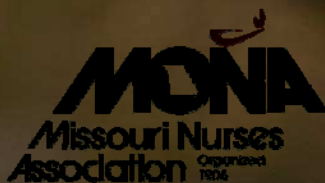




**THE STATUS OF  
ADVANCED PRACTICE REGISTERED NURSES  
IN MISSOURI:  
A WHITE PAPER**



**AUTHORED BY: THE APRN WHITE PAPER TASK FORCE OF THE  
MISSOURI COUNCIL ON ADVANCED PRACTICE NURSES OF THE MISSOURI NURSES ASSOCIATION  
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## THE WHITE PAPER:

### A TEMPLATE FOR CHANGE IN THE STATE OF MISSOURI

Missouri APRNs advocate for change to improve patient access to APRN care as a solution to healthcare shortages in underserved urban and rural Missouri and to reduce the rapidly escalating costs of healthcare.

Vision: Create a statutory and regulatory environment in Missouri that allows Missouri citizens to have unrestricted access to the safe, high quality, and cost effective healthcare provided by advanced practice registered nurses (APRNs) through revision of Missouri statutes.

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## EXECUTIVE SUMMARY:

- Key reports regarding the need for improved access to care and improved patient safety, quality and efficiency in the delivery of healthcare services support the importance of removing barriers to Missouri citizen's access to the full scope of services available from APRNs.
- APRNs are safe practitioners who deliver high quality, cost-effective care with low malpractice and litigation rates.
- APRNs have been delivering care in the United States for decades.
- There is tremendous interstate variability in statutes and regulations governing APRN practice.
- Statutory and regulatory change must occur in order for patients in Missouri to access APRN care.

A shortage of healthcare providers and subsequent decreased access to healthcare services, as well as concerns related to the safety, quality and efficiency of the current healthcare paradigm create a window of opportunity to redefine the healthcare delivery system and remove barriers to access APRN care in Missouri. Healthcare legislation, regulations governing federal healthcare services and numerous reports by public and private agencies provide unequivocal support for barrier free access to APRN services.<sup>1</sup> These reports coupled with the Institute of Medicine (IOM) *Future of Nursing* report point to the need to create change to allow Missouri citizens the opportunity to receive needed care from APRNs (Institute of Medicine, 2010)

APRNs are competent and qualified healthcare providers who deliver healthcare in a wide variety of settings and roles. APRNs are nurses educated at the graduate level. Studies, including a recent systematic review of APRN outcomes, provide evidence of the cost effectiveness, quality, and safety of healthcare provided by APRNs (AANP, 2010; Newhouse et al., 2011). Additionally APRNs are shown to have high rates of patient satisfaction and lower litigation rates and therefore lower malpractice fees than their physician counterparts (Hooker, Nicholson, & Li, 2009).

APRNs have been in existence for decades (Office of Technology Assessment, 1981). The statutory regulation of APRN practice is determined by state rather than federal legislation (Wilken, 1993). As a result, regulations that govern the scope of practice for APRNs vary dramatically from state to state. This variance, compounded by state regulatory influence on policies, promotes inconsistencies in scope of practice from state to state. On the other hand, physician scope of practice is consistent across the United States. As a result of both legislative and administrative rule making, many barriers are implemented which limit the availability of care to citizens.

Barriers to APRN practice directly influence access to healthcare and the cost and time associated with healthcare delivery (Conover, 2004). Legislators have an important role in developing laws to protect society. Excessive regulations are harmful to society and may restrict free trade and consumer rights. In the sentinel IOM *Future of Nursing* report, legislators are encouraged to examine their statutes and to reduce barriers to APRN practice. In states where there are excessive barriers to practice, the report recommends that the Federal Trade Commission (FTC) engage in the process of identifying and eliminating barriers to care delivered by APRNs (Institute of Medicine, 2010).

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<sup>1</sup> The Patient Protection and Affordable Care Act (PPACA)(House Resolution 3962,2010);Institute of Medicine (IOM) Future of Nursing Report(Institute of Medicine, 2010); Center to Champion Nursing (CCNA)(Center to Champion Nursing in America, 2011);Macy Report (Cronenwatt & Dzau, 2010); National Council of State Boards of Nursing (NCSBN) APRN Consensus Paper (LACE) (National Council of State Boards of Nursing, 2008); *See also* the administrative rules affecting health services delivered by Federally Qualified Health Centers (FQHC), Rural Health Centers (RHC), and the Veteran's Administration (VA). *See also* Key nursing organizations recommend reduction of barriers to APRN practice at the state and federal level (AANP, 2010), (ANA, 2010). AARP's Center to Champion Nursing in America (CCNA), developed through a cooperative effort by (AARP) and the Robert Wood Johnson Foundation (RWJ), recommends reduction of barriers to APRN practice to address urgent needs for primary care throughout the United States(CCNA, 2011).

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While 16 states have independent APRN practice, some states require a supervisory or collaborative relationship with APRN activities being selectively delegated by physicians (AANP, 2011b). The licensure, accreditation, certification, education (LACE) model developed by the National Council of State Boards of Nursing (NCSBN), states recommends autonomous APRN practice regulated solely by the Board of Nursing (with a mandated APRN position on that Board).

Currently, seventeen states have joint rule promulgation with the Board of Medicine and the Board of Nursing. Missouri statute does not mandate joint rulemaking for APRN practice. Rather, the statute states those three regulatory bodies, the Board of Healing Arts, Board of Nursing, and Board of Pharmacy, “may promulgate” rules. In Missouri, the APRN rules related to diagnosis prescribing and treatment are promulgated by these three regulatory bodies. States that have effectively achieved barrier free practice did not have joint promulgation of rules.

The development of excessive regulations may occur due to lack of understanding regarding APRN scope of practice and the quality, cost effectiveness, and safety of the care that they deliver. Exploding healthcare costs, coupled with less than optimal healthcare outcomes indicates the need for change in the healthcare system (Organization for Economic Cooperation and Development, 2010).

