center, 2013).

ANCC certification examinations are specific for each specialty within the CNS role. Specialty areas approved in Arizona for the role of Clinical Nurse Specialist include:

- Adult Psych/Mental Health CNS
- Family Psych/Mental Health CNS

- Gerontological CNS
- Adult Health CNS
- Pediatric CNS (Arizona State Board of Nursing, 2014c)

Each examination contains 175 to 200 questions. Of these, 25 are pretest questions that are not scored. These questions are being pilot tested to assure validity before they are added to the scored portion of the test. Test content on all examinations includes:

- Direct Care
- Professional Practice
- Systems Leadership/Quality/Outcomes

The number of questions and percentage of total score for each domain of practice varies for each specialty examination (American Nurses Credentialing Center, n.d.), are computer-based and offered through the Prometric testing system. The time allotted for most tests is 3.5 hours. Valid identification must be presented on the day of testing (American Nurses Credentialing Center, 2013).

For example, the ANCC has specific eligibility criteria for an adult-gerontology CNS certification (American Nurses Credentialing Center, 2015).

3.4.2

The second nationally recognized credentialing body, the American Association of Critical-Care Nurses (AACN) Certification Corporation, develops and administers the Clinical Nursing examinations. The AACN Certification Corporation contributes to the safety and health of consumers through comprehensive credentialing of nurses to ensure their practice is consistent with established standards of excellence in caring for acutely and critically ill patients and their families. The AACN Certification Corporation programs have been accredited by the National Commission for Certifying Agencies (NCCA), the accreditation arm of the Institute for Credentialing Excellence (ICE) (American Association of Critical Care Nurses Certification Corporation, 2014).

AACN Certification Corporation examinations are specific for each specialty within the CNS role. Specialty CNS certifications awarded by the AACN and approved by the AZBN include:

- CCNS—Adult Acute and Critical Care Clinical Nurse Specialist
- ACCNS—Acute Care Clinical Nurse Specialist: Wellness through Acute Care
- Adult—Gerontology
- Pediatric
- Neonatal (Arizona State Board of Nursing, 2014c)

Each ACCNS exam is based on a study of practice, also known as a job analysis, that validates the knowledge, skills, and abilities required for CCNS practice. The framework for the exam is the AACN Synergy Model for patient care (American Association of Critical-Care Nurses, n.d.; Arizona State Board of Nursing, 2014b)

The ACCNS exams consist of 175 multiple-choice questions. Of the 175 items, 25 are unscored and are used to gather statistical data on item validity for future testing. The exams are 3.5 hour tests and focus on adult, pediatric, or neonatal populations. Each question on the ACCNS exam assesses one or more of the nurse characteristics identified

in the Synergy Model and will also focus on a particular domain of CNS activity: patient/population, nursing personnel, and other disciplines/organizations/ systems (American Association of Critical-Care Nurses, 2015)

Sixty-one percent (61%) of the questions address content where the age of the patient spans the developmental spectrum. The remaining 39% address adult, pediatric, or neonatal patients. Some questions on the ACCNS exam use information about patient care problems commonly encountered by CNSs caring for acutely and/or critically ill patients. These care problems are reviewed and revised at least every 5 years in a study of practice, known as a job analysis, completed by AACN Certification Corporations (American Association of Critical-Care Nurses, 2015). An example of a CNS test plan is found in the AACN ACCNS-Adult-Gerontology Exam Handbook (AACN, 2015).

3.5 CNS and Prescriptive Authority

In contemplating the value of providing prescriptive authority and expansion of practice for the CNS, the following should be considered: A) Extending the role of the CNS to include prescribing allows greater autonomy in managing patient needs and improving patient care, enabling CNSs to provide more timely and responsive services for patients. B) Advanced nurse prescribing is expected to have many benefits, including improvement in quality of care for patients, improvement in patients' access to health care, better use of the skills and experience of nurses, increased recognition for their competencies and expertise, an improved working relationship between health care professionals, a reduction in the workload of medical staff, time savings for patients and medical practitioners, and potential cost reductions. C) Expanded practice can improve the management of people with chronic conditions and prevent premature deaths. D) The aims of extending prescribing responsibilities are to: (1) improve the quality of service to patients without compromising safety; (2) make it easier for patients to get the medications they need; (3) increase patient choice in accessing medicines; (4) make better use of the skills of health professionals; and (5) contribute to the introduction of more flexible team work among health intraprofessionals. E) Ethical and statutory mandates will dictate the responsibility of the CNS to keep up to date with current evidence and best practice within their specialty area. F) CNS prescriptive authority should be optional, and include a post-master's certification and any requirements consistent with that of the other APRN roles. G) Because safety has been demonstrated by other APRN roles that have prescriptive authority, prescriptive authority requirements should be consistent. H) Over three decades of nurse prescribing, the literature supporting the quality and safety of nurse prescribers is strong. I) A CNS is authorized to prescribe medications or pharmaceuticals if he/she has met the state requirements for prescriptive authority. Individual states vary in their requirements and prescriptive authority may not be necessary for all CNS roles.

3.6 Educational Requirements for CNS Prescriptive Authority

The current education of the Clinical Nurse Specialist (CNS) includes courses in Advanced Physical/Health Assessment, Advanced Pathophysiology, and Advanced Pharmacology pursuant to *The Essentials of Master's Education for Advanced Practice Nursing* (American Association of Colleges of Nursing, 2006a). This education is identical to that of the Nurse Practitioner, preparing the advanced practice nurse for prescriptive authority privileges. Therefore, the didactic for CNS practice provides training for prescriptive authority and increased scope of practice and follows the requirements as set forth by the American Association of Colleges of Nursing.

Currently, 18 states and surrounding areas (Alaska, Colorado, Delaware, Guam, Hawaii, Idaho, Iowa, Minnesota, Montana, Nevada, New Hampshire, New Mexico, North Dakota, Northern Mariana Island, Oregon, Vermont, Washington and Wyoming (National Council of State Boards of Nursing, 2014) allow the CNS to have increased scope of practice through prescriptive authority privileges (9 are independent, without restrictions; 9 are independent, restricted to area of practice; 16 others are not independent and have various restrictions). Literature review yields no documented harm to the public through allowing prescriptive authority to the CNS in these states.

3.7 Process for Developing and Adopting Rules for CNS Prescriptive Authority

The proposed prescriptive authority for CNSs in Arizona would be consistent with the process utilized currently for the nurse practitioner and certified nurse midwife but with limitations consistent with the scope and focus of care for each CNS. The present rules for prescriptive authority for NPs and CNMs are described by the Arizona State Board of Nursing (under Prescribing and dispensing authority: Prohibited acts; Prescribing drugs and devices: Dispensing drugs and devices) and the Arizona Revised Statutes (Arizona State Board of Nursing, 2014d; Arizona state legislature, 2011).

IV. How Consumers Need and Will benefit from Change in Scope

4.1 Studies of patient safety

Clinical Nurse Specialists (CNSs) have a long record of improving patient safety. They have been at the forefront in healthcare transformation, leading data-driven change in programs, practices, and systems. Coordination of increasingly complex nursing care is essential to reduce errors and improve safety and quality outcomes, which in turn reduce healthcare costs. CNSs have demonstrated positive outcomes in prenatal care; preventive and wellness care; care to reduce depression; chronic conditions; preventing hospital-acquired conditions (HACs); reducing lengths of stays in acute and community care centers; and preventing readmissions (National Association of Clinical Nurse Specialists, 2013).

The Institute of Medicine (IOM) issued 8 key recommendations in the 2010 Future of Nursing Report, including #1—removing practice barriers and allowing advanced practice nurses to practice to the full extent of their education and training (Institute of Medicine, 2010a).

Direct care provided by CNSs is safe, effective, and results in high patient satisfaction. A few of the numerous studies that describe CNS practice are listed below:

- Early findings of a randomized, controlled study of outcomes and cost-effectiveness for arthritis patients attending CNS-led rheumatology clinics, compared to physician-led clinics, showed that functional status, disease symptoms, and patient satisfaction are similar between groups (Ndosi, Vinall, Hale, Bird, & Hill, 2011).
- APRN psychiatric nurses are essential to a transformed mental health service delivery that is patient-centered, evidence-based, and recovery oriented (Hanrahan, Delaney, & Merwin, 2010).
- A comparison of care provided by CNSs and general practitioners at a cancer clinic found that the care by CNSs resulted in similar levels of patients' quality of life. Patients valued the relationship developed with the CNS, had longer and

more frequent consultations, and were more often referred to the multidisciplinary team. There were indications that oral and nutrition problems were managed more effectively in the nurse-led clinic, although emotional functioning was higher in the medical group (Wells et al., 2008).

- The Cochrane Database group conducted a meta-analysis including 25 articles relating to 16 studies comparing outcomes of CNSs and other primary care nurses and physicians. Overall, health outcomes and quality of care were equivalent for nurses and physicians. The satisfaction level was higher for nurses (Laurant, Hermens, Braspenning, Akkermans, Sibbald, & Grol, 2006) (Laurant et al., 2008b).

CNSs are leaders of change within organizations as the clinical experts. They can facilitate quality of care in numerous ways: Utilize evidence-based programs to prevent avoidable complications; improve the quality of care; improve safety; prevent hospital readmissions; reduce length of stay; increase patient satisfaction; improve pain management practices; and improve patient outcomes (DeJong & Veltman, 2004; Murray & Goodyear-Bruch, 2007; Naylor et al., 2004; Ryan, 2009; Vollman, 2006). DeJong and Veltman's (2004) study investigated the effectiveness of a CNS-led community based chronic obstructive pulmonary disease screening and intervention program (DeJong & Veltman, 2004). The results indicated that of the subjects contacted after the screening, 47% indicated that they stopped smoking, were in the process of quitting, or were seriously considering quitting. In a study by Murray and Goodyear-Bruch (2007) a ventilator associated pneumonia (VAP) prevention program was developed by CNSs and resulted in a reduction in incidence of VAP in the critical care units of a hospital system, with two units having no cases of VAP over a two year period (Murray & Goodyear-Bruch, 2007).

Vollman (2006) looked at pressure ulcer prevalence among vulnerable intensive care patients. Critically ill patients often experience complications including ventilator-associated pneumonia and pressure ulcers. This CNS team found that a CNS directed program reduced pressure ulcer prevalence among vulnerable intensive care patients from 50-80% (Vollman, 2006). CNSs are the coaches that provide transitional care of patient populations with chronic diseases with a goal of preventing readmissions and improving patient outcomes (Naylor et al., 2004; Ryan, 2009). Naylor et al. (2004) conducted a randomized, controlled trial and found that APRN directed discharge planning and a home follow-up protocol resulted in: Fewer readmissions, lower mean total costs, and short-term improvements in quality of life and patient satisfaction (Naylor et al., 2004).

Another study completed by Ryan et al. (2009) looked at hospital readmissions, since these are expensive and have a significant impact on a patient's quality of life. This study investigated the effectiveness of an evidence-based group discharge education program for patients with heart failure and their families. The results showed that a team of CNSs, a nurse manager, and nursing staff helped reduce hospital readmissions (Ryan, 2009). CNSs have been instrumental in improving quality and safety of care and reducing health care costs. The CNS implements evidence-based system wide changes to reduce infections, reduce hospital-acquired conditions, reduce medical errors and reduce costs in acute care facilities (Murray & Goodyear-Bruch, 2007; Vollman, 2006). CNSs continue to provide value-based services to organizations.

CNSs increase the availability of effective care for those with chronic illness. They are

effective coaches, transitional coaches, etc. in promoting self-care and reducing the overall costs related to chronic illnesses. There are several studies that document this care to the chronically ill population, which includes asthma, heart failure, chronic pulmonary disease, and epilepsy (DeJong & Veltman, 2004; Naylor et al., 2004; Ryan, 2009; Vollman, 2006). CNSs improve access to wellness and preventative care to populations at risk for chronic diseases, such as diabetes and heart failure. There are wellness companies that are managed and owned by CNSs. These companies provide ongoing care to keep employees healthy. By engaging CNS managed wellness companies to their employees, employers can expect decreased health care costs.

All of these studies have shown that CNSs are effective at what they currently do. But the inability to prescribe, order laboratory tests and other non-pharmacological treatments are obstacles in trying to meet the demands of the needs of Arizona residents.

All of these studies have shown that CNSs are effective at what they are currently allowed to do. But the inability to prescribe and order tests is an obstacle. Care can be improved by enhancing the scope of practice and granting prescriptive authority to the CNS as noted in the actual examples provided in Section I.

CNSs can meet the demands of the health care system in the following ways (National Association of Clinical Nurse Specialists, 2009):

- Increase the effectiveness of transitioning care from hospital to home and prevent readmissions
- Improve the quality and safety of care and reduce health care costs
- Educate, train and increase the nursing workforce needed for an improved health system
- Increase access to community-based care
- Increase the availability of effective care for those with chronic illness
- Improve access to wellness and preventive care

4.2 Access to Care Issues

In the previous Section II on the definition of the problem, the growing need for healthcare providers was described. This problem, in part, can be relieved by enhancing the scope of practice to the CNS and granting prescriptive authority to the CNS.

