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Defining "Independent Practice" for Nurse Practitioners in the State of Texas: envisioning a workable model

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DEFINING "INDEPENDENT PRACTICE" FOR NURSE PRACTITIONERS IN THE STATE OF TEXAS: ENVISIONING A WORKABLE MODEL

by

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Abstract

DEFINING INDEPENDENT NURSE PRACTITIONER PRACTICE

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Health care reform, an aging population, and a decreasing primary care physician workforce has resulted in questioning of primary health care delivery in the United States. Nurse practitioners are being viewed as the possible answer to primary health care provider deficiencies. This advanced practice role, initially developed in the 1960s, has been shown to be an effective, cost efficient alternative to the medical model of health care delivery. Nurse practitioners' licensure and practice are regulated by each individual state resulting in state-to-state variances in the role. This inconsistency leads to further questions regarding the nurse practitioner role and practice independence.

The purpose of this paper was to define independent nurse practitioner practice and formulate a model of independent practice utilizing Maslow's Hierarchy of Needs as the basis for the model in a state that restricts nurse practitioner practice. Understanding what independent nurse practitioner practice means and establishing a guide to function as an independent nurse practitioner can potentially alleviate questions regarding the role among health professionals, legislators, and patients.

Chapter 1

Overview of the Research Study

Overall Purpose of the Study

Access to primary health care services in the United States has been a topic of discussion on both the state and national level. Health care reform and a declining physician primary care workforce have forced state legislators and the medical community to assess methods to better meet the nation's primary health care needs. As decision makers wrestle with the need to broaden access to health care, three things must be considered; the health care provider must be competent, the health care delivery must be cost effective, and the process must allow for appropriate patient choice and provider accountability (Safriet, 2010). The high quality and cost-effectiveness of the advanced nursing practice role of nurse practitioner has been documented in multiple investigations and encompasses the management of a variety of patient conditions within the primary care setting (Poghosyan et al., 2014). In order to practice, nurse practitioners must pass a national certification examination for licensure based on the focus of their formal education program (Kleinpell et al., 2011). This nursing role has been acknowledged on the federal level; however, actual regulation of nurse practitioners occurs at the state level. The state of Texas has legislatively enforced barriers to independent nurse practitioner's ability to practice to the full extent of their preparation and licensure. The purpose of this study is to define independent practice in a state with nurse practitioner

practice restrictions and establish a model of practice based on the obtained descriptors of independent practice.

Introduction of the Articles

Two articles are included that address the topic and subsequent research. The first article, *Primary Care Workforce and the Advanced Practice Role of Nurse Practitioner: State of Science*, is an overview of advanced practice nursing, in particularly nurse practitioners. In the 1960s, this advanced practice role was created in an effort to extend health care services during a time when the physician primary care workforce was declining and the need for primary care services was on the rise. This article chronicles the evolution of nurse practitioners, from the beginning of the role to the current model of practice and educational/licensure requirements. Since its inception, the nurse practitioner role has been at the center of controversy. The existing primary health care environment has only fueled further debate. Primary health care in the United States lacks the effective capacity to meet patient needs. It is projected that by 2025 the estimated supply of primary physician providers will fall short of demand for services by 20% (Poghosyan et al., 2014). Nurse practitioners have been viewed by entities on the federal level as the possible answer to the primary care dilemma. This article examines the effectiveness of the nurse practitioners and the basis of opposition to the role.

The second article*, Establishing a Model for Independent Nurse Practitioner Practice in a State with Scope of Practice Limits*, describes a Delphi study that was conducted to obtain a consensus definition of independent nurse practitioner practice from an expert panel of nurse practitioners in a state that restricts the nurse practitioner

role. Members of the Texas Nurse Practitioners Association (n=220 respondents) were asked to rate the expert panel's descriptors of independent practice accordingly as to their importance to the definition of independent practice. The descriptors of independent practice obtained from the broader survey using factor analysis were formulated into a model of nursing practice utilizing Maslow's Hierarchy of Needs as the template.

Chapter 2

Primary Care Workforce and the Advanced Practice Role of Nurse Practitioner: State of Science

Abstract

Advanced practice nursing, and more specifically the nurse practitioner (NP) role, was developed out of a necessity to extend health care services. In the wake of health care reform and a decreasing physician primary care workforce, the United States is once again seeking ways to expand access to health care. Nurse practitioner education and training has evolved to include master's degree preparation and national certification for verification of competence. Multiple studies have demonstrated the ability of nurse practitioners to provide healthcare that is comparable to physicians in both quality and outcomes. The nurse practitioner role has been endorsed by federal entities such as the Institute of Medicine, and yet only 18 states allow NPs to practice independently. Legislators at both the state and local level, physicians, and even some members of the nursing profession continue to question the NPs and whether this role can potentially impact the expansion of primary health care services.

Keywords: advanced nursing practice, nurse practitioner, primary care workforce

Primary Care Workforce and the Advanced Practice Role of Nurse Practitioners: State of Science

The Affordable Care Act (ACA) has added millions of Americans to the ranks of those with health insurance coverage; however, health insurance does not guarantee access to healthcare. These newly insured individuals will be confronted with the current and projected shortfalls of primary care physician providers (Flinter, 2012; Phillips & Turner, 2112). The surge in new patients covered by health insurance has led to predictions that there will be a shortage of 45,000 primary care physicians by 2025 (Kennedy, 2013). Even without the ACA, primary care physician workload was expected to increase by 29% by 2025 (Schwartz, 2011). The lure of lucrative specialties has also contributed to a rapid decline in physician primary care providers (Pickert, 2009). Conversely, as primary care physicians are decreasing in number, the nursing alternative to the medical model of health care delivery appears to be on the rise. Over the last decade, the number of non-physician practitioners, specifically nurse practitioners (NPs), has grown to more than 190,000. NPs make up almost 25% of the country's primary care health professionals as reported by the Institute of Medicine (IOM, 2010). This group of health care providers has the potential for further growth at a relatively rapid pace (IOM, 2010).