### Recommendations:

- Adopt legislation that removes the collaborative practice agreement mandate.
- Designate the Missouri State Board of Nursing as the sole agency responsible for regulation of APRN practice and eliminate the joint rule-making process related to APRN governance. Require APRNs to show proof of liability insurance for licensure and renewal of licenses.
- Adopt the nomenclature of the National Council of State Board of Nursing’s Consensus Model for APRN Regulation LACE (licensure, accreditation, certification, education) which is endorsed by the Missouri State Board of Nursing in order to promote consistent APRN scope of practice throughout the United States.

### When these recommendations are implemented, the benefits to Missouri citizens will be:

- Increased number of available healthcare providers which will expand services in rural and underserved areas.
- APRN patients will have access to healthcare, medications and other therapies to meet their healthcare needs.
- APRNs education emphasizes wellness, health promotion and disease prevention, making APRN access critical in healthcare models that promote wellness behaviors.
- Healthcare teams will continue to collaborate in an egalitarian fashion to promote excellent patient care.
- Increased potential to reduce healthcare costs through fully utilized APRNs through realization of their associated reduced education costs, liability costs, and salary costs.

## MISSOURI: THE STATE OF HEALTHCARE

- Missouri rates poorly on most healthcare measures when contrasted to other states.
- Much of Missouri is rural, with many healthcare provider shortage and medically underserved areas.
- Many Missouri citizens are uninsured or underinsured.

In June, 2011, the Missouri Department of Health and Senior Services (DHSS) published *The State of Missourians’ Health* (Missouri D HSS 2011). This study looked at 10 key population health indicators: health insurance coverage, infant mortality, life expectancy at birth, death rates in the top five leading causes of death, years of potential life lost from early deaths, overall death rates, poverty, obesity, immunization coverage, and smoking rates. Of all the indicators, Missouri performed above average in only one – health insurance coverage.

The Commonwealth Fund, an independent, private foundation that provides comparative data related to 38 health indicators and state response to national health policies and initiatives, ranks Missouri 36<sup>th</sup> overall in access to

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care, avoidable hospital use and costs, healthy lives, and prevention and treatment. This is a decline from the 2007 report where Missouri ranked 31<sup>st</sup>.

The rankings are as follows when compared to the rest of the nation (1 is the top rank, 51 is the lowest):

- Adults (ages 18-64) who are insured-22<sup>nd</sup>
- Children (ages 0-17) who are insured-26<sup>th</sup>
- At-risk adults who have visited a doctor for a routine check-up in the past 2 years-40<sup>th</sup>
- Adults who did not visit a doctor in the past year because of cost-34<sup>th</sup>
- Obesity-27<sup>th</sup>. Percentage of children (ages 10-19) with obesity-31%.
- Tobacco smokers-46<sup>th</sup>
- Children with a medical home-46<sup>th</sup>. (D. McCarthy, October 2009).

### Access to Care:

- A study from America's Health Rankings rated Missouri 39<sup>th</sup> among 50 states in overall health rankings in 2010 (Talking Points, 2011).
- Preventable hospitalizations is an indicator of access to appropriate care with Missouri currently ranking 36<sup>th</sup> in the nation (D. McCarthy, October 2009).
- The 30 day hospital readmission rates are an indication of coordination of care between hospital discharge and outpatient follow-up care. Missouri currently ranks 29<sup>th</sup> in the nation (Issues in Missouri Health, 2011).
- Decreasing numbers of primary care providers translates to worsening of healthcare outcomes related to inability to access healthcare (Access Denied: A Look at America's Medically Disenfranchised, 2007)
- Preventative treatment is less expensive than treating complications (Health Disparities and Missouri's Medicaid Seniors, 2008)

### Uninsured and the Underserved in Missouri:

The present total population of Missouri is 5,988,927 (US Census Bureau, 2010). There are 114 counties and one independent city (St. Louis). Currently, 109 of 114 counties are Healthcare Professional Shortage Areas (HPSA) or designated Medically Underserved Areas (MUA) (Missouri Department of Health, 2011). This means that there is less than one primary care physician per 3,000 people and/or there are no primary care services within 30 minutes of travel time. Since 2006, only 2,722 US medical graduates per year choose primary care. These numbers have not changed since 2006 (Commins, 2010).

The percent of Missourians who live below the poverty rate (defined as a federal threshold of \$11,161 for one person, and \$21,756 for a family of 2 adults and 2 children) is higher for Missouri (14.6%) as compared to the national rate 1(14.3 %) The distribution of poverty in Missouri is very uneven, ranging from a low of 5.1% in St. Charles County, to a high of 29.9% in Shannon County (Missouri Department of Health, 2011). Pockets of poverty occur throughout the state, commonly in the same areas designated as HPSAs. Rural Missouri residents are poorer than metropolitan residents. They are three years older than average, 5% live in poverty, 3% more are illiterate and 4% more are uninsured. Individuals with a lower socioeconomic status have a greater challenge in meeting basic living needs increasing the challenge to meet healthcare needs. (MHA Primary Care Physician: The Status in Rural Missouri, 2011). In 2009-2010a reported 852,000 Missouri citizens lacked health insurance (US Census Releases Current Population Survey, 2011). Implementation of the Patient Protection Affordable Care Act is expected to add 374,000 uninsured new patients to the Missouri healthcare system by 2013 and 600,000 by 2019 (Blouin, 2009).

In 2010, 826,561 (14%) of Missourians were 65 years of age or older. This percentage will continue to grow. It is estimated that 935,979 (15.6%) by 2015; 1,079,491 (18%) by 2020; and 1,414,266 (23.6%) by 2030. Five percent of the population is responsible for 50 percent of all healthcare spending (MHA Primary Care Physician: The Status in Rural Missouri, 2011). A combination of increasing patients entering the healthcare system, in combination with an aging

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population, will create ever increasing demands for patient access to care. An aging physician population and decreased number of students pursuing primary care will continue to challenge the already stressed system.