Examples include:

The CNS is instrumental in achieving high quality care in various patient care settings. CNSs employed in acute care hospitals have helped those organizations achieve Magnet status through the American Nurses Credentialing Center (ANCC), which recognizes exceptional nursing care with resulting improved patient outcomes. In addition, CNSs often lead continuous quality improvement programs because of their advanced knowledge of systems theory, design and evaluation of evidence-based programs, and multidisciplinary teamwork which provides the expertise needed to achieve high quality outcomes (National Association of Clinical Nurse Specialists, 2013).

Benefits of an expanded scope of the CNS to patients include:

- Expanding consumer choice and access to care
- Improving continuity of care
- Increasing cost-effectiveness (e.g. decreased re-hospitalizations, decreased duplication of services)
- Improving interprofessional collaboration and team care

- Increasing long-term survivorship in multisystem, chronic disease, and complex cancer patients
- Decreasing patient stressors, especially for older patients
- Using available healthcare workforce most efficiently to coordinate and deliver care (Brassard & Smolenski, 2011)

The future for the CNSs, allowed to practice fully to the extent of their preparation and training, will have advantages for Arizona. In their role as an advanced specialist, the CNS will be able to initiate and carry out the plan of care necessary for the population they treat, rather than making recommendations to a prescribing provider. Having prescriptive authority for the CNS will eliminate a delay in patient care, and facilitate full implementation of the care plan, in wellness, and acute and chronic disease state management. A CNS workforce that functions at the top of their scope improves overall coordination of care for increasingly complex patients, and improves safety of nursing interventions on the individual and institutional level.

Practice is limited in the state of Arizona regarding the ability of CNSs to practice to the fullest extent of their educational and practical training. Currently, in the state of Arizona, CNSs work in tertiary referral centers for such specialties as burn, couplet care with multiple births, neonatal, cancer, neurology, genomics, and organ transplant. The CNS is limited in the ability to triage the care of the patients who are either coming from or returning home to neighboring states or other countries. In order to provide telehealth assessments and interventions to patients residing in other states, the CNS must obtain an Advance Practice Registered Nurse (APRN) license in each state the patient resides. Otherwise, these patients are cared for by general practitioners, and safety can be compromised as a result. Expanding the scope of CNS practice will increase the ability of the state of Arizona and its nationally recognized expertise to reach out to more patients and increase their access to excellent care and improved outcomes. These are billable services that increase the revenue to the state of Arizona (Emerson, 2015).

V. Impact on Applicants from Other States

The proposal does not present any new obstacles for applicants from other states. The expansion of the scope could even serve to attract CNSs from other states that already have an expanded scope of practice. While CNSs can provide expert care and consultation without prescriptive authority, over 70% of CNSs responded to the 2010 NACNS survey that if they had prescriptive authority, they would prescribe medications in their clinical practice.

One identifiable challenge with granting increased scope of practice through prescriptive authority exists for the CNS who has traditionally not prescribed. In order to safeguard the public, transitional education would have to be mandated for any CNS who intends to be granted prescriptive authority within the state of Arizona, consistent with the model already in place as described in Section 3.7.

VI. Cost to State

The cost effectiveness of the CNS is exhibited in multiple studies (National Association of Clinical Nurse Specialists, 2013). Implementation of the CNS role is associated with improvement in patient outcomes (Newhouse et al., 2011).

In the Balanced Budget Act of 1997, Congress authorized the Medicare program to reimburse CNSs when they perform physician type services within their scope of practice, as long as the CNS holds a state license. The reimbursement rate is 85% of the physician rate for office visits and 75% for hospital services. It should be noted that a collaborative practice agreement must be in place for reimbursement to occur (Doyle, Pennington, & Kliethermes, 2010).

Currently there is no reimbursement for CNSs who are employed at hospital-based organizations. There is restricted reimbursement for those CNSs who run wellness, preventative care, community based programs; provide mental health services and primary care which is 85% of the physician fee schedule. There is no anticipated financial burden to the state or the public. By removing scope of practice barriers for CNSs, there may be substantial financial gain. Several states have done extensive financial analyses and have found that removing barriers to practice increases access to care and reduces costs associated with chronic conditions that have often been left untreated or inadequately treated. Extensive studies have repeatedly demonstrated the role of the CNS in delivering quality metrics and reducing readmissions to hospitals.

Texas has researched that the economic benefits of more efficient use of Advanced Practice Registered Nurses will grow. In 2020, it is estimated that the total annual impact (including multiplier effects) for the state of Texas would include almost \$24 billion in total expenditures and \$12 billion (in constant 2011 dollars) in output (real gross product) as well as 122,735 permanent jobs. Aggregate state and local fiscal revenue gains would be \$722.7 million and \$322.3 million per annum, respectively (The Perryman Group, 2012).

By 2030, in Texas the annual economic benefits of reduced health care expenditures realized by more fully utilizing Advanced Practice Registered Nurses could be expected to rise to \$34.8 billion in total expenditures and \$17.5 billion in output (real gross product) as well as 151,462 permanent jobs. State revenue gains for the year would be \$1.053 billion, with local governmental receipts rising by \$424.8 million (The Perryman Group, 2012).

Health and Human Services now comprise the largest expense in Florida's budget. Florida appropriated \$29.9 billion (43.3%) of the \$69.2 billion budget for Medicaid and other similar programs in FY2011-12. As millions of Americans enter the health system following the healthcare overhaul in Congress, reducing costs while maintaining effectiveness is becoming a paramount priority. Expanding the scope of practice for Advanced Registered Nurse Practitioners (ARNPs) can generate potential cost savings of \$7 million to \$44 million annually for Medicaid, \$744,000 to \$2.2 million for state employee health insurance, and \$339 million across Florida's entire healthcare system (Florida Tax Watch, 2011).

It is important to note that these cost savings estimates only include Nurse Practitioners in primary care. The estimates exclude potential savings derived from additional utilization of Nurse Anesthetists, Nurse Midwives, and Nurse Specialists in their specific fields of care. Current cost savings estimates would increase substantially if all four categories of APRNs were utilized to the maximum capacity of their education and experience. The \$339 million in savings across Florida includes small businesses and individuals who purchase insurance directly through providers (Florida Tax Watch, 2011)

North Carolina demonstrated that the level of overall health care utilization (demand) observed in 2012, will increase by 14.4 percent by the year 2019 due to population growth and demographic change. Had the Affordable Care Act been fully implemented in 2012, this would have increased baseline 2012 utilization by 3.1 percent assuming no Medicaid expansion. Alternatively, if Medicaid were expanded (or its equivalent, such as letting all persons below poverty purchase subsidized coverage through the health exchanges), baseline demand would increase by 5.7 percent. Less restrictive regulation of APRNs would result in a net increase of 1,744 FTE APRNs relative to the 2012 supply. North Carolina examined the extent to which APRNs can reduce the need for physicians either directly (by substituting for doctors to the extent that their training allows) or indirectly (e.g., by reducing the need for hospitalization and the companion physician care that otherwise would have been provided). The combined increases for NPs and CNSs would reduce the projected shortage of primary care physicians (exclusive of OB/GYNs) by at least 92 percent. The expected increase in CNMs would reduce the expected shortage of OB/GYNs by at least 17 percent. However, since NPs and CNSs also can reduce the demand for OB/GYNs, it is feasible for the expanded use of APRNs under less restrictive regulation to entirely eliminate the shortage Economic Benefits of Less Restrictive Regulation of Advanced Practice Registered Nurses in North Carolina Duke University, Center for Health Policy and Inequalities Research of OB/GYNs while still reducing the shortage of non-OB/GYN primary care doctors by 83 percent. Similarly, the expected increase in CRNAs could eliminate at least 85 percent of the expected shortage of anesthesiologists and possibly eliminate that shortage entirely. Less restrictive APRN regulation has the potential to decrease the overall shortage of nonfederal physicians by at least 41 percent and possibly eliminate the shortage altogether (Conover & Richards, 2015).

2015 SUNRISE APPLICATION
ARIZONA ASSOCIATION OF NURSE ANESTHETISTS



Terms & Definitions

- APRN Advanced Practice Registered Nurse. A Registered Nurse who has undergone additional education and training, earning an advanced degree in a specific field of nursing. In Arizona this includes Nurse Practitioners, Clinical Nurse Specialists, Nurse Midwives, and Certified Registered Nurse Anesthetists.
- BSN Bachelor of Science in Nursing.
- BON Board of Nursing (specifically referring to Arizona). This is the regulatory body for all registered and advanced practice nurses in Arizona.
- COA Council on Accreditation of Nurse Anesthesia Educational Programs. The organization responsible for accrediting all nurse anesthesia programs throughout the United States, thus creating unity and equality between programs and graduates, regardless of which state a program may be located.
- CRNA Certified Registered Nurse Anesthetist. An advanced practice registered nurse that has undergone specialized training, usually at a masters or doctorate level, in the administration of anesthesia and pain management.
- NBCRNA National Board of Certification and Recertification for Nurse Anesthetists. This is a nationally-recognized certification body by which all CRNAs obtain and maintain national certification.
- NCSBN National Council of State Boards of Nursing. This is a national organization through which boards of nursing act and counsel together on matters of common interest and concern affecting public health, safety and welfare.
- NPA Nurse Practice Act. Statute governing scope of practice for all registered nurses and APRNs, Arizona Revised Statute, Title 32, chapter 15.
- RN Registered Nurse. This is the term used in this application to refer to an undergraduate-level nurse.

Introduction to Nurse Anesthesia

Anesthesia was introduced into nursing in the mid-nineteenth century as surgeons needed help caring for patients during surgical operations. Anesthesia became the first nursing specialty after nurses were taught to administer chloroform. In 1877 Sister Mary Bernard in Erie, PA became known as the first identifiable nurse anesthetist by utilizing the chloroform/ether drop method of anesthesia administration.

In 1894 Alice Magaw, a nurse, worked alongside the Mayo brothers (founders of the Mayo Clinic in Rochester, MN) performing anesthesia. Alice later became known as the “Mother of Anesthesia”. This was long before physicians adopted the specialty of anesthesia (Bankert, 1989).

Since that time nurses have worked tirelessly to develop educational programs and institutions that educate and train nurses to administer effective and safe anesthesia. In 1915 Lakeside Hospital School of Anesthesia in Cleveland, Ohio was established with the first class of graduates in 1916, composed of 6 physicians, 2 dentists, and 11 nurses. Shortly thereafter four other schools were formed around the country.

Now Certified Registered Nurse Anesthetists (CRNAs) work as Advanced Practice Registered Nurses (APRNs) who have acquired graduate-level education and national certification in anesthesia. Currently CRNAs practice in all 50 states and the District of Columbia, administering approximately 34 million anesthetics each year. CRNAs care for every type of patient, from the neonate and the laboring mother to the critically ill and the elderly. CRNA practice includes all types of anesthesia, for every type of procedure: from podiatry and dentistry, to thoracic, cardiovascular and neurosurgery.

CRNAs are frequently trained alongside physician anesthesiology residents in the same institutions, performing the same anesthetics, thus preparing CRNAs to administer the same quality anesthesia as their physician counterparts. At the University of Arizona the nurse anesthesia students as well as the residents utilize Banner University Medical Center Tucson and the Tucson VA hospitals for their clinical training. At Midwestern University in Glendale, CRNAs students and medical students combine to take courses in human anatomy, physiology, embryology and biochemistry (Midwestern University College of Health Science, 2014)(Appendix A). CRNAs practice in each of Arizona’s counties, working in hospitals, surgery centers, dental offices and other healthcare environments.

In the US Military CRNAs serve our troops on the front lines and have been involved with wartime administration of anesthesia since the civil war. CRNAs were the only anesthesia providers deployed into front-line surgical hospitals during Operations Desert Storm and Iraqi Freedom. This shows that CRNA anesthesia services are heavily utilized and relied upon in order to care for the most severe traumas occurring during times of war, thus allowing CRNAs to practice to the full extent of their education and training.

It should be noted that in much of rural America, including Arizona, CRNAs serve as the *primary*, and often the *sole* anesthesia providers. Communities such as Payson, Fort Defiance, Globe, Safford, Bisbee, Nogales, Parker, Page, Winslow, Tuba City, Springerville, White River Indian Health Services, and Sunrise Ambulatory Surgery Center are void of a physician anesthesiologist presence. CRNA services enable

healthcare facilities in these medically underserved areas to offer obstetrical, surgical, and trauma stabilization services to patients near their homes and support the existence of these facilities in small communities across the state. Without CRNAs in these communities surgical and obstetrical services could not be offered and patients would be required to travel long distances to obtain the care they need. Even within the metro Phoenix area there are facilities which offer CRNA-only services such as Gilbert Hospital, Surgery Center of Casa Grande, North Valley Endoscopy, Sun City Endoscopy and many dental clinics around the city.