### **Medicaid Cuts:**

The proposed Missouri budget includes drastic cuts to Medicaid funding that will have a dire impact on the Missouri economy. It calls for five percent cuts in state funding for current Missouri Medicaid programs in 2013, fifteen percent in 2014, and 33 percent in 2021. This first cut of five percent would cost Missouri almost 290.7 million in federal dollars and risk 633.7 million in business activity. It would also impact 35,210 jobs (Families USA, 2011). Continued Medicaid cuts as proposed would escalate and further degrade Missouri economy and impact access to care for Missourians covered by Medicaid, which includes 1 in 6 Missourians and 35 percent of Missouri's children (Missouri Foundation for Health, 2007).

### **Decreased Primary Care Provider Supply:**

In rural Missouri there is only one primary care physician for every 1,776 citizens. Nationwide, it is estimated that there will be a 91,500 shortfall for physicians by 2020 with 45,400 being primary care. The passage of PPACA will push the need for primary care physicians and APRNs. The anticipated addition of 600,000 new patients to Missouri healthcare system will create access to care barriers (MHA Primary Care Physician: The Status in Rural Missouri, 2011).

These issues are compounded by an aging Missouri physician population. Fifty-five percent of all Missouri physicians are 50 years or older. In rural settings the 50 and older age range jumps to 62 percent. Fewer medical students are choosing primary care versus specialty care. This combination of an aging physician population and fewer students choosing primary care creates a large barrier to patient care access (MHA Primary Care Physician: The Status in Rural Missouri, 2011).

Shortages of primary care providers are associated with poor healthcare outcomes (Wakefield, 2010). The number of Missouri citizens living in underserved urban and rural provider areas in Missouri is 1,097,274 or 18.6 percent as compared to 11.8 percent nationally (Health Human Services, 2011). Given this documented shortage of healthcare providers, it is perplexing that Missouri's underserved patients have statutory and regulatory barriers to competent APRN care.

## **WHO ARE APRNs?**

- APRNs are registered nurses who have completed graduate level education, are board certified by a nationally recognized certifying body, and deliver care in primary and specialty care settings.
- APRNs include: nurse practitioners, clinical nurse specialists, certified nurse midwives, and certified registered nurse anesthetists.
- Multiple studies support the high quality, safe, and cost-effective care provided by APRNs, and the low litigation costs associated with such care.

### **Who are APRNs?**

The APRN is a registered nurse who has completed graduate level education, is certified by a national recognized certifying body, is licensed as a registered nurse in Missouri and is recognized by the state as an APRN. The APRN's graduate level educational program builds on the existing skills and competencies of registered nurses.

There are four major APRN roles: nurse practitioner, nurse anesthetist, certified nurse midwife, and clinical nurse specialist (American Academy of Nurse Practitioners, 2010). All APRN roles have a long history with nurse anesthetists being introduced in the late 1870s (Nurse Anesthetist Schools, 2011), nurse practitioners in the 1960s (Office of Technology Assessment, 1981), certified nurse midwives in the early 1920s (Vorvick, 2011), and the clinical nurse specialist role being developed in the late 1940s (Montemuro, 1987).

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APRN education includes pathophysiology, health assessment, pharmacology, and clinical diagnosis and treatment. This education prepares them to diagnose, treat, and prescribe. The educational curriculum focuses on attainment of key competencies as contrasted to specific timelines (American Academy of Nurse Practitioners, 2011a). APRNs demonstrate a dedication to learning and are required to obtain continuing education in order to maintain their national certification.

APRNs are licensed practitioners who practice independently and in collaboration with other members of the healthcare team (American Academy of Nurse Practitioners, 2010). They practice throughout the United States, and are utilized internationally. APRNs are shown to provide quality care with high patient satisfaction and associated reductions in cost (Sheer & Wong, 2008).

Multiple studies confirm the cost effectiveness of APRN care (Bauer, 2010; Brooten, Youngblut, Kutcher, & Bobo, 2004). In a 2004 study researchers found that the more APRNs employed by a primary care practice, the lower the labor cost per visit (Roblin, Howard, Becker, Adams, & Roberts, 2004). APRNs care is also associated with reduced healthcare cost through reducing hospital length of stay and readmissions, decreasing emergency room utilization for nonemergent conditions, greater use of preventative measures, and fewer laboratory fees (Brooten, et al., 2004; Jennifer A. Coddington & Laura P. Sands, 2008; McGrath, 1990). When APRNs were added to a multidisciplinary team with physicians at a tertiary academic medical hospital, the average length of stay was significantly lower, resulting in lower cost of care (Cowan et al., 2006; Ettner et al., 2006a). Chen, McNeese-Smith, Cowan, Upenieks, and Afifi (2009) analyzed pharmaceutical claims of 1,200 hospitalized subjects. The subjects whose care was facilitated by an APRN led multidisciplinary team had reduced drug utilization and cost as well as decreased length of stay compared to those not care for by the team. The cost savings outweighed the cost of the multidisciplinary team (Chen, et al, 2009). A three year analysis of an on-site APRN for an employer with approximately 4,000 employees resulted in significant reduction in healthcare cost (Chenoweth, Martin, Pankowski, & Raymond, 2008)

The statutory regulation of the APRN is determined by state rather than federal legislation, resulting in marked variations in interstate scope of practice (Flook, 2003). The Institute of Medicine has developed guidelines to assist state legislators in evaluating barriers to APRN practice (IOM, 2011). Creating legislative change in APRN scope of practice has the potential to positively affect nearly six million Missouri residents (Office of Social and Economic Data Analysis, 2009) by improving access to quality healthcare.

According to the Missouri Hospital Association (MHA), there does not seem to be a clear solution within Missouri's model of healthcare delivery to resolve the problems related to lack of access to healthcare providers and escalating costs (Missouri Hospital Association, 2011). The numbers of APRNs in Missouri are substantial including: 4,000 Nurse Practitioners, 1,600 Certified Registered Nurse Anesthetists, 400 Clinical Nurse Specialists and 100 Certified Nurse Midwives (Haycraft, 2011). There are approximately 6,000 APRNs in Missouri ready to collaborate with all stakeholders in achieving solutions to our healthcare crisis (Phillips, 2011).