Arizona CRNAs practice in many different environments and models. Some work in conjunction with their physician colleagues while others work independent of any physician anesthesiologist presence (American Association of Nurse Anesthetists, 2014). Over 800 CRNAs are licensed in Arizona to help meet the anesthesia needs of this state (Arizona Board of Nursing, n.d.). Regardless of the practice environment, nurse anesthesia has proven to be as effective and as safe as physician-led practice. In a study by Dulisse and Cromwell it was shown that "...complication rates for the solo nurse anesthetist group were essentially identical to those of the solo anesthesiologist group." This same study also discovered that, "Despite the shift to more anesthetics performed by nurse anesthetists, no increase in adverse outcomes was found..." (Dulisse & Cromwell, 2010).

It is the goal of this Sunrise Application to show that through changes to Arizona Revised Statute, Title 32, chapter 15, sometimes referred to as the Nurse Practice Act (NPA), CRNAs can improve access to anesthesia services in Arizona while reducing the cost of healthcare throughout the state.

2015 Sunrise Application Questions & Answers

1. A DEFINITION OF THE PROBLEM AND WHY A CHANGE IN SCOPE OF PRACTICE IS NECESSARY INCLUDING THE EXTENT TO WHICH CONSUMERS NEED AND WILL BENEFIT FROM PRACTITIONERS WITH THIS SCOPE OF PRACTICE.

This Sunrise Application seeks a recommendation, pursuant to A.R.S. §32-3106, to amend Title 32, chapter 15 and enable Certified Registered Nurse Anesthetists in Arizona to practice to the full extent of their education and training. This will increase access to much-needed anesthesia and analgesia services throughout the state and can be accomplished by removing current barriers that create difficulties in CRNA practice by eliminating the physician supervisory relationship and providing prescriptive authority consistent with CRNA education and training.

In addition, CRNAs are seeking an increase in regulation concerning pain management. Currently CRNAs that practice pain management in Arizona have few legislative guidelines to lead their practice. Although under the current scope of practice CRNAs have some ability to provide pain management, the proposed change will give additional guidance to practitioners and also help maintain public safety.

Current Arizona statute limits a CRNA to administering anesthetics “under the direction of and in the presence of a licensed physician or surgeon...” (Arizona State Legislature, n.d.-e)(Appendix B). As mentioned previously CRNAs are the sole anesthesia providers in many Arizona communities. In these situations, where there is no anesthesiologist present, the physician fulfilling the statutory requirement is the operating surgeon, podiatrist or dentist. Unlike CRNAs, these physicians do not have specific anesthesia training and are not board certified in anesthesia delivery. They do not receive the in-depth education and training on the actions of different anesthetics, or which medications and anesthesia techniques will provide the safest outcomes in differing situations. In fact, in most operating rooms a non-penetrable drape is placed between the operating surgeon and the anesthesia provider, thus guarding the patient and maintaining a sterile environment. Surgeons, being focused on the surgery itself, don’t typically look over this drape and are not monitoring the slight changes and adjustments CRNAs make during the procedure to keep the patient safe and stable. However, there is good communication and planning between a surgeon and the CRNA before, during and after a procedure in order to provide the best outcome possible.

Although surgeons are not directly prescribing the anesthetics a CRNA should use, or what changes need to be made during the course of an anesthetic, patients continue to do well, surgeries are successful, and excellent patient outcomes are obtained. The statutory requirement for surgeons to direct an anesthetic often places them in a precarious situation and they become confused as to what their role as a “director” should be when working with a CRNA. A number of physicians and healthcare administrators throughout Arizona have given their support for deleting the statutory need for physician direction of a CRNA because of this confusion and discomfort with this statute. It must be noted that their support is guided by the comfort level and the confidence of these physicians in working with CRNAs (Arizona Association of Nurse Anesthetists, 2015).

Many organizations and healthcare facilities throughout the state *incorrectly* interpret this statute as a requirement to have CRNAs work alongside physician anesthesiologists. Their assumption is that since the surgeons don't have complete knowledge of anesthesia there must be a physician anesthesiologist present to act as the directing physician. This incorrect assumption has caused limitations in practice and increased the cost to anesthesia services substantially. In many hospitals and other facilities, particularly in the metro Phoenix area, anesthesia is administered by a CRNA (who is always present in the operating room) working in cooperation with a physician anesthesiologist who is acting as a director, usually to more than two (and sometimes over ten) simultaneous cases. This forces a substantial increase to the cost of that service, which is passed onto the facilities, and eventually the patients themselves. Much of this cost can be avoided by eliminating the trend of "overstaffing" or "duplicate" providers by allowing CRNAs to work without physician direction. The cost of anesthesia delivery is outlined in greater detail below, under Question number 4, where the savings this legislation can provide are discussed.

There are times when a CRNA's services are requested, but statute prevents the delivery of anesthesia in that instance. For example, a patient presents to an emergency department with a large laceration. The physician assistant or nurse practitioner working with that patient requests sedation for the patient while the wound is cleaned, sewn and mended. However, because a physician is not "directing" the anesthetic a CRNA cannot provide the service. Thus the patient is left without anesthesia, is more nervous and anxious, and the outcome may not be as desirable as it would have been had a CRNA been involved.

Landmark findings from the Institute of Medicine (IOM) assert that expanding the role of nurses in the U.S. healthcare system will help meet the growing demand for medical services (Institute of Medicine, 2010b). This IOM report urges policymakers to remove barriers that hinder advanced practice registered nurses such as CRNAs from practicing to the full extent of their education and training.

By eliminating the requirement for CRNA direction hospitals, surgery centers, and healthcare organizations and clinics will understand the capabilities of CRNAs and can better control their excessive costs associated with anesthesia delivery. A recent study has shown that a medical direction model for anesthesia delivery is not cost effective and may not be sustainable without large subsidies (A. Hogan, Furst Seifert, R., Moore, C., & Simonson, B.E., 2010). This same study shows that CRNAs working to their full practice authority, without unnecessary direction and/or supervision, is the most cost-effective model. CRNAs acting as the sole anesthesia provider cost 25 percent less than the second lowest cost model. Alternatively, the model in which one anesthesiologist supervises one CRNA is the most costly model. Not surprisingly, the more barriers that are removed from CRNA practice, the more cost-effective anesthesia delivery becomes.

It is not the goal of the Arizona Association of Nurse Anesthetists or this Sunrise Application to isolate CRNAs from other healthcare professionals or replace valued team members, including our physician anesthesiologist colleagues. CRNAs work side-by-side with many types of physicians, including surgeons and dentists, on a daily basis and enjoy the comradery and team-based approach in caring for those in need. It is our goal to continue to work alongside all healthcare professions while working to the full extent of our education and training.

Many recent studies have been published on a national level that weigh in on using APRNs to their fullest extent. Adoption of the proposed changes will bring Arizona into compliance with suggestions made by the Institute of Medicine and the Federal Trade Commission regarding advanced practice nurses (Gilman, 2014; Institute of Medicine, 2010a). These two reports, as well as a study published in Health Affairs suggest ways to minimize healthcare dollars while maximizing efficacy, including the utilization of CRNAs as outlined in this Sunrise Application (Dulisse & Cromwell, 2010). Unnecessary supervision and direction not only bogs down the healthcare system, but also dramatically increases the cost of delivery. Many states including Texas, Utah, Colorado and Nevada have successfully implemented similar changes to those proposed here (American Association of Nurse Anesthetists, 2015).

The following states have no supervision or direction requirements for CRNAs in statute:

Alaska
California
Colorado
Delaware
District of
Columbia
Hawaii
Idaho
Illinois
Iowa
Kentucky
Maine
Maryland
Minnesota
Mississippi
Montana
Nebraska
Nevada
New
Hampshire
New Jersey
New Mexico
New York
North Carolina
North Dakota
Oregon
Pennsylvania
Rhode Island
Tennessee
Texas
Utah
Vermont
Washington
Wisconsin
Wyoming

In addition to physician supervision A.R.S. Title 32, chapter 15 presents additional restrictions to CRNA practice. We are requesting changes be made to grant CRNAs the authority to prescribe medications within the bounds of their education and training, as currently exists for other APRNs in Arizona. This proposal does not change the educational needs for CRNAs; it retires language that prevents the exercise of full practice authority. Pharmacological education for CRNAs begins at the undergraduate level and continues through the masters or doctoral programs, giving CRNAs in-depth knowledge in working with different drug classifications and specific medications that are relevant to their practice. Every nurse anesthesia program throughout the United States is required to include in their curricula courses that focus on “pharmacology of anesthetic agents and adjuvant drugs including concepts in chemistry and biochemistry (105 hours)” as well as offering courses in advanced pharmacology. These courses not only educate CRNAs on how to administer a proper anesthetic, but also the interactions between medications and how to pharmacologically treat certain anesthesia-related situations (Council on Accreditation of Nurse Anesthesia Educational Programs; Practice doctorate, 2004).

Without prescriptive authority it is impossible for CRNAs to utilize multi-modal therapy in helping patients obtain the best anesthetic possible. For example, if a patient has a history of nausea with anesthesia there are certain medications that can be taken the evening before surgery. Currently CRNAs are unable to prescribe these medicines, thus this multi-modal therapy is not utilized and the patient may not obtain the best experience possible.

In 2011 an amendment was made to A.R.S. Title 32 based upon the recommendations of the Auditor General that codified then-existing rules that were unclear regarding CRNA prescriptive authority. The changes that were made allowed CRNAs to order and administer medications, but not prescribe them. None of the stakeholders involved, including the Board of Nursing, predicted that the Drug Enforcement Agency (DEA) would then require CRNAs to surrender their DEA licenses, based upon their own incorrect interpretation of the new statute (Personal communication, MacKinnon, M., April 18, 2013). This has caused real and potential backlogs of anesthesia care in many organizations and facilities throughout the state, including the Veterans Administration, Indian Health Services, and in office-based settings, thus placing many CRNAs in difficult situations. Without a DEA number, a CRNA is unable to order equipment (whether pharmacological or other) from distributors in order to deliver appropriate anesthesia care. The Board of Nursing has been unsuccessful during meetings with the DEA in helping to make clear the necessity for many CRNAs to possess a DEA number. Adopting these recommended changes will alleviate this problem and once again establish a CRNA’s ability to provide the necessary medications and equipment to adequately care for patients.

The National Council of State Boards of Nursing (NCSBN) envisions another significant healthcare industry through telehealth (National Council of State Boards of Nursing, 1997). Their prediction is that with the advent of new technology many healthcare workers will be practicing remotely and taking care of patients' needs from afar, across state boundaries. For anesthesia, this may include taking health histories and conducting pre and post-operative anesthesia interviews and will be predicated on APRNs having full practice authority, including prescriptive authority.

The American Association of Nurse Anesthetists (AANA) has performed a detailed national analysis examining CRNA prescriptive authority, presented here:

State	Prescriptive authority ¹	Controlled substance authority, if any ²
Alaska	Yes	Schedules II-V
Delaware	Yes	Schedules II-V
District of Columbia	Yes	Schedules II-V
Idaho	Yes	Schedules II-V
Iowa	Yes	"Controlled substances"
Montana	Yes	Schedules II-V
New Hampshire	Yes	"Controlled substances"
New Mexico	Yes	Schedules II-V
Oregon	Yes	Schedules II-V
Vermont	Yes	No reference; does not appear to preclude controlled substances
Washington	Yes	Schedules II-V
Wyoming	Yes	Schedules II-V

¹ Prescriptive authority is arguably "independent" if it is not contingent upon significant physician involvement. If prescriptive authority is not "independent," type of physician involvement is noted. See each state's law or rules for specific requirements.

² Controlled substance schedules noted, if specified. If prescriptive authority is not "independent," level of physician involvement may vary based on controlled substance schedule. See each state's law or rules for specific requirements.

2. THE EXTENT TO WHICH THE PUBLIC CAN BE CONFIDENT THAT QUALIFIED PRACTITIONERS ARE COMPETENT INCLUDING:

A. EVIDENCE THAT THE ARIZONA STATE BOARD OF NURSING HAS FUNCTIONED ADEQUATELY IN PROTECTING THE PUBLIC.

This is expressed by the collective APRN groups in the cumulative application.

B. AFFECTIVE QUALITY ASSURANCE STANDARDS EXIST IN THE CRNA PROFESSION SUCH AS LEGAL REQUIREMENTS ASSOCIATED WITH SPECIFIC PROGRAMS THAT DEFINE OR ENDORSE STANDARDS OR A CODE OF ETHICS

The American Association of Nurse Anesthetists (AANA) is the national professional organization for CRNAs. It was founded in 1931 and currently represents nearly 48,000 CRNAs and student nurse anesthetists nationwide. The AANA promulgates education, practice standards and guidelines, ethics, and affords consultation to both private and governmental entities regarding nurse anesthetists.