### APRNs AND HEALTHCARE COSTS

- **The fully utilized APRN can provide significant savings to the healthcare system.**
- **Despite the savings, the quality, safety, and satisfaction of APRN care remains high.**

The financial case in support of APRNs is compelling. For example, at the University of Virginia Health System, a nurse practitioner model established in the acute neuroscience unit decreased inpatient visits resulting in a net savings of \$2.4 million dollars the first year of operation. The American Association of Medical Colleges (AAMC) workforce conference presented data comparing a nurse practitioner led clinic to that of a traditional model. Findings indicated the annual cost of care serving 10,000 patients was \$800,000 compared to \$3 million dollars in the traditional practice. Another study that compared healthcare insurance claims of NPs to that of physicians revealed lower costs with the nurse practitioner's care (Roblin et al, 2004).

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Eibner et al (2009) in conjunction with the Rand Corporation conducted a forecast analysis comparing the cost of care provided by advanced practice nurses to that of physicians. The findings predicted the cost of a patient visit to a NP (or physician assistant) would average twenty to thirty-five percent less than a visit to a physician. Substituting NPs for physicians was expected to result in annual projected statewide savings of 4.2 to 8.2 billion dollars for the period 2010 to 2020. Based on these estimates, it appears that incorporating NP as healthcare providers could result in substantial cost savings.

### Healthcare Outcomes and Patient Satisfaction:

The role of the APRN initially emerged in the 1960s to address healthcare disparities specifically for those living in underserved areas. Since the creation of the APRN role, no credible published studies have demonstrated adverse outcomes from care provided by APRNs. To the contrary, multiple studies have demonstrated equivalence of APRN and physician care delivery outcomes (Mundinger et al, 2000; Newhouse, 2011, Lenz, 2002; Fairman, 2008; Hughes, 2010).

As early as 1974, a Canadian randomized trial comparing physicians to NPs found no significant differences between patient outcomes including mortality, patient satisfaction, and overall patient functioning (Spitzer et al., 1974). Similarly, the U.S. Office of Technology Assessment studied APRN, Physician Assistants (PAs) and physicians and determined that the level of quality of care was equivalent to that of physicians (Leroy, 1974).

More recent studies have produced similar results. Care provided by APRNs repeatedly has been found equivalent to that of physician effectiveness, treatment and prescribing patterns and overall patient health status outcomes. Additionally, APRNs frequently rated higher than physicians in overall levels of patient satisfaction, consultation time, and preventive screenings (Hughes et al., 2010; Lenz et al., 2002; Mehrotra et al., 2009; Seale, 2006).

## BARRIERS PREVENTING FULL UTILIZATION OF ADVANCED PRACTICE REGISTERED NURSES

- Missouri citizens have restricted access to APRN care.
- Missouri has many barriers to APRN care and is one of the most restrictive states in the U.S.
- Excessive regulations place barriers to APRN care and have significant costs to the healthcare system and patients.

Missouri APRNs have one of the most restrictive practice environments in the U.S. The Pearson Report (Pearson, 2011) rates Missouri as having an F+ grade when compared to other states for utilization and restriction of APRN practice. Only six states rank lower. Additionally, Missouri ranks 36<sup>th</sup> in the nation for access to healthcare (Missouri Hospital Association, 2011). When regulations are unnecessary they are barriers. These barriers are costly and can impede access to high quality and safe care for APRN patients (Conover, 2004). It is important to remove the barriers to APRN care in order to increase patient access.

### Examples of Barriers to APRN Care:

1. Collaborative Practice Agreements: Missouri APRNs must enter into a collaborative practice agreement with a physician.
  - That physician must be located within 50 miles of the APRN in a HPSA or 30 miles in a non-HPSA. Eighty percent of Missouri counties are considered physician shortage areas and only ten percent of new physicians are going into rural primary care. Many new physicians are not willing to practice in rural, underserved areas. This limits APRNs' ability to practice tremendously as a collaborating physician may not be available within the geographic restriction.
  - APRNs are required to practice in the same location as the collaborating physician for one month prior to practicing at a separate location. If the collaborator changes, this process must be repeated. During this time,

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the APRN's availability to see patients is restricted to the location of the new collaborative physician. (Collaborative Practice Rule, 2011).

- A physician is limited to collaborating with no more than three full-time equivalent APRNs (Collaborative Practice Rule, 2011).
- An APRN is not allowed to prescribe controlled medications, such as pain medications containing narcotics, unless the collaborating physician allows such prescriptive privileges within the collaborative practice agreement (Collaborative Practice Rule, 2011). If the APRN is delegated controlled substance prescriptive authority by the collaborating physician, the APRN may not prescribe Schedule II drugs and is limited to prescribing a 120 hour supply of narcotics in Schedule III (Collaborative Practice Rule, 2011). Patients with chronic disease states such as Cancer, Rheumatoid Arthritis, Hospice patients, and patients across the lifespan with ADHD frequently require Schedule II controlled substances. Restrictions associated with APRN prescriptive authority for controlled substances result in limited patient access to legitimately needed medications.
- If the APRN provides services to a patient for other than an acute self-limited or well-defined condition, the patient is to be examined and evaluated by a physician within two weeks (Collaborative Practice Rule). This creates the burden of an extra visit, extra charges, loss of wages, and a time constraint for the patient. In the majority of practices, it is not feasible to reschedule the patient with the collaborating physician within two weeks.
- The collaborating physician (or other designated physician) must be immediately available for consultation (Collaborative Practice Rule, 2011). If the collaborating physician or designee is unavailable (vacation, on-leave, etc.), patient services cannot be provided by the APRN.
- When the APRN practices at a separate site from the collaborator, the collaborating physician shall be present at that site at least once every two weeks to review the APRN's services and to provide medical services (Collaborative Practice Rule, 2011).
- The collaborative practice physician's signature is required on the death certificate and often delays burial, which causes emotional distress to families.

2. Reimbursement: Missouri APRNs are considered capable of being licensed independent providers by the Missouri Board of nursing, Joint Commission on Accreditation of Healthcare Organizations (JCAHO), and all of the APRN certification organizations. However, numerous insurance companies will not reimburse Missouri APRN's for their services.

3. Liability concerns: Physicians are concerned that they are liable for care that they did not provide. Physicians are required to complete a 10 percent chart review. The chart review increases to a 20 percent chart review if controlled substances are prescribed. The chart review requirement places a significant burden on physician time and can affect patient access to care.

4. Safety concerns: Numerous studies demonstrate that APRNs have increased patient satisfaction, increased patient compliance, and equal patient outcomes for care provided by APRNs versus physicians to similar patients. Yet the AMA continues to publish unsubstantiated reports questioning the safety of APRN practice. Hooker (2009) has published many articles that the malpractice claims on APRNs are dramatically fewer than those compared to MD and DOs.

### Results of Barrier Reductions:

- Removing the 30/50 mile rule requirement would increase access to APRNs care and increase access to competent healthcare providers in both rural and urban underserved areas.
- APRN practice and patient access to care would not be hindered by the availability of a physician collaborator.
- APRNs would be able to provide all indicated prescriptions for all patient populations.
- Patient access to care would not be interrupted due to infringement on physician time in completing APRN chart review requirements.

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- Improved interdisciplinary collaboration as indicated by the patient's needs and provider assessment. Telecommunication allows for real time collaboration when on-site collaboration is difficult or impossible.
- The Missouri State Board of Nursing will be solely responsible for promulgating rules and requirements for continuing education including pharmacology.

### **Benefits to Missouri Citizens if legislation is passed:**

- Broader access to healthcare in all areas, including rural and urban underserved areas in Missouri.
- Increased APRN availability will increase overall number of healthcare providers to care for a growing number of patients and an aging population.
- APRNs will be able to provide assistance anywhere in the state of Missouri in the event of an emergency. After the recent Joplin tornado, APRNs from across the state were not able to provide care to storm survivors due to practice restrictions imposed by Missouri collaborative practice regulations.
- Prescriptions will be labeled with the correct APRN provider decreasing the confusion by patients and pharmacies.
- Diagnostic tests will be ordered by and reported to the correct APRN provider, thus decreasing the potential for delayed evaluation and treatment.

## **NURSE PRACTITIONERS**

- Nurse Practitioners have been in existence in the United States for more than half a century.
- Effective legislation for nurse practitioners has been hampered by excessive rule making.
- Nurse practitioners provide both primary and specialty care to patients in a wide range of settings.
- Multiple studies support the cost-effective, high quality, safe, highly satisfying, and low litigation associated with care delivered by nurse practitioners.

### **National History:**

The first NP program was developed due to a lack of healthcare services in the 1960s. Medicare and Medicaid had just been initiated, expanding the need for healthcare providers. Loretta Ford, RN, a nursing educator, and Henry Silver, MD, a pediatrician, saw the need for an extension of healthcare services that nurse-physician collaboration would fill. The first NP program, specializing in pediatrics, was founded in 1965 at the University of Colorado School of Nursing. The practice focus changed to primary care in the 1970s, with the focus on providing access to primary healthcare for large and underserved populations. The role was fully recognized in 1971 when the Secretary of Health, Education and Welfare recommended support of this primary care (PCP) role and federal monies were made available to support NP programs nationally. At this time there was expansion into other specialties such as family practice, adult/geriatrics, psychiatric, and women's health. By the late 1980s, programs were added in acute care as well. At one point there were over 500 certificate programs, which then shifted to Master's Degree programs, with current transition to the Doctor of Nursing Practice (DNP). Each state independently regulated NP practice, some by the boards of nursing, the boards of pharmacy, or the boards of healing arts, either individually or all three in some form. By 2000, NPs were legally recognized to practice in every state, some with full autonomy, and some with restrictions. According to the Pearson Report, Missouri is 44th in terms of restrictive APRN practice regulations. (2011).

### **Missouri Nurse Practitioner Historical Timeline:**

**1974**-Missouri's Nursing Practice Act was revised to redefine the scope of practice for nurses to reflect national trends and provide more autonomy for advanced practice. The revised act deleted the phrasing "under the direct supervision of a physician" and "nothing in this Act shall be construed to be the practice of medicine" (E. Doyle, Meurer, J., 1983). This Act passed the Senate and the House, only to be vetoed by then Governor Kit Bond.

**1975**-The Missouri Nurses' Association and other professional organizations supportive to the Act pushed a successful veto override, the first in 138 years (E. Doyle, Meurer, J., 1983).

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**1980-** The functions of two NPs practicing in rural Missouri were investigated by the Missouri Board of Healing Arts. Subsequently, the NPs were charged with practicing medicine without a license, and their physician collaborators were charged with “aiding and abetting” the practice. The case was tried in the St. Louis County Circuit Court. In Nov. 1982 the court ruled that the NPs were indeed involved in the unauthorized practice of medicine. The case was appealed to the Missouri Supreme Court.

**1983-*Sermchief v. Gonzales*** – The NPs found to be involved in the unauthorized practice of medicine by the St. Louis County Circuit Court, and their collaborating physicians, appealed their case to the Missouri Supreme Court. The Missouri Supreme Court ruled in favor of the NPs and their collaborating physicians, finding that the NPs acts were authorized under the current nurse practice, and therefore did not constitute the unlawful practice of medicine. Within the opinion, the Court recognized the intent of the statutory language to “avoid statutory constraints on the evolution of new functions for nurses delivering health services.” Further the Court stated that the “broadening of the field of practice ....authorized by the legislature and here recognized by the Court” carries with it professional responsibility for maintaining high educational standards and recognizing the limits of one’s professional knowledge (Missouri Supreme Court, 1983).

**1987-**The Missouri Board of Healing Arts amended its Practice Act to state that physicians would be disciplined if they provided medication to a patient without first establishing a “physician-patient relationship”. This action purposely restricted NPs from seeing any new patients who had not first been seen by an MD. The Board of Healing Arts and the Board of Pharmacy began investigating physician practices that collaborated with NPs (E. Doyle, Pennington,D., Kliethermes,J., 2010).