The AANA established a Code of Ethics to guide its members in fulfilling their obligations as professionals (American Association of Nurse Anesthetists, 2013). Each member of the AANA has a personal responsibility to uphold and adhere to these ethical standards. The standards emphasize the following ideals:

- Responsibility to Patients
- Competence
- Responsibilities as a Professional
- Responsibility to Society
- Endorsement of Products and Services
- Research
- Business Practices

The standard for certification has been a requirement of nurse anesthesia practice since 1945. The national board examination was chosen to safeguard the surgeon's interest, the interest of the hospitals and the interest of the public (Bankert, 1989). To become certified as a nurse anesthetist, the National Board of Certification and Recertification for Nurse Anesthetists (NBCRNA) requires that candidates must first complete a bachelor's degree in a science-related field or a Bachelor of Science in Nursing. In addition a candidate must be a licensed registered nurse (RN) with a minimum one year full-time nursing experience in a critical care setting such as an intensive care unit. Following the critical care experience, applicants apply to a program of nurse anesthesia that is accredited by the Council on Accreditation of Nurse Anesthesia Educational Programs (COA). These COA-accredited programs currently provide education at a masters or doctoral level. Program length varies from 24-36 months. Many programs require entrance prerequisites similar to medical schools (pre-med courses) and up to two years of critical care experience. The content of the educational curriculum for nurse anesthesia programs is governed by the COA standards and provides students the scientific, clinical, and professional foundation upon which to build sound and safe clinical practice. Clinical rotations afford mentored experiences for students during which time they are able to learn anesthesia techniques, test theory, and apply knowledge to clinical situations. Students gain experience with patients of all ages who require surgical, obstetrical, dental and pediatric interventions.

The certification and recertification process of CRNAs is governed by the NBCRNA, which exists as an autonomous not-for-profit incorporated organization. This independent status provides assurance to the public that CRNA candidates have completed certification requirements that have met or exceeded benchmark qualifications and knowledge of anesthesia.

The initial certification after graduation is valid for two years. During that time, and during each subsequent two-year period, CRNAs are required to maintain competence and education by completing a minimum of 40 educational units that may then qualify him/her for recertification. The NBCRNA recognizes that healthcare is a changing entity and as such, CRNA requirements much change with it. Recent adjustments have been made to the recertification process and will go into effect in 2016 (National Board of Certification & Recertification for Nurse Anesthetists, 2015). These changes include an increase in the number of educational units (60) required as well as participation in a recertification examination.

The NBCRNA certification and recertification programs are accredited by the National Commission for Certifying Agencies (NCCA), a private not-for-profit organization. The NCCA is the accrediting branch of the National Organization for Competency Assurance (NOCA) which is the national standard-setting organization for credentialing groups including certification boards, licensing boards and associations.

C. EVIDENCE OF STATE APPROVED EDUCATIONAL PROGRAMS THAT PROVIDE OR ARE WILLING TO PROVIDE CORE CURRICULUM ADEQUATE TO PREPARE PRACTITIONERS AT THE PROPOSED SCOPE OF PRACTICE

A CRNA's education begins long before an anesthesia program is selected. Before becoming an expert in anesthesia every CRNA went through an undergraduate degree program to become a registered nurse. Courses for a Bachelor of Science in Nursing (BSN) not only cover necessary nursing skills for hands-on experience but the science surrounding healthcare as well, including biology, microbiology, physics, chemistry, pharmacology, mathematics, anatomy, physiology and pathophysiology. A sample BSN degree path is included that provides insight into not only the science education an RN receives, but the valuable hands-on experiences as well which allow the student nurse to work at the bedside in caring for patients of every age and disease process (Arizona State University College of Nursing and Healthcare Innovation, 2015).

Following completion of a bachelor's program and successful RN examination a nurse must then complete a minimum one (1) year of clinical experience in a critical care environment, usually an intensive care unit. This allows the RN to gain valuable hands-on experience in working with vasoactive medications and

working with patients with the most critical health concerns. Once an RN has completed the ICU experience he/she is then eligible to become a candidate for a program in nurse anesthesia.

Accreditation of nurse anesthesia educational programs began in 1952 by the COA, which has been recognized by the U.S. Department of Education since 1955.

Arizona is host to two programs that educate and train RNs to become CRNAs. Both programs are accredited through the COA and are preparing students to practice anesthesia within the national standards and scope of practice. Because the COA's accreditation is for institutions and programs of nurse anesthesia throughout the United States, both the United States Department of Education and the Council for Higher Education Accreditation have recognized the COA as an accrediting agency for nurse anesthesia.

The COA is responsible for establishing the standards and policies for nurse anesthesia educational programs subject to consideration by its communities of interest. The standards address administrative policies and procedures, institutional support, curriculum and instruction, faculty, evaluation, and ethics. The first set of standards was adopted in 1952, and the standards have been under review and subject to periodic major and minor revisions since that time. Compliance with the standards forms the basis for accreditation decisions made by the COA.

The COA standards for accreditation are consistent with the proposed changes to statute found in this application. These standards require that...

...the program curriculum is relevant, current, comprehensive, and meets commonly accepted national standards for similar degrees. The teaching-learning environment promotes the achievement of educational outcomes driven by the mission of the institution and fosters student learning, professional socialization and faculty growth. The curriculum prepares graduates for the full scope of nurse anesthesia practice (Council on Accreditation of Nurse Anesthesia Educational Programs; Practice doctorate, 2004).

The master 's degree for nurse anesthesia academic curriculum and prerequisite courses focus on coursework in anesthesia practice: pharmacology of anesthetic agents and adjuvant drugs including concepts in chemistry and biochemistry (105 hours); anatomy, physiology, and pathophysiology (135 hours); professional aspects of nurse anesthesia practice (45 hours); basic and advanced principles of anesthesia practice including physics, equipment, technology and pain management (105 hours); research (30 hours); and clinical correlation conferences (45 hours) (Council on Accreditation of Nurse Anesthesia Educational Programs; Practice doctorate, 2004). Most programs exceed these minimum requirements. In addition, many require study in methods of scientific inquiry and statistics, as well as active participation in student-generated and faculty-sponsored research.

Doctoral nurse anesthesia programs must meet additional COA standards and include courses in advanced physiology/pathophysiology, advanced pharmacology, basic and advanced principles in nurse anesthesia, and advanced health assessment (Council on Accreditation of Nurse Anesthesia Educational Programs; Practice doctorate, 2004). These additional courses have an additional 450 hours and cover topics in human anatomy, chemistry, biochemistry, physics, genetics, acute and chronic pain management, radiology, ultrasound, anesthesia equipment, professional role development, chemical dependency and wellness, informatics, ethical and multicultural healthcare, leadership and management, business of anesthesia/practice management, health policy, healthcare finance and integration/clinical correlation. This post-baccalaureate curriculum is a minimum of 3 years of full-time commitment. By the year 2025 every CRNA program within the United States will facilitate a doctoral program (Council on Accreditation of Nurse Anesthesia Educational Programs; Practice doctorate, 2004).

Clinical rotations for CRNA students are rigorous and complete. Students gain experience in every type of anesthesia, focusing on alternative ways of delivering the safest anesthetic possible to patients with complicated disease processes. The COA requires students complete a minimum 400 (Council on Accreditation of Nurse Anesthesia Educational Programs; Practice doctorate, 2004).

A new program desiring accreditation must complete a capability study and undergo an on-site evaluation prior to being considered for accreditation. A similar review is required five years following the start of the program's first class. Across the nation there are currently 114 COA-accredited nurse anesthesia programs. In Arizona, Midwestern University (MWU) in Glendale and the University of Arizona (UA) in Tucson are currently the in-state nurse anesthesia programs.

Midwestern University's 27-month master's degree program has proven itself a pinnacle of Nurse Anesthesia education. Not only does MWU meet all COA requirements, it *exceeds* all of them. For example, the minimum number of anesthesia cases required for graduation is 550, with Midwestern students earning over 1,100 cases on average. These students gain significantly more clinical, didactic and simulation time than required by the COA (Burns, personal communication May 19, 2015). Midwestern has a focus on full scope practice and allows their students to travel to many urban and rural areas of Arizona and around the country to work with and learn from CRNAs who are providing services in every practice model. Midwestern students consistently fill some of the needs of this state upon graduation and hence strengthen the CRNA workforce in Arizona.

The University Of Arizona College Of Nursing, Doctor in Nursing Practice (DNP)-Nurse Anesthesia program is the fifth advanced practice nursing educational specialty within the nationally recognized Commission on Collegiate Nursing Education (CCNE) accredited doctor of nursing practice program. This nurse anesthesia program received its initial accreditation from the COA in

January 2015 and is preparing CRNA students at a doctoral level via a 36 month program and aims to not only meet the standards set by the COA, but exceed them in every aspect. The University of Arizona is well known for its quality education in the healthcare industry. This CRNA program hosts an innovative skills lab that includes the use of life-like manikins that unite the cognitive and psychomotor skills of the students. It also provides clinical sites throughout Arizona for hand-on anesthesia experience.

Education provided to CRNAs regarding pain management is integrated into the curriculum of every nurse anesthesia program. The COA mandates that these programs provide content in anatomy, physiology, pathophysiology, pharmacology, and pain management. The COA also requires nurse anesthesia students obtain clinical experiences in regional anesthesia techniques (i.e., spinal, epidural and peripheral nerve blocks).

A draft Local Coverage Determination (LCD) requires that, “At a minimum, training must cover and develop an understanding of anatomy and drug pharmacodynamics and kinetics as well as proficiency in diagnosis and management of disease, the technical performance of the procedure and utilization of the required associated imaging modalities (Centers for Medicare & Medicaid Services). By virtue of education and individual clinical experience a CRNA possesses the necessary knowledge and skills to employ therapeutic, physiological, interventional and psychological modalities for the management and treatment to acute and chronic pain. As part of their educational preparation CRNAs are required to learn and demonstrate competence in the management of pain, a critical component in the delivery of anesthesia care.

To obtain additional training and certification in the delivery of pain management techniques, several didactic and clinical courses are offered beyond the masters or doctoral degrees. These include formal and informal fellowship programs, observation and direct mentorship, continued education, anatomic dissection labs, practicums in imaging and radiation safety, and basic and various levels of advanced pain practice courses.

Prior to performing a pain management technique, practitioners conduct a comprehensive evaluation to confirm the necessity of the planned technique. This evaluation may include conducting a history and physical examination, ordering and reviewing diagnostic tests, including imaging studies, and performing the indicated diagnostic and therapeutic pain management techniques. These techniques may include temporary or long-term neural blocks, and neuromodulatory techniques.

3. TO WHAT EXTENT MAY AN INCREASED SCOPE OF PRACTICE HARM THE PUBLIC?

CRNAs are didactically and clinically prepared to provide high quality, safe anesthesia through rigorous training in nationally accredited masters and doctoral programs. The expertise of CRNAs is insured through a strict certification and recertification process and practice is closely regulated by the Board of Nursing. There is no evidence to suggest CRNAs practicing to the full extent of their education and training will induce any public harm. In fact, the opposite is true. An exploration of the Medicare database for CRNAs providing care without anesthesiologist supervision from 1999 to 2005 demonstrated no difference in the morbidity or mortality rates as compared to other anesthesia care models (such as working under the supervision of an anesthesiologist) (Dulisse & Cromwell, 2010). This study, which examined nearly 500,000 individual cases in 14 states that removed the federal physician supervision requirement for CRNAs between 2001 and 2005, revealed that outcomes did not differ between the states that do, and those that do not require physician supervision. Further, the study confirmed that there are no differences in patient outcomes when anesthesia services are provided by CRNAs, physician anesthesiologists, or CRNAs supervised/directed by physicians. Through approval of recommended changes to Title 32 chapter 15, CRNAs will continue to maintain high-level patient safety during anesthesia delivery but provide services within the full scope of their education and training.

A. TO WHAT EXTENT, IF ANY, DOES AN INCREASE IN SCOPE OF PRACTICE RESTRICT ENTRY INTO PRACTICE?

As mentioned above, CRNAs are adequately trained and prepared to provide high quality, safe anesthesia by virtue of their education in nationally-accredited programs and through strict certification and recertification requirements. As these requirements are all pre-existing standards set by national boards and councils this proposed statutory amendment will neither restrict entry into the profession nor have a negative effect on CRNAs migrating from other states. In fact, the proposed changes will more clearly identify the necessary requirements to practice nurse anesthesia in Arizona. These changes will allow a less restrictive practice, potentially leading to an increase in provider entry into this state.

B. DOES THE PROPOSED LEGISLATION REQUIRE CRNAs IN OTHER STATES WHO MIGRATE TO THIS STATE TO QUALIFY IN THE SAME MANNER AS STATE APPLICANTS FOR LICENSURE?

References have been cited and studies presented that demonstrate the quality of nurse anesthesia and the safety it has proven for decades. CRNAs are adequately prepared to provide safe anesthesia services by virtue of the education in nationally-accredited programs and strict certification and recertification requirements. This quality preparation and education occurs in all 114 institutions across the United States, thus preparing all students to meet the same requirements,

regardless of the state in which they will practice. As these standards are all set by national boards and councils, the proposed statutory amendment will neither restrict entry into the profession nor have a negative effect on CRNAs migrating from other states.

Although CRNA education is congruent throughout the United States not all state-sponsored scopes of practice are identical. With this legislation, CRNAs wishing to obtain prescriptive authority in Arizona will provide specific documentation relating to their education and practice, thus obtaining the proper authorization from the Board of Nursing to prescribe the necessary medications within the realm of their education.

A. DO OTHER STATES HAVE SUBSTANTIALLY EQUIVALENT REQUIREMENTS FOR LICENSURE AS THOSE IN THIS STATE?

Currently the State of Arizona requires CRNA applicants to obtain a *license* as a registered nurse and a *certification* to practice anesthesia in this state, defined in ARS 32-1634.03 (Arizona State Legislature, n.d.-b)(Appendix D). This process is similar to other states (California Board of Registered Nursing; District of Columbia Municipal Regulations; State of New Mexico Board of Nursing, 2012). However to be congruent with current industry standards and expectations the requirement for *certification* should be converted to a *license*. Changing from a state certification to a state licensure would ensure Arizona CRNAs are in compliance with national licensing standards while maintaining proper regulatory oversight by the Board of Nursing. Housed within the proposed legislation is language that will make this adjustment for CRNAs.

4. WHAT IS THE COST TO THE STATE AND TO THE GENERAL PUBLIC OF IMPLEMENTING THE PROPOSED INCREASE IN SCOPE OF PRACTICE?

It is anticipated there will be no expense to the state when implementing these proposed changes. Previously mentioned were several Arizona facilities whose anesthesia is delivered by a CRNA-only model. One reason this model is the most cost effective anesthesia model is because it does not require excessive subsidization of physician salaries, thus reaching a potential savings of millions of dollars to a single facility annually. In fact, the average hospital subsidy to cover anesthesia is 2.3 million dollars per year, or \$122,000 per operating location (Medical Group Management Association, 2014; Simonson, Ahern, & Hendryx, 2007). Reducing burdensome regulation to encourage anesthesia team members to use the full extent of their expertise and education makes teams flexible and more cost-effective, thus curtailing subsidies, reducing duplicative services, and allowing those resources to be used in other parts of the economy.

The United States Department of Labor reports the national mean physician anesthesiologist income surpasses CRNA income by over \$87,000, and that

difference increases to over \$134,000 within the state of Arizona (U.S. Department of Labor: Bureau of Labor Statistics, 2014). Once enacted into statute, these changes will help facilities realize the practice of staffing a physician anesthesiologist to direct a CRNA is not only unnecessary, but cost prohibitive as well. Allowing CRNAs to practice to the full extent of their education and training will expand the market and increase access to care for the general public.

Multiple empirical studies have confirmed that allowing all APRNs, including CRNAs, to practice to the full extent of their education and training is safe and decreases health care costs (Epstein & Dexter, 2012; P. F. Hogan, Seifert, Moore, & Simonson, 2010; Newhouse et al., 2011). The state of Texas estimates that utilizing APRNs more effectively will increase their economic benefits to more than \$46.9 billion by the year 2040 (The Perryman Group, 2012). The Federal Trade Commission has found that unnecessary supervision requirements of CRNAs decrease market competitiveness and increase costs to consumers and the entire health care industry (Gilman, 2014). The National Institute of Medicine has also found that overregulation of APRNs leads to decreased innovation in healthcare which will cause an increased overall cost to the health care industry (Institute of Medicine, 2010a).

In regards to the cost of education, it is shown that educating and preparing a CRNA is substantially more economical than training a physician anesthesiologist. Two programs in the state of Arizona educate both CRNAs and anesthesia residents. Both programs show a large net savings *per student* in nurse anesthesia preparation.

	University of Arizona	Midwestern University
Physicians		
4yrs medical school	\$121,132.00	\$263,956.00
Salaries/benefits	\$112,812.00	
Total	\$233,944.00	\$263,956.00
CRNAs		
Salaries/benefits	\$0.00	\$0.00
Total cost	\$90,000.00	\$95,226.00
Net CRNA savings/student	\$143,944.00	\$168,730.00

SUMMARY

CRNAs are instrumental in meeting the anesthesia needs of patients throughout Arizona in almost every community and in most of the healthcare facilities and organizations within this state. However, Title 32, chapter 15 of Arizona statute does not currently allow CRNAs to practice to the full extent of their education and training. Increasing the scope of practice and improving regulation, as proposed in this application, will increase accessibility to patients needing anesthesia and help maintain patient safety as well as decrease the cost of healthcare in Arizona.

APPENDIX A

Midwestern University Nurse Anesthesia Curriculum

First Year

69 quarter credits

Summer Quarter/2014

12.5 quarter credits

ANAT 1551	Human Anatomy & Embryology	7.0
BIOC 550	Biochemistry	3.0
NAAP 570	Professional Aspects of Nurse Anesthesia I	2.0
NAAP 580	Evidence-Based Journal Club	0.5

Fall Quarter/2014

21.0 quarter credits

CORE 1560	Interdisciplinary Health Care	0.5
NAAP 540	Principles & Pathophysiology of Anesthesia I	6.0
NAAP 540L	Principles & Pathophysiology of Anesthesia I Simulation Lab	2.0
NAAP 551	Anesthesia Pharmacology I	4.0
NAAP 569	Advanced Physical Assessment Across the Lifespan	4.0
NAAP 581	Evidence-Based Journal Club	0.5
PHYS 1571	Human Physiology I	4.0

Winter Quarter/2014

17.0 quarter credits

CORE 1570	Interdisciplinary Health Care	0.5
NAAP 541	Principles & Pathophysiology of Anesthesia II	6.0
NAAP 541L	Principles & Pathophysiology of Anesthesia II Simulation Lab	2.0
NAAP 552	Anesthesia Pharmacology II	4.0
NAAP 582	Evidence-Based Journal Club	0.5
PHYS 1582	Human Physiology II	4.0

Spring Quarter/2015

18.5 quarter credits

CORE 1580	Interdisciplinary Health Care	0.5
NAAP 542	Principles & Pathophysiology of Anesthesia III	6.0
NAAP 542L	Principles & Pathophysiology of Anesthesia III Simulation Lab	2.0
NAAP 560	Research Methods	3.0
NAAP 553	Anesthesia Pharmacology III	4.0
NAAP 571	Professional Aspects of Nurse Anesthesia II	2.5
NAAP 583	Evidence-Based Journal Club	0.5

Updated 10/16/2013

Highlighted courses indicated shared courses with medical students

APPENDIX B

Current Arizona Revised Statute: CRNA Scope of Practice

Title 32, chapter 15

32-1634.04. Certified registered nurse anesthetist; scope of practice

A. A certified registered nurse anesthetist may administer anesthetics under the direction of and in the presence of a physician or surgeon in connection with the preoperative, intraoperative or postoperative care of a patient or as part of a procedure performed by a physician or surgeon in the following settings:

1. A health care institution.
2. An office of a health care professional who is licensed pursuant to chapter 7, 11, 13 or 17 of this title.
3. An ambulance.

B. In connection with the preoperative, intraoperative or postoperative care of a patient or as part of the procedure in the settings prescribed in subsection A of this section, a certified registered nurse anesthetist as part of the care or procedure may:

1. Issue a medication order for drugs or medications to be administered by a licensed, certified or registered health care provider.
2. Assess the health status of an individual as that status relates to the relative risks associated with anesthetic management of an individual.
3. Obtain informed consent.
4. Order and evaluate laboratory and diagnostic test results and perform point of care testing that the certified registered nurse anesthetist is qualified to perform.
5. Order and evaluate radiographic imaging studies that the certified registered nurse anesthetist is qualified to order and interpret.
6. Identify, develop, implement and evaluate an anesthetic plan of care for a patient to promote, maintain and restore health.
7. Take action necessary in response to an emergency situation.
8. Perform therapeutic procedures that the certified registered nurse anesthetist is qualified to perform.

C. A certified registered nurse anesthetist's authority to administer anesthetics or to issue a medication order as prescribed by this section does not constitute prescribing authority.

APPENDIX C

AZANA Physician/Administrator Survey Results

Listed are those polled physicians and administrators in support of this legislation

	Physician	Specialty		Physician	Specialty
1	A Daniel Greco	Orthopedic Surgery	41	Jared Hall	Podiatry
2	Aaron LaTowsky	Urology	42	Jeff Erickson	Dental Anesthesia
3	Aasim Kamal	Ophthalmology	43	Jeff Izenberg	OB/GYN
4	Akash Makkar	Electrophysiology	44	Jeffrey LeSueur	Otolaryngology
5	Alfredo Guevara	Urology	45	Jeffrey Reagan	Orthopedic Surgery
6	Bart Carter	General Surgery	46	Jeffrey Ronn	Pulmonary
7	Brandon Gough	Orthopedic Surgery	47	Jody Daggett	Orthopedic Surgery
8	Brenda Dennert	Gastroenterology	48	John Donaldson	Pulmonologist
9	Brian Levine	General Surgery	49	John Umhan	MD-CMO
10	Brian Olack	Plastic Surgeon	50	John Vanderhoof	Orthopedic Surgery
11	Burt Faibisoff	Plastic Surgery	51	John Zoltan	Orthopedic Surgery
12	Chris Schomaker	Dentist	52	Jose Duran	OB/GYN
13	Christ Winterholler	Implant Denistry	53	Jose Lopez	General Surgery
14	Christian Pitea	Gastroenterology Interventional Radiologist	54	JR Reid	Emergency Med
15	Cordell Esplin	Radiologist	55	Kent Cox	ENT Surgeon
16	Damon Adamany	Orthopedic Surgery	56	Liz Cruz	Gastroenterology
17	Dana Miller	General Surgery	57	Luis A Munoz	Vascular
18	Daniel Fang	General Bariatric	58	Madvinderjit Singh	Gastroenterology
19	Daniel Schulman	Podiatry	59	Mahesh Mokhashi	Gastroenterology
20	David Beauchamp	Anesthesiology	60	Mansur Khan	Gastroenterology
21	David Johnson	General Surgery	61	Marco Saucedo	OB/GYN
22	David Pootrakul	Neurosurgery	62	Mark Burns	Cardiology
23	Doran Schneider	General Surgery	63	Michael Darnell	Orthopedic Surgery
24	EF Herro	Anesthesiology	64	Michael Koss	Gastroenterology
25	Eleazer Ley Tai	Plastic Surgery/hand	65	Michael McKinney	Gastroenterology
26	Emillo Justo	Ophthalmology	66	Michael Sumko	Orthopedic Surgery
27	Eric Thomas	General Surgery	67	Mohammad Khan	Gastroenterology
28	Florin Gaidici	Gastroenterology	68	Nadim Zyadeh	Gastroenterology
29	Frank J Fara	OB/GYN	69	Nayan Patel	Gastroenterology
30	George Figueroa	OB/GYN	70	Nisha Tung-Takher	Electrophysiology
31	Girish Mehta	Pulmonary	71	Patrick Connelly	OB/GYN
32	Greg Celaya	Internal/Family Medicine	72	Pilar Baquero	OB/GYN
33	Greg Grant	Orthopedic Surgery	73	Ramon Robles	Plastics
34	Hector Rodriquez	Gastroenterology	74	Randall Blazic	Oral Surgery
35	Herman Campbell	Dentist	75	Raul Curiel	Orthopedic Surgery
36	Hilario Juarez	General Bariatric	76	Rex Bryce	Orthopedic Surgery

37	Howard Johnston	Ortho/Wound Surgery	77	Richard Whitman	General Surgery
38	Ian Brimhall	Orthopedic Surgery	78	Rick Robertson	Podiatrist
39	Jack Quigley	Plastic Surgery	79	Rob Wylie	Orthopedic Surgery
40	James Chow	Orthopedic Surgery	80	Robert Bonillas	Plastic Surgery
	Physician	Specialty		Physician	Specialty
81	Ron Ferguson	Orthopedic Surgery	91	Sudhakar Reddy	Gastroenterology
82	Rosemary Fadool	OB/GYN	92	Tammie Gibson	Pediatric Dentistry
83	Ryan Hall	Podiatry	93	Tanja Gunsberger	General Surgery
84	Sahid Tahir	Gen Surgery	94	Thomas R Hansen	General Surgery
85	Scott Ellis	Orthopedic Surgery	95	Tim Bert	Orthopedic Surgery
86	Sheldon Roberts	Urology	96	Tim Johns	Emergency Med
	Stephanie				
87	Kramer	OB/GYN	97	Tony Hedley	Orthopedic Surgery
88	Steve Lex	Plastic Surgery	98	Valencia Stephens	OB/GYN
89	Steve Washburn	Orthopedic Surgery	99	W. Waldo	General Surgery
90	Steven Werner	Orthopedic Surgery	100	William Miles	Ophthalmology