**1990-**Health Care Access Coalition drafted a legislative amendment to prevent disciplinary action against physicians and NPs in a collaborative practice. This passed, but was vetoed by then Governor John Ashcroft. It passed again in 1991 and became law.

**1992-** Work began on legislation (HB 564) to clarify collaborative practice and add prescriptive privileges for NPs in Missouri. This legislation focused on increasing access to healthcare and healthcare providers in Missouri.

**1993-**After strong opposition from the medical community and many compromises, HB 564 passed. It took three years for the regulations to be agreed on by the Boards of Nursing, Healing Arts, and Pharmacy.

**1996-**Amendment to the Nurse Practice Act (NPA) to define the APRN.

**2005-**Legislation introduced to give APRNs the ability to prescribe controlled substances Schedules II-V. The bill failed.

**2006-**Legislation regarding APRN prescriptive authority for controlled substances re-introduced, and subsequently failed again.

**2008-**Revised legislation, allowing APRNs limited ability to prescribe controlled substances (Schedules III-V) was passed (SB 724).

**2011-**Rules are promulgated and finalized for SB 724, allowing APRNs to apply for a BNDD number and to prescribe controlled substances.

### **Definition of the Role:**

NP are healthcare providers who practice in a variety of rural and urban healthcare settings, including ambulatory clinics, hospitals, emergency/urgent care and long term care, retail based clinics, schools and colleges, and public health departments as primary care and/or specialty providers. According to their practice specialty they provide

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nursing and healthcare services to individuals, families, and groups in addition to diagnosing and managing acute episodic and chronic illnesses. NPs emphasize health promotion and disease prevention. They practice autonomously and in collaboration with other healthcare professionals. They serve as healthcare providers, researchers, interdisciplinary consultants and patient advocates. (AANP, Scope of Practice for Nurse Practitioners, 2007, MONA).

### **Services Provided:**

NPs provide healthcare to diverse populations, focusing on the whole person and their families. Services include, but are not limited to: history and physicals, ordering, conducting, supervising, and interpreting diagnostic tests. In addition NPs prescribe medications, treatments and non-pharmacologic therapies. Teaching and counseling individuals, families, and group, are also a major part of NP practice.

### **Education:**

In Missouri, it is a requirement that NPs have a graduate degree in nursing to become recognized as an advanced practice nurse. NPs in Missouri are required to hold national certification their role and population foci. National certification indicates that the NP has successfully met the standards and competencies of a nationally recognized, accredited test of knowledge. Maintenance of certification, which includes ongoing continuing education, is required for continued recognition as a NP in Missouri.

### **Affordability:**

Multiple studies demonstrate the cost effectiveness of NPs as healthcare providers. According to a Tennessee state Managed Care Organizations (MCOs) study, NPs delivered healthcare at 23 percent below the average cost of other primary care providers, with a 21 percent reduction in hospital inpatient rates, and 24 percent lower lab utilization rates as compared to physicians (Spitzer, 1997).

“Chenowith et al. (2005) analyzed the healthcare costs associated with an innovative onsite NP practice for over 4,000 employees and their dependents. Compared with claims from earlier years, the NP care resulted in significant savings of .8 to 1.5 million dollars with a benefit to cost ration up to 15 to 1.” (AANP, 2007) When productivity, salaries, and costs of education are considered, NPs are cost-effective providers of healthcare services.

### **Quality Outcomes:**

In the over 40-year history of the NP profession, a multitude of studies have demonstrated that NPs have performed as well as physicians caring for similar patients with respect to health outcomes, proper diagnosis, management, and treatment (Newhouse, et al., 2011). NPs are well prepared to provide care to the acute as well as chronically ill patient (Newhouse, et al., 2011).

NPs are highly productive members of the healthcare team (Larson, Palazzo, Berkowitz, Pirani, & Hart, 2003), providing effective care to a wide range of patient populations with a lower litigation burden (Hooker, et al., 2009) . Studies comparing the quality of care given to patients in the nursing home (Bakerjian, 2008), with AIDs (Wilson et al., 2005), chronic illnesses (Ohman-Strickland et al., 2008; Paez & Allen, 2006), in ambulatory care (Lin, Hooker, Lens, & Hopkins, 2002), in primary care (Horrocks, Anderson, & Salisbury, 2002; Lenz, Mundinger, Kane, Hopkins, & Lin, 2004; Mundinger et al., 2000; Sackett, Spitzer, Gent, & Roberts, 1974; Safriet, 1992), in the emergency room (Cooper, Lindsay, Kinn, & Swann, 2002) and a variety of other circumstances and settings (Avorn, Everitt, & Baker, 1991) indicate the care is equivalent between physicians and NPs when caring for similar patients. According to the National Center for Health Statistics (National Center for Health Statistics, 2011), NPs are being utilized in outpatient departments of hospitals at increasing rates. When contrasted to physicians, NPs have a higher percentage of visits involving new patients with a new problem. NPs also see significantly greater percentages of uninsured patients, and Medicaid and Children’s Health Insurance Plan (CHIPs) beneficiaries. (National Center for Health Statistics, 2011), and are well received by healthcare consumers. (Flanagan, 1998; Roblin, Becker, Adams, Howard, & Roberts, 2004; Sox, 2000).

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Reductions in healthcare costs are associated with APRN directed care, as evidenced in a recent study showing annual cost reductions from \$5,210 to \$3,061 among chronically ill patients (Meyer, 2011). The cost effectiveness of NP care in a variety of healthcare settings is well documented (Burl, Bonner, & Rao, 1994; Chen, McNeese-Smith, Cowan, Upenieks, & Afifi, 2009; Chenoweth, Martin, Pankowski, & Raymond, 2005, 2008; Coddington & Sands, 2008; Cowan et al., 2006; Hunter, Ventura, & Kearns, 1999; Paez & Allen, 2006; Roblin, Howard, Becker, Adams, & Roberts, 2004; Sears, Wickizer, Franklin, Cheadle, & Berkowitz, 2007). NPs can also lower personnel costs (Office of Technology Assessment, 1981; Roblin, Howard, et al., 2004). Fully utilized APRNs offer primary and specialty care and can reduce costs to the system (Chen, et al., 2009; Chenoweth, et al., 2008; Coddington & Sands, 2008; Cowan, et al., 2006; Ettner et al., 2006; Hunter, et al., 1999; Paez & Allen, 2006; Roblin, Howard, et al., 2004; Sears, et al., 2007).