	Administrator	Position	Location
1	Angela Acquafredda	Director	Am Surg
2	Bryan Hargis	CEO	Gilbert Hospital
3	Debra Knapheide	CNO/COO	Holy Cross Nogales
4	Doug Gilchrist	COO	Summit Health
5	Dr John Umhan	CMO	White River
6	Dr Roy Farrell	CMO	Holy Cross Nogales
		Director of	
7	Hope Dunn	Nursing	Tempe St Luke's
8	Jacob Golich	Administrator	Tempe St Lukes
9	Lance Porter	CEO	Payson Regional
		Director of	
10	Laura Holer	Nursing	Northern AZ surgicenter
11	Mark Marchetti	CEO	Mt Graham Reg Med Ctr
12	Matt Willden	Administrator	AZ West Endoscopy
13	Nate Garner	Administrator	Am Surg
			Cobre Valley Medical
14	Neal Jensen	CEO	Center
15	Robyn Rollins-Root	CNO	Phx St Lukes Med Ctr

APPENDIX D

Arizona Statute for Certifying Nurse Anesthetists

32-1634.03. Qualifications for certified registered nurse anesthetist; temporary certificate

A. The board may certify a registered nurse who is licensed pursuant to this chapter as a certified registered nurse anesthetist if the registered nurse meets the following requirements:

1. Submits an application as prescribed by the board.
2. Has completed a program in the science of anesthesia accredited by the council on accreditation of nurse anesthesia educational programs or another national accrediting body recognized by the board.
3. Is certified by a national certifying body such as the national board of certification and recertification for nurse anesthetists or another national certifying body recognized by the board.
4. Pays the certification fee prescribed pursuant to section 32-1643.

B. The board may issue a temporary certificate to a person who meets the requirements of subsection A, paragraphs 2 and 3 of this section. A temporary certificate expires on the date specified in the certificate and may be renewed at the discretion of the executive director.

References

- AARP. (n.d.). Full practice authority for nurse practitioners: Increasing access and controlling cost - spotlight California., Retrieved 2014, from <http://campaignforaction.org/webinar/full-practice-authority-nurse-practitioners-increasing-access-and-controlling-cost-spotlight>
- Adams, P. (2000). Insight into a mental health prevention intervention. *Nurse Clinicians of North America*, 35(2), 329-338.
- American Association of Colleges of Nursing. (2006a). AACN statement of support for clinical nurse specialists. Retrieved July, 2015, from <http://www.aacn.nche.edu/publications/position/support-for-cns>
- American Association of Colleges of Nursing. (2006b). The essentials of doctoral education for advanced nursing practice. 28. Retrieved from: <http://www.aacn.nche.edu/publications/position/DNPEssentials.pdf>
- American Association of Colleges of Nursing. (2011). The essentials of master's education in nursing. Retrieved 2014, from <http://www.aacn.nche.edu/education-resources/MastersEssentials11.pdf>
- American Association of Colleges of Nursing. (2012). Criteria for evaluation of nurse practitioner programs 2012 (4th ed.).
- American Association of Critical Care Nurses Certification Corporation. (2014). CCNS exam handbook. Retrieved July, 2015, from <http://www.aacn.org/wd/certifications/docs/ccrn-exam-handbook.pdf>
- American Association of Critical-Care Nurses. (2015). ACCNS-AG exam handbook. Retrieved August, 2015, from <http://www.aacn.org/wd/certifications/docs/acns-ag-exam-handbook.pdf>
- American Association of Critical-Care Nurses. (n.d.). The AACN synergy model for patient care. Retrieved August, 2015, from <http://www.aacn.org/wd/certifications/content/synmodel.pcms?menu=certification>
- American Association of Nurse Anesthetists. (2013). Code of ethics for the certified registered nurse anesthetist. Retrieved July, 2015, from <https://www.aana.com/resources2/professionalpractice/Documents/PPM Code of Ethics.pdf>
- American Association of Nurse Anesthetists. (2014). 2014 member profile survey. from <http://www.aana.com>
- American Association of Nurse Anesthetists. (2015). APRN full practice authority implementation.
- American Association of Nurse Practitioners. (2010). Nurse practitioner MSN tuition analysis: A comparison with medical school tuition. Retrieved 2014, from <http://www.aanp.org/images/documents/research/NPMSNtuitionAnalysis.pdf>
- American Association of Nurse Practitioners. (2013). Nurse practitioner cost-effectiveness. Retrieved 2014, from <http://www.aanp.org/images/documents/publications/costeffectiveness.pdf>
- American Association of Nurse Practitioners. (2014). NP fact sheet. from <http://www.aanp.org/all-about-nps/np-fact-sheet>
- American Association of Nurse Practitioners. (n.d.). All about nps. 2014, from <http://www.aanp.org/all-about-nps>

- American Cancer Society. (2014). Cancer treatment and survivorship facts & figures 2014-2015. Retrieved July, 2015, from <http://www.cancer.org/acs/groups/content/@research/documents/document/acspc-042801.pdf>
- American College of Nurse-Midwives. (2009a). Midwifery Certification in the United States. Retrieved July, 2015, from http://www.midwife.org/ACNM/files/ACNMLibraryData/UPLOADFILENAME/00000000077/Midwifery_Certification_in_the_United_States_3_31_09.pdf
- American College of nurse-Midwives. (2009b). Midwifery education and the doctor of nursing practice (DNP). Retrieved July, 2015, from http://www.midwife.org/ACNM/files/ACNMLibraryData/UPLOADFILENAME/00000000079/Midwifery_Ed_and_DNP_7.09.pdf
- American College of nurse-Midwives. (2010). Accreditation commission for midwifery education: A brief history. Retrieved July, 2015, from http://www.midwife.org/ACNM/files/ccLibraryFiles/Filename/000000001841/A_CME.brief.History.10.10.pdf
- American College of Nurse-Midwives. (2011). The practice doctorate in midwifery. Retrieved August, 2015, from http://www.midwife.org/ACNM/files/ccLibraryFiles/Filename/000000002731/Practice_Doctorate_in_Midwifery_Sept_2011.pdf
- American college of nurse-Midwives. (2012a). Core competencies for basic midwifery practice. Retrieved July, 2015, from http://www.midwife.org/ACNM/files/ccLibraryFiles/Filename/000000002730/Core_Competencies_June_2012.pdf
- American College of Nurse-Midwives. (2012b). Definition of midwifery and scope of practice of certified Nurse-Midwives and certified Midwives. Retrieved July, 2015, from http://www.midwife.org/ACNM/files/ACNMLibraryData/UPLOADFILENAME/00000000266/Definition_of_Midwifery_and_Scope_of_Practice_of_CNMs_and_CMJs_Feb_2012.pdf
- American College of Nurse-Midwives. (2014). Competencies for master's level midwifery education. Retrieved August, 2015, from <http://www.midwife.org/ACNM/files/ccLibraryFiles/Filename/000000005140/Competencies-for-Masters-Level-Midwifery-Education-Dec-2014.pdf>
- American College of nurse-Midwives. (2015a). Code of ethics with explanatory statements. Retrieved July, 2015, from <http://www.midwife.org/ACNM/files/ACNMLibraryData/UPLOADFILENAME/00000000293/Code-of-Ethics-w-Explanatory-Statements-June-2015.pdf>
- American College of Nurse-Midwives. (2015b). Essential facts about midwives. Retrieved July, 2015, from <http://www.midwife.org/Essential-Facts-about-Midwives>
- American college of Nurse-Midwives. (n.d.). Pathways to Midwifery Education Retrieved July, 2015, from <http://www.midwife.org/midwifery-education-programs>
- American Midwifery Certification Board. (n.d.). Retrieved July, 2015, from <http://www.amcbmidwife.org/>

American Nurses Association. (2010). *Social Policy Statement*. Silver Spring,MD: American Nurses Association.

American Nurses Credentialing Center. (2013). Certification: General testing and renewal handbook. p. 4-5. Retrieved July, 2015, from <http://www.nursecredentialing.org/GeneralTestingRenewalHandbook>

American Nurses Credentialing Center. (2015). Adult-Gerontology clinical nurse specialist eligibility criteria. Retrieved August, 2015, from <http://www.nursecredentialing.org/AdultGeroCNS-Eligibility>

American Nurses Credentialing Center. (n.d.). ANCC certification center. Retrieved July, 2015, from <http://www.nursecredentialing.org/certification.aspx>

Arizona Board of Nursing. (2009). Advisory opinion Nurse Practitioner description of roles and functions.

Arizona Board of Nursing. (n.d.). Daily Arizona nursing statistics. <https://www.azbn.gov/>

Arizona Department of Health Services. (2004). Death certificate processing. 2015, from https://www.azbn.gov/documents/death_certificate/Medical Cause of Death.pdf

Arizona Department of Health Services. (2012). 2014-2018 Arizona healthy aging plan. Retrieved July, 2015, from <http://www.azdhs.gov/phs/healthy-aging/documents/az-healthy-aging-plan-2014-2018.pdf>

Arizona Health Matters. (n.d.). Healthy People 2020: Progress Tracker. Retrieved July, 2015, from <http://www.arizonahealthmatters.org/index.php?module=Trackers&func=display&tid=1>

Arizona Secretary of State. (n.d.). Arizona administrative code. Retrieved August, 2015, from <http://www.azsos.gov/rules/arizona-administrative-code>

Arizona State Board of Nursing. (2012). Advisory opinion: the use of controlled substances for the treatment of chronic pain. Retrieved July, 2015, from https://www.azbn.gov/Documents/advisory_opinion/AO Controlled Substances for theTreatment of Chronic Pain.pdf

Arizona State Board of Nursing. (2014a). Arizona State Board of Nursing (AZBN) Initial Application Instructions for Nurse Practitioner/Nurse Midwife Certification; Prescribing and Dispensing Privileges; Clinical Nurse Specialist (CNS). Retrieved July, 2015, from <http://www.azbn.gov/Documents/applications/App Packet Downloads/NP CNS NM PD Packet 10.13.14.pdf>

Arizona State Board of Nursing. (2014b). Requirements for APRN programs, R4-19-502. Retrieved July, 2015, from <https://www.azbn.gov/Documents/npa/RULES.pdf>

Arizona State Board of Nursing. (2014c). Requirements for initial APRN certification, R4-19-505. Retrieved July, 2015, from <https://www.azbn.gov/Documents/npa/RULES.pdf>

Arizona State Board of Nursing. (2014d). Rules of the state board of nursing. Retrieved August, 2015, from <https://www.azbn.gov/Documents/npa/RULES.pdf>

Arizona State Board of Nursing. (2015). Multi-state licensure. Retrieved July, 2015, from <https://www.azbn.gov>

Arizona state legislature. (2011). 32-192: Exempted acts; exemption from registration fees; definition. Retrieved August, 2015, from <http://www.azleg.state.az.us/ars/32/01921.htm>

- Arizona State Legislature. (n.d.-a). ARS 32-1634.03: Qualifications for certified registered nurse anesthetist; temporary certificate. Retrieved July, 2015, from <http://www.azleg.gov/FormatDocument.asp?inDoc=/ars/32/01634-03.htm&Title=32&DocType=ARS>
- Arizona State Legislature. (n.d.-b). Qualifications for certified registered nurse anesthetist; temporary certificate. Retrieved July, 2015, from <http://www.azleg.gov/legtext/50leg/2r/bills/sb1362p.pdf>
- Arizona State Legislature. (n.d.-c). A.R.S. 32-1601(6): Definition of clinical nurse specialist. Retrieved July, 2015, from <http://www.azleg.state.az.us/ars/32/01601.htm>
- Arizona State Legislature. (n.d.-d). A.R.S. 32-1606: Powers and duties of board. Retrieved July, 2015, from <http://www.azleg.state.az.us/FormatDocument.asp?inDoc=/ars/32/01606.htm&Title=32&DocType=ARS>
- Arizona State Legislature. (n.d.-e). A.R.S. 32-1634.04: Certified registered nurse anesthetist; scope of practice. Retrieved July, 2015, from <http://www.azleg.gov/FormatDocument.asp?inDoc=/ars/32/01634-04.htm&Title=32&DocType=ARS>
- Arizona state legislature. (n.d.-f). Title 32: Professions and occupations. Retrieved July, 2015, from <http://www.azleg.gov/ArizonaRevisedStatutes.asp?Title=32>
- Arizona State University. (2015). ASU's academic programs: Undergraduate degree: Nursing. 2015-2016 major map, nursing-traditional BSN. Retrieved August, 2015, from <https://webapp4.asu.edu/programs/t5/roadmaps/ASU00/NUNURDBSN/NURTPB/SN/ALL/2015?init=false&nopassive=true>
- Arizona State University College of Nursing and Healthcare Innovation. (2015). BSN program application requirements. Retrieved July, 2015, from <https://nursingandhealth.asu.edu/degree-programs/undergraduate/nursing-bsn>
- AZ.gov. (n.d.). Population projections. Accessed 2014, from <https://population.az.gov/population-projections>
- Bankert, M. (1989). *Watchful care, A history of America's Nurse Anesthetists*. New York, NY: Continuum International Publishing Group.
- Bauer, J. C. (2010). Nurse practitioners as an underutilized resource for health reform: evidence-based demonstrations of cost-effectiveness. *J Am Acad Nurse Pract*, 22(4), 228-231. doi: 10.1111/j.1745-7599.2010.00498.x
- Blue, L. (2001). A specialist nurse intervention reduced hospital readmissions in patients with chronic heart failure. *Evidence-Based Nursing*, 5(2), 55.
- Brassard, A., & Smolenski, M. (2011). Removing barriers to advanced practice registered nurse care: Hospital privilege. *Insight on the Issues* 55. Retrieved July, 2015, from <http://campaignforaction.org/sites/default/files/RemovingBarriers-HospitalPrivileges.pdf>
- Brooten, D., Youngblut, J. M., Brown, L., Finkler, S. A., Neff, D. F., & Madigan, E. (2001). A randomized trial of nurse specialist home care for women with high-risk pregnancies: outcomes and costs. *American Journal of Managed Care*, 7(8), 793-803.

- California Board of Registered Nursing. Nurse anesthetist application. Retrieved July, 2015, from <http://www.rn.ca.gov/applicants/ad-pract.shtml> - cns
- Centers for Disease Control and Prevention. (2003). Public health and aging: Trends in aging--United States and worldwide. February 14, 2003 / 52(06);101-106. Retrieved August, 2015, from <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5206a2.htm>
- Centers for Medicare & Medicaid Services. Local Coverage Determinations (LCDs) for Wisconsin Physicians Service Insurance Corporation. Retrieved July, 2015, from [http://www.cms.gov/medicare-coverage-database/indexes/lcd-list.aspx?Cntrctr=268&ContrVer=1&CntrctrSelected=268*1&name=Wisconsin+Physicians+Service+Insurance+Corporation+\(05901%2C+MAC+-+Part+A\)&s=56&DocType=All&bc=AggAAAAAAAAAAAA%3D%3D&-ResultsAnchor](http://www.cms.gov/medicare-coverage-database/indexes/lcd-list.aspx?Cntrctr=268&ContrVer=1&CntrctrSelected=268*1&name=Wisconsin+Physicians+Service+Insurance+Corporation+(05901%2C+MAC+-+Part+A)&s=56&DocType=All&bc=AggAAAAAAAAAAAA%3D%3D&-ResultsAnchor)
- Chitty, K., & Black, B. (2007). *Professional nursing concepts and challenges*. (5th ed.). St. Louis, MO: Saunders Elsevier.
- Conover, C., & Richards, R. (2015). Economic benefits of less restrictive regulation of advanced practice registered nurses in North Carolina: An analysis of local and statewide effects on business activity. Retrieved August, 2015, from <http://chpir.org/wp-content/uploads/2015/02/Report-Final-Version.pdf>
- Council on Accreditation of Nurse Anesthesia Educational Programs; Practice doctorate. (2004, revised May 29, 2015). Standards for accreditation of nurse anesthesia programs. from <http://home.coa.us.com/accreditation/Documents/Standards for Accreditation of Nurse Anesthesia Programs - Practice Doctorate, rev May 2015.pdf>
- Creason, H. (2001). Congestive heart failure telemanagement clinic. *Lippincotts Case Management*, 6(4), 146-156.
- Davenport, D. (2011). Performance audit and sunset review: Arizona state board of nursing. 2014, from http://www.azauditor.gov/Reports/State_Agencies/Agencies/Nursing_Board_of/Performance/11-02/11-02_Report.pdf
- DeJong, S. R., & Veltman, R. H. (2004). The effectiveness of a CNS-led community-based COPD screening and intervention program. *Clinical Nurse Specialist*, 18(2), 72-79.
- Delametter, G. L. (1999). Advanced practice nursing and the role of the pediatric critical care nurse practitioner. *Critical Care Nursing Quarterly*, 21(4), 16-21.
- Dewitt, K. (1900). Specialties in nursing. *American Journal of Nursing*, 1, 14-17.
- Dierick-van Daele, A. T., Metsemakers, J. F., Derckx, E. W., Spreuwenberg, C., & Vrijhoef, H. J. (2009). Nurse practitioners substituting for general practitioners: randomized controlled trial. *J Adv Nurs*, 65(2), 391-401. doi: 10.1111/j.1365-2648.2008.04888.x
- District of Columbia Municipal Regulations. Municipal regulations for nurse anesthetists. Retrieved July, 2015, from http://doh.dc.gov/sites/default/files/dc/sites/doh/publication/attachments/Nursing_Certified_Registered_Nurse_Anesthetists.pdf

- Dobscha, S. K., Gerrity, M. S., & Ward, M. F. (2001). Effectiveness of an intervention to improve primary care provider recognition of depression. *Eff Clin Pract*, 4(4), 163-171.
- Dower, C., Moore, J., & Langelier, M. (2013). It is time to restructure health professions scope-of-practice regulations to remove barriers to care. *Health Aff (Millwood)*, 32(11), 1971-1976. doi: 10.1377/hlthaff.2013.0537
- Doyle, E., Pennington, D., & Kliethermes, J. (2010). Missouri Nurses Association APRN handbook: Handbook for advanced practice nurses in Missouri. 3rd ed. Retrieved July, 2015, from <http://www.missourinurses.org/?126>
- Dulisse, B., & Cromwell, J. (2010). No harm found when nurse anesthetists work without supervision by physicians. *Health Aff (Millwood)*, 29(8), 1469-1475. doi: 10.1377/hlthaff.2008.0966
- Eibner, C., Hussey, P. S., Ridgely, M. S., & McGlynn, E. A. (2009). Controlling health care spending in Massachusetts: An analysis of options. from http://www.rand.org/content/dam/rand/pubs/technical_reports/2009/RAND_TR733.sum.pdf
- Emerson, H. (2015). Increasing the workforce capacity of health centers: Reimbursement and scope of practice: State Policy Report #54. Retrieved August, 2015, from http://www.nachc.com/client/SPR_54_Workforce_Reimbursement_SOP_Brief_FINAL.pdf
- Epstein, R. H., & Dexter, F. (2012). Influence of supervision ratios by anesthesiologists on first-case starts and critical portions of anesthetics. *Anesthesiology*, 116(3), 683-691. doi: 10.1097/ALN.0b013e318246ec24
- Federal Trade Commission. (2014a). Policy perspectives: Competition and the regulation of advanced practice nurses. Retrieved July, 2015, from <http://www.nacns.org/docs/FTC140307aprnpolicy.pdf>
- Federal Trade Commission. (2014b). Policy perspectives: Competition and the regulation of advanced practice nurses. from <http://www.nacns.org/docs/FTC140307aprnpolicy.pdf>
- Federal Trade Commission. (2014c). Prepared statement of the Federal Trade Commission on competition and the potential costs and benefits of professional licensure before the committee on small business, United States House of Representatives. from http://www.ftc.gov/system/files/documents/public_statements/568171/140716professionallicensurehouse.pdf
- Florida Tax Watch. (2011). Briefings. Retrieved August, 2015, from <http://www.floridataxwatch.org>
- Frontier Nursing University. (n.d.). Nurse-midwifery curriculum. Retrieved August, 2015, from <http://www.frontier.edu/nurse-midwife/curriculum>
- Fuhrman, S. (2011). Optimizing stroke patient care across a hospital system. *Clinical Nurse Specialist: The Journal for Advanced Nursing Practice*, 25(2), 75-95.
- Fusillo, D. A. (2011). Expanding the scope of practice for advanced registered nurse practitioners and physician assistants would generate fiscal savings while enhancing high quality medical care. from <http://www.floridataxwatch.org/resources/pdf/20111102ARNP.pdf>

- Future of Nursing: Campaign for Action. (2013). Quality of nursing care talking points. Retrieved July, 2015, from <http://campaignforaction.org>
- Gilman, K. F., Koslov, T.I. (2014). Policy perspectives: Competition and the regulation of advanced practice nurses. from <https://www.ftc.gov/system/files/documents/reports/policy-perspectives-competition-regulation-advanced-practice-nurses/140307aprnpolicypaper.pdf>
- Gordon, J., Lorilla, J., & Lehman, C. (2012). The role of the clinical nurse specialist in the future of health care in the United States. Paper 196. Retrieved July, 2015, from http://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1195&context=usarmy_research
- Grand Canyon University. (2010). Program of study: Master of science in nursing: Adult clinical nurse specialist. Retrieved August, 2015, from http://www.gcu.edu/Documents/upload/College_of_Nursing/MSNAdultClinicalNurseSpecialistPOS.pdf
- Gravelly, E. A., & Littlefield, J. H. (1992). Cost effective analysis of three staffing models for the delivery of low risk prenatal care. *American Journal of Public Health*, 82(2), 180-184.
- Guzik, A., Menzel, N. N., Fitzpatrick, J., & McNulty, R. (2009). Patient satisfaction with nurse practitioner and physician services in the occupational health setting. *AAOHN J*, 57(5), 191-197.
- Hamric, A., Spross, J., & Hanson, C. (2009). *Advanced practice nursing: An integrative approach* (4th ed.). St. Louis, MO: Saunders Elsevier.
- Hanrahan, N. P., Delaney, K., & Merwin, E. (2010). Health care reform and the federal transformation initiatives: capitalizing on the potential of advanced practice psychiatric nurses. *Policy, Politics, & Nursing Practice*, 11(3), 235-244. doi: 10.1177/1527154410390381
- Haycraft, K., & Voss, S. (2014). The status of advanced practice registered nurses in Missouri: A white paper. 2nd ed. Retrieved July, 2015, from <http://c.ymcdn.com/sites/www.missourinurses.org/resource/resmgr/imported/White Paper - Status of APRNs in MO 2014 2nd Ed.pdf>
- Hogan, A., Furst Seifert, R., Moore, C., & Simonson, B.E. (2010). Cost effective analysis of anesthesia providers. *Nursing Economics*, 28(159-169).
- Holder, K. (2014). *Northern Arizona nurse practitioner group salary survey 2014*. Flagstaff, AZ.
- Horner, S. D. (2008). Childhood asthma in a rural environment: implications for clinical nurse specialist practice. *Clinical Nurse Specialist*, 22(4), 192-198; quiz 199-200. doi: 10.1097/01.NUR.0000311708.40190.ca
- Institute of Medicine. (2000). Crossing the quality chasm: A new health system for the 21st century. Retrieved July, 2015, from https://iom.nationalacademies.org/~media/Files/Report_Files/2001/Crossing-the-Quality-Chasm/Quality_Chasm_2001_report_brief.pdf
- Institute of Medicine. (2010a). The future of nursing: Leading change, advancing health. Retrieved July, 2015, from <http://www.iom.edu/Reports/2010/The-future-of-nursing-leading-change-advancing-health.aspx>