### Reimbursement and Enrollment:

Through the Balanced Budget Act of 1997, Congress authorized the Medicare program to reimburse NPs at 85 percent of the physician rate. Medicaid reimbursements are calculated on a rate per unit basis. Commercial insurers reimburse healthcare providers on a fee-for-service basis. Each payer has its own policy related to reimbursement for NP services. For example, Managed Care Organizations (MCOs) reimburse only those providers admitted to the plans' provider panels. MCOs do not admit every physician to provider panels and may or may not admit NPs to providers' panels, Commercial MCO policies on empanelment of NPs vary.

## CLINICAL NURSE SPECIALISTS

- Clinical nurse specialists deliver care in acute and chronic settings to a wide range of patient populations.
- Clinical nurse specialists have been active in the United States for nearly three quarters of a century.
- Multiple studies support the cost-effective, high quality, safe, highly satisfying, and low litigation associated with care delivered by clinical nurse specialists.

### History:

The concept of the clinical nurse specialist (CNS) began to evolve in 1943 when Frances Reiter first coined the term "nurse clinician", who would be a master prepared nurse and remain at the bedside (Crabtree, 1979). Hildegard Peplau developed the first master's program in psychiatric nursing at Rutgers University in 1954 (George Mason University, 2009). Clinical nurse specialists programs were the first advance practice nurse programs to require graduate level preparation (Delamatter, 1999).

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 (Mallison, 1984; Morris & Schweiger, 1979; Murphy and Schmitz, 1979). The CNS role in medical and surgical nursing was originally designed to assist head nurses to prepare staff for clinical quality. The CNS is at least master's prepared and brings enhanced specialty nursing expertise to the patient.

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 lead to increase opportunities for the CNS in the hospital (Chitty, 2007). In the 1970s, the American Nurses Association officially accepted the CNS as an expert practitioner (Rose, 2003). The expanded roles of educator, expert clinician, change agent, manager, and advocate occurred in the early 1980s. Changes to healthcare during the 1980s lead many CNSs to obtain positions in education and administration.

In 1998, the National Association of Clinical Nurse Specialist established the first set of competencies, which clearly identified the CNS from other APRN roles (Rose, 2003). Clinical nurse specialists can be seen in hospital facilities, but also found 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, 2003).

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## Definition of the Role:

The CNS has a unique advance practice role to integrate care across the continuum and through three spheres of influence: patient, nurse, system. The three spheres are overlapping and interrelated, but each sphere possesses a distinctive focus (National Council of State Boards of Nursing). In each of the spheres of influence, the primary goal of the CNS is continuous improvement of patient outcomes and nursing care (National Council of State Boards of Nursing, 2008).

Key elements of the CNS practice are to create environments through mentoring and system changes that empower nurses to develop caring, evidence-based practices to alleviate patient distress, facilitate ethical decision-making, and respond to diversity. The CNS is responsible and accountable for diagnosis and treatment of health/illness states, disease management, health promotion, and prevention of illness and risk behaviors among individuals, families, groups and communities (National Council of State Boards of Nursing, 2008).

## Education:

In December, 2011, the American Nurses Association and National Association of Clinical Nurse Specialists 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 APRN Consensus Model, released to state boards of nursing in January, 2011, requires certification for state licensure.

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 pharmacology, pathophysiology, and health assessment (NACNS email communication Nov. 21, 2011).

## Services Provided:

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. Key elements of the CNS practice include:

- Demonstrating clinical expertise in direct care,
- Integrating care across the continuum of providers and settings,
- Using research and evidence-based practice to design, revise, and evaluate clinical practice affecting patients, populations, and/or care delivery systems to improve outcomes in a cost-effective manner,
- Developing innovative educational programs, based on learner needs, for patients, families, nursing personnel, other healthcare providers, and communities,
- Collaborating with multiple disciplines to facilitate intra- and interdisciplinary best practice,
- Assisting patients and families, directly and indirectly, to navigate a complex healthcare system, and
- Consulting with nursing staff related to patient and family care needs (Doyle, Pennington & Kliethermes).

## Affordability:

The cost effectiveness of the CNS is exhibited in multiple studies (Laurant et.al, 2006). Implementation of the CNS role is associated with improvement in patient outcomes (Newhouse, 2011).

## Quality Outcomes:

The CNS is instrumental in achieving high quality care in various patient care settings. CNSs employed in acute care hospitals have helped those organizations achieved Magnet status through the American Nurses Credentialing Center which recognizes exceptional nursing care with resulting improved patient outcomes. In addition, CNSs often lead continuous quality improvement programs because their advanced knowledge of systems theory, design and

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evaluation of evidence-based programs, and multidisciplinary teamwork provides the expertise needed to achieve high quality outcomes (Zuzelo, 2007).

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 outcome and cost effectiveness for arthritis patients attending CNS-led rheumatology clinics, compared to physician-led clinics, show that functional status, disease symptoms, and patient satisfaction are similar between groups (Ndosi et al., 2011).
- APRN psychiatric nurses are essential to a transformed mental health service delivery that is patient-centered, evidence-based, and recovery oriented (Hanrahan et al., 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).
- A meta-analysis including 25 articles relating to 16 studies comparing outcomes of CNSs and other primary care nurses and physicians was conducted by the Cochrane Database group. Overall, health outcomes cost of services was equivalent for nurses and physicians. The satisfaction level was higher for nurses (Laurant et al., 2006).