- Institute of Medicine. (2010b). Health care reform and increased patient needs require transformation of nursing profession. Retrieved July, 2015, from <http://www8.nationalacademies.org/onpinews/newsitem.aspx?RecordID=12956>
- Jessee, B. T., & Rutledge, C. M. (2012). Effectiveness of nurse practitioner coordinated team group visits for type 2 diabetes in medically underserved Appalachia. *J Am Acad Nurse Pract*, 24(12), 735-743. doi: 10.1111/j.1745-7599.2012.00764.x
- Knox, D., & Mischke, L. (1999). Implementing a congestive heart failure disease management program to decrease length of stay and cost. *Journal of Cardiovascular Nursing*, 14(1), 55-74.
- Laurant, M. G., Hermens, R. P., Braspenning, J. C., Akkermans, R. P., Sibbald, B., & Grol, R. P. (2008a,b). An overview of patients' preference for, and satisfaction with, care provided by general practitioners and nurse practitioners. *J Clin Nurs*, 17(20), 2690-2698. doi: 10.1111/j.1365-2702.2008.02288.x
- Lenz, E. R., Munding, M. O., Kane, R. L., Hopkins, S. C., & Lin, S. X. (2004). Primary care outcomes in patients treated by nurse practitioners or physicians: two-year follow-up. *Med Care Res Rev*, 61(3), 332-351. doi: 10.1177/1077558704266821
- Martin, K. E. (2000). Nurse practitioners: a comparison of rural-urban practice patterns and willingness to serve in underserved areas. *J Am Acad Nurse Pract*, 12(12), 491-496.
- McNelis, A. M., Buelow, J., Myers, J., & Johnson, E. A. (2007). Concerns and needs of children with epilepsy and their parents. *Clinical Nurse Specialist* 21(4), 195-202. doi: 10.1097/01.NUR.0000280488.33884.1d
- McWilliam-Ross, K. (2011). A clinical nurse specialist led journey to the Joint Commission disease-specific certification in hip fractures. *Orthopaedic Nursing*, 30(2), 89-95; 96-87. doi: 10.1097/NOR.0b013e31820f5110
- Medical Group Management Association. (2014). MGMA cost survey for anesthesia and pain management practices: 2014 report based on 2013 data. Retrieved July, 2015, from <http://www.mgma.com/Libraries/Assets/Industry Data/Survey Reports/Key-Findings-Cost-Anesthesia-FINAL.pdf?source=>
- Midwestern University College of Health Science. (2014). Master of science in nurse anesthesia curriculum 2014-2016. from [https://www.midwestern.edu/Documents/Registrar/Curriculum/NA 15 Class of 2016\(0\).pdf](https://www.midwestern.edu/Documents/Registrar/Curriculum/NA 15 Class of 2016(0).pdf)
- Munding, M. O., Kane, R. L., Lenz, E. R., Totten, A. M., Tsai, W. Y., Cleary, P. D., . . . Shelanski, M. L. (2000). Primary care outcomes in patients treated by nurse practitioners or physicians: a randomized trial. *JAMA*, 283(1), 59-68.
- Murray, T., & Goodyear-Bruch, C. (2007). Ventilator-associated pneumonia improvement program. *AACN Advanced Critical Care*, 18(2), 190-199. doi: 10.1097/01.AACN.0000269263.44912.5c
- National Academy of Sciences. (2010). Future of nursing: Leading change, advancing health. from http://www.nap.edu/catalog.php?record_id=12956
- National Association of Clinical Nurse Specialists. (2009). Clinical nurse specialist meeting the new demands of a reformed health care system. Retrieved July, 2015, from <http://www.nacns.org/members/docs/CNSTalkingPointsShort.pdf>

- National Association of Clinical Nurse Specialists. (2013). Impact of the clinical nurse specialist role on the costs and quality of healthcare. Retrieved July, 2015, from <http://www.nacns.org/docs/CNSOutcomes131204.pdf>
- National Association of Clinical Nurse Specialists. (2015a). Clinical nurse specialist meeting the new demands of a reformed healthcare system. Retrieved July, 2015, from <http://www.nacns.org/members/docs/CNSTalkingPointsLong.pdf>
- National Association of Clinical Nurse Specialists. (2015b). First national census of clinical nurse specialists provides insights into education levels, employment, practice specialties, and more. Retrieved July, 2015, from <http://www.nacns.org/html/cns-census.php>
- National Association of Clinical Nurse Specialists (NACNS). (2004). Statement on clinical nurse specialist practice and education. 2nd ed. Retrieved July, 2015, from <http://www.nacns.org/docs/NACNS-Statement.pdf>
- National Association of Clinical Nurse Specialists (NACNS). (n.d.). Advanced practice registered nurses: The clinical nurse specialists (CNS). Retrieved 2015, from <http://www.nacns.org/docs/APRN-Factsheet.pdf>
- National Board of Certification & Recertification for Nurse Anesthetists. (2015). Overview of the Continued Professional Certification (CPC) Program. Retrieved July, 2015, from [http://nbcrna.com/cpc/Pages/CPC Program Overview.aspx](http://nbcrna.com/cpc/Pages/CPC%20Program%20Overview.aspx)
- National Center for Health Statistics. (2015). Health, United States, 2014: With special feature on adults aged 55–64. Retrieved August, 2015, from <http://www.cdc.gov/nchs/data/abus/abus14.pdf> - glance
- National CNS Competency Task Force. (2010). Clinical nurse specialist core competencies: Executive summary 2006-2008. Retrieved July, 2015, from <http://www.nacns.org/docs/CNSCoreCompetenciesBroch.pdf>
- National Council of State Boards of Nursing. (1997, editorial update April 2014). The National Council of State Boards of Nursing (NCSBN) position paper on telehealth nursing practice. Retrieved July, 2015, from https://www.ncsbn.org/14_Telehealth.pdf
- National Council of State Boards of Nursing. (2014). Advanced practice member board profiles 2014. Retrieved July, 2015, from [https://www.ncsbn.org/Advanced Practice MBP 2014.pdf](https://www.ncsbn.org/Advanced_Practice_MBP_2014.pdf)
- National Council of State Boards of Nursing APRN Advisory Committee. (2008). Consensus model for APRN regulation: Licensure, accreditation, certification & education. Retrieved 2014, from [https://www.ncsbn.org/Consensus Model for APRN Regulation July 2008.pdf](https://www.ncsbn.org/Consensus_Model_for_APRN_Regulation_July_2008.pdf)
- National Organization of Nurse Practitioner Faculties. (2012). Nurse practitioner core competencies. Retrieved 2014, from <http://www.nonpf.org/?page=14>
- National Organization of Nurse Practitioner Faculties. (2013). Population-focused nurse practitioner competencies. Retrieved 2014, from <http://www.nonpf.org/?page=14>
- Naylor, M. D., Brooten, D. A., Campbell, R. L., Maislin, G., McCauley, K. M., & Schwartz, J. S. (2004). Transitional care of older adults hospitalized with heart failure: a randomized, controlled trial. *Journal of the American Geriatric Society*, 52(5), 675-684. doi: 10.1111/j.1532-5415.2004.52202.x

- Ndosi, M., Vinall, K., Hale, C., Bird, H., & Hill, J. (2011). The effectiveness of nurse-led care in people with rheumatoid arthritis: a systematic review. *Journal of Nursing Studies*, 48(5), 642-654. doi: 10.1016/j.ijnurstu.2011.02.007
- Newhouse, R. P., Stanik-Hutt, J., White, K. M., Johantgen, M., Bass, E. B., Zangaro, G., . . . Weiner, J. P. (2011). Advanced practice nurse outcomes 1990-2008: a systematic review. *Nursing Economics*, 29(5), 230-250; quiz 251.
- Reiter, F. (1966). The nurse-clinician. *The American Journal of Nursing* 66(2), 274-280.
- Renfrew, M. J., McFadden, A., Bastos, M. H., Campbell, J., Amos-Channon, A., Cheung, N. F., . . . Declercq, E. (2014). Midwifery and quality care: Findings from a new evidence-informed framework for maternal and newborn care. Retrieved August, 2015, from http://jesuissagefemme.fr/annexes/19_THE_LANCET.pdf
- Rose, B., All, A., & Gresham, D. (2003). Role preservation of the clinical nurse specialist and nurse practitioner. *The Internet Journal of Advanced Nursing Practice*, 5(2), 10.
- Ross, J. D. (2015). Mental health nurse prescribing: the emerging impact. *Journal of Psychiatric and Mental Health Nursing*, 22(7), 529-542. doi: 10.1111/jpm.12207
- Rush University College of Nursing. (2015). Adult-gerontology clinical nurse specialist (DNP) program information. Retrieved August, 2015, from http://www.rushu.rush.edu/servlet/Satellite?c=content_block&cid=1267461164359&pagename=CollegeOfNursing%2Fcontent_block%2FContentBlockDetail
- Ryan, M. (2009). Improving self-management and reducing readmission in heart failure patients. *Clinical Nurse Specialist*, 23(4), 216-221.
- Schiff, M. (2012). The role of nurse practitioners in meeting increasing demand for primary care. Retrieved July, 2015, from <http://www.nga.org/files/live/sites/NGA/files/pdf/1212NursePractitionersPaper.pdf>
- Schuiling, K. D., Sipe, T. A., & Fullerton, J. (2013). Findings from the analysis of the American College of Nurse-Midwives' membership surveys: 2009 to 2011. *Journal of Midwifery & Women's Health* 58(4), 404-415. doi: 10.1111/jmwh.12064
- Simonson, D. C., Ahern, M. M., & Hendryx, M. S. (2007). Anesthesia staffing and anesthetic complications during cesarean delivery: a retrospective analysis. *Nurs Res*, 56(1), 9-17.
- Starck, P. L. (2005). The cost of doing business in nursing education. *J Prof Nurs*, 21(3), 183-190.
- State of New Mexico Board of Nursing. (2012). Requirements and instructions for initial certified registered nurse anesthetist licensure. Retrieved July, 2015, from http://nmbon.sks.com/uploads/FileLinks/67319fd61b0b4da28dfa2111728a4d46/CRNA_End_March2014.pdf
- Tabor, J., & Eng, H. (2012). Arizona Rural Health Workforce Trend Analysis 2007-2010. Retrieved July, 2015, from http://crh.arizona.edu/sites/default/files/u25/AZ_Workforce_Trend_Analysis_2007-10_0.pdf
- The Perryman Group. (2012). The economic benefits of more fully utilizing advanced practice registered nurses in the provision of health care in Texas: an analysis of local and statewide effects on business activity. Retrieved July, 2015, from

- http://c.ymcdn.com/sites/flanp.site-ym.com/resource/resmgr/articles_and_research/Perryman-APRN-Utilization-E.pdf
- Thompson, J. N., Varley, C. K., McClellan, J., Hilt, R., Lee, T., Kwan, A. C., . . . Trupin, E. (2009). Second opinions improve ADHD prescribing in a medicaid-insured community population. *J Am Acad Child Adolesc Psychiatry*, 48(7), 740-748. doi: 10.1097/CHI.0b013e3181a2b2ed
- U.S. Congress Office of Technology Assessment. (1981). The costs and effectiveness of nurse practitioners. (Case study 16). 2014, from http://govinfo.library.unt.edu/ota/Ota_5/DATA/1981/8131.PDF
- U.S. Congress Office of Technology Assessment. (1986). Nurse practitioners, physician assistants, and certified nurse-midwives: A policy analysis. (Health technology case 37). 2014, from <http://ota.fas.org/reports/8615.pdf>
- U.S. Department of Health and Human Services. (2010). Healthy People 2020. ODPHP Publication No. B0132. Retrieved July, 2015, from <http://www.aacp.org/resources/education/cape/Documents/Healthy People 2020.pdf>
- U.S. Department of Health and Human Services. (n.d.). Find shortage areas: MUA/P by state and county. Retrieved 2014, from <http://muafind.hrsa.gov/index.aspx>
- U.S. Department of Labor: Bureau of Labor Statistics. (2014). Occupational employment and wages. Retrieved July, 2015, from <http://data.bls.gov/search/query/results?cx=013738036195919377644%3A6ih0hfrgl50&q=anesthesia+inurl%3Abls.gov%2Foes>
- University of Arizona Health Sciences Center. (2014). The supply of physician assistants, nurse practitioners, and certified nurse midwives in Arizona from <http://azahec.ahsc.arizona.edu/content/supply-physician-assistants-nurse-practitioners-and-certified-nurse-midwives-arizona>
- University of Chicago Medicine. (2012). What we don't talk about when we don't talk about sex. Retrieved July, 2015, from <http://www.uchospitals.edu/news/2012/20120322-sex-screening.html>
- University of Colorado Boulder. (2012). Revolutionary Nurse. from <http://www.colorado.edu/news/features/revolutionary-nurse>
- Venning, P., Durie, A., Roland, M., Roberts, C., & Leese, B. (2000). Randomised controlled trial comparing cost effectiveness of general practitioners and nurse practitioners in primary care. *BMJ*, 320(7241), 1048-1053.
- Vollman, K. M. (2006). Ventilator-associated pneumonia and pressure ulcer prevention as targets for quality improvement in the ICU. *Critical Care Nursing Clinics of North America*, 18(4), 453-467. doi: 10.1016/j.ccell.2006.08.006
- Weinberg, M., Kallerman, P., Spetz, J., & Finkle, E. (2014). Full practice authority for nurse practitioners increases access and controls cost. from <https://canpweb.org/canp/assets/File/Bay Area Council Report 4-30-14/BAC NP Full Report 4-30-14.pdf>
- Wells, M., Donnan, P. T., Sharp, L., Ackland, C., Fletcher, J., & Dewar, J. A. (2008). A study to evaluate nurse-led on-treatment review for patients undergoing radiotherapy for head and neck cancer. *Journal of Clinical Nursing*, 17(11), 1428-1439. doi: 10.1111/j.1365-2702.2007.01976.x

- Widemark, E. (2014). *Arizona nurse practitioner salary study D*. Coalition of Arizona Nurses in Advance Practice
- Yee, T., Boukus, E. R., Cross, D., & Samuel, D. R. (2013). Primary care workforce shortages: Nurse practitioner scope-of-practice laws and payment policies (NIHCR research brief 13). Retrieved 2014, from <http://www.nihcr.org/PCP-Workforce-NPs>