### Reimbursement and Enrollment:

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 rates, however is 85 percent of the physician rate for office visits and 75 percent for hospital services. It should be noted that a collaborative practice agreement must be in place for reimbursement to occur (Doyle, Pennington, & Kliethermes, 2010). CNSs are reimbursed for services from Missouri Health Net, but barriers do exist. Many times prior authorization is required and the numbers of sessions are limited. Most insurance companies and managed care plans will credential the CNS, but most reimburse at a lower rate than physicians (Doyle, Pennington, & Kliethermes, 2010).

## CERTIFIED NURSE MIDWIVES

- The profession of nurse midwifery has been present for nearly one century in the United States.
- Nurse midwives provide primary care in the prenatal, natal and post natal periods of life.
- Nurse midwives deliver care in in-patient and out-patient settings.
- Multiple studies support the cost-effective, high quality, safe, highly satisfying, and low litigation associated with care delivered by certified nurse midwives.

### History:

The profession of nurse-midwifery was established in the 1920s in response to the alarmingly high rate of infant and maternal mortality in the US at that time. Simultaneously the Maternity Center Association (in New York City) and the Frontier Nursing Service (in eastern Kentucky) were established to organize and train public health nurses to provide education and care to some of the most vulnerable women in America. These two nurse-midwifery services were very successful at improving health outcomes and began to offer educational programs for nurse-midwives by the 1930s. The American College of Nurse-Midwives (ACNM) is the national organization for nurse-midwives. ACNM grew out of the National Organization for Public Health Nurses and was incorporated in 1955 (Varney, Kriebs, & Geger, 2004).

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## Definition:

Two types of midwives are recognized by the ACNM: certified nurse-midwives (CNM's) and certified midwives. In Missouri, only CNMs are practicing currently. CNMs are registered nurses who have completed an educational program (graduate level courses) accredited by the Accreditation Commission for Midwifery Education (ACME), and passed a rigorous national examination (American College of Nurse-Midwives, 2010).

## Services Provided:

CNMs provide primary care for women from adolescence through menopause and beyond. In providing primary care, CNMs prescribe medications, order laboratory and other diagnostic testing, offer health education and counseling and collaborate with other healthcare providers. Entry level educational programs for CNMs emphasize reproductive healthcare including health promotion, pregnancy, childbirth, postpartum, family planning and gynecological care. Additionally, CNMs can care for male partners who need STI treatment and infants for the first 28 days of life (American College of Nurse-Midwives, 2008).

## Education:

A master's degree is the minimum requirement to be eligible to complete the national certification examination through ACME. National certification is required for licensure in the state of Missouri. Some CNMs have doctoral level education.

## Affordability:

Nurse-midwives have much lower salaries than obstetrician/gynecologists. Nurse-midwives accept Medicaid, Medicare, and most insurance.

## Quality Outcomes:

Certified nurse midwives improve infant outcome statistics (compared to obstetricians) when providing care to low risk women in hospital and birth center settings (Newhouse, et al., 2011). Nurse-midwives provide a standard of care that most closely adheres to recommendations by the American College of Obstetricians and Gynecologists. Finally, CNMs deliver care that is similar to that provided by physicians and CNMs have lower rates of cesarean sections, lower epidural use, and lower labor induction rates; while, maintaining infant and maternal outcomes (Newhouse, et al., 2011)

## CERTIFIED REGISTERED NURSE ANESTHETISTS

- CRNAs deliver the majority of anesthesia care in Missouri and do so without the statutory mandate of an anesthesiologist.
- CRNAs provide trauma and anesthesia care in most of rural Missouri.
- Multiple studies support the cost-effective, high quality, safe, highly satisfying, and low litigation associated with care delivered by CRNAs.
- CRNAs have been delivering care for one and one-half century in the United States.

## History and Definition:

Certified registered nurse anesthetists (CRNA) been delivering anesthesia safely for nearly 150 years (Nurse Anesthetist Schools, 2011). They are registered nurses who have specialized graduate level education in the field of anesthesia and possess critical thinking skills that prepare them to deliver care independently (Missouri Association of Nurse Anesthetists, 2011).

## Services Provided:

CRNAs practice independently without direct supervision by physicians in much of Missouri. They collaborate as part of a team with physicians, dentists, podiatrists, and other advance practice registered nurses. CRNAs provide anesthesia services in hospitals, ambulatory care centers, and other provider offices. Approximately 32 million



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anesthetics are administered to CRNA patients each year (Missouri Association of Nurse Anesthetists, 2011). Fifty-five to 60 percent of Missouri Counties with hospitals are covered by CRNAs and without their critical services, there would be limited access to trauma, surgical, and obstetric anesthesia services (Missouri Association of Nurse Anesthetists, 2011).

### **Education:**

Registered nurses with specialized graduate level education and have passed a national certification exam assuring their knowledge and skills. Minimum degree awarded is a Master's Degree and some have doctoral level education.

### **Affordability:**

Most managed care plans and commercial insurers reimburse CRNAs. The utilization of CRNAs reduces cost when salaries between CRNAs and anesthesiologists are contrasted. This type of cost efficiency serves to constrain the escalating costs of healthcare (Needleman, 2008). Hospitals are reimbursed for the services provided by CRNAs through Medicare part A and other insurers.

### **Quality Outcomes:**

CRNAs are associated with equivocal complication and mortality rates when contrasted with physicians (Newhouse, et al., 2011). There was no statistical difference in mortality between CRNAs who worked in collaboration with an anesthesiologist as contrasted with those who worked independently (Minnesota Department of Health, 2003).

## **CLOSURE**

The parallel of APRN education is similar to that of other professions. The history of the nurse physician relationship tends to cloud the obvious contrast to those professions. APRNs have similar length of education and responsibilities to those in other professions e.g., law (7 years), chiropractor (7 years), optometry (8 years), pharmacy (7 years), and dentistry (8 years). The outcome studies supporting the safety, quality, satisfaction, and cost effectiveness mandate a change in Missouri policy that allow patients to have access to care given by APRNs and the state of Missouri needs a new model of healthcare delivery that promotes quality and access while reducing costs.

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