Setting the Stage: Providing Health Care to the U.S. Public

The Concept of Primary Health Care: Historical Basis

The concept of primary care medicine originated in Europe, during the 1920s, shortly after the first World War (Philips & Bazemore, 2010). European communities

with limited finances/health care access had significant healthcare demands (Philips & Bazemore, 2010). Community circumstances were similar to the current healthcare situation currently faced by the United States. At the recommendation of the British Council on Medical and Administrative Services, general medical services were created in Europe that differed from care provided in the hospitals of that era (Philips & Bazemore, 2010). Thus, the basis of what is now known as primary healthcare was formed. It would be another forty-five years, however, before this type of health care practice would be addressed in the United States. Primary health care is commonly viewed as a first level of care or as the entry point to the health care system for consumers (Primary Care Health Reform, 2009). It has also been referred to as a particular approach to care that is concerned with continuing care, accessibility, community involvement and collaboration between sectors (Primary Care Health Reform, 2009). The World Health Organization in 1978 defined primary health care as, essential health care based on practical, scientifically sound, and socially acceptable methods and technology made universally accessible to individuals (Phillips & Bazemore, 2010). United States Department of Health and Human Services (HHS) in Healthy People 2010 (2000) supported this view by pointing out that primary care is the first level of contact of individuals, families, and the community with the national health system bringing health care as close as possible to where people live and work constituting the first element of a continuing health care process.

In the 1960s, the American Medical Association recognized the importance of the primary care role by expressing the necessity of every individual having a primary physician or access to this first line of healthcare services (Philips & Bazemore, 2010).

This is a sentiment that continues today among most health professionals. It has been postulated that primary care is not merely a focus of nursing but *th*e focus. The political and socioeconomic climate of the 1960s included the Vietnam War, racial tension and disparities in health care access. It was during this time that the evolution of the NP role began (Weiland, 2008). Thus, advanced practice nursing historically has responded to the social, political, and economic landscape of healthcare by expanding its professional practice to fulfill the primary care role (Weiland, 2008). The advanced practice nursing role, in particularly the NP, has often been the first contact for acute episodic problems as well as managers of chronic disease states in the primary care realm. Members of both the medical and nursing profession appear to agree on the importance of primary care and its influence on the overall health status of individuals. However, their opinions often differ with regards to who should be named as independent providers of primary health care services.

Evolution of Advanced Practice Nursing 1970-2014

Advanced nursing practice is a unique combination of advanced knowledge, science, and practice that differentiates each of the Advanced Practice Registered Nurses (APRNs) roles from one another and from other health professionals (Stanley, 2011). It is a method of nursing that enables the questioning of current practices, creation of new nursing knowledge and improved delivery of health care services (Bryant-Lukosius, DiCenso, Browne, & Pinelli, 2004). The four dominant titles for advanced nursing practice in a direct provider role are noted as NPs, certified registered nurse anesthetists (CRNA), clinical nurse specialists (CNS) and certified nurse midwives (AACN, 1996). Despite the range of specialties, the majority of APRNs are engaged in primary care and trained and licensed to provide a broad range of primary care services (FTC, 2014).

APRNs have expanded in numbers and capabilities over the past several decades and have become an integral part of the health care system (APRN Consensus Model, 2008). This review of the history of APRNs will focus primarily on the NP role.

The genesis of advanced practice nursing, more specifically the NP role, occurred in the 1960's when much like current healthcare circumstances, there was a shortage of primary care physicians coupled with increased patient demand (Lemley & Marks, 2009). Physician specialization and simultaneous geographic clustering of medical practices in urban and suburban areas resulted in shortages of family practices in many rural and inner city communities (Bush & Capezuti, 1996). In addition to the exodus of physician primary care providers, in1965 a decreasing primary care workforce was taxed even further with the initiation of Medicare and Medicaid programs. These government-funded programs provided health care to the poor, underprivileged, elderly, women, and children as well as individuals with disabilities (Obrien, 2003). Two health professionals seized this opportunity to assist in meeting public healthcare demands. Loretta Ford, a registered nurse and Dr. Henry Silver, a physician, proposed the expansion of the role of nurses who were to some extent already functioning as independent primary care providers (Weiland, 2008). The role was intended to capture the essence of nursing while directing the care of patients in need of primary care services (Hagedorn & Quinn, 2004).

The first NP services were limited to pediatric patients with routine, common, or stable problems, and there was a focus on health promotion and disease prevention (Pohl, Hanson & Newland, 2010). The NP role was created in an environment of informal training, however, in 1967, one of the earliest graduate degree programs for NPs was formed at Boston College. By 1971 more than 65 NP programs existed in the United

States (AANP, n.d.; Obrien, 2003). Public acceptance and healthcare system interest in the ability of advanced practice nurses to contribute to extend healthcare services resulted in increased scrutiny of this type of clinician and their specific skill set, knowledge base, and educational experience (AACN, 1996). This recognition of the role prompted the American Nurses Association's (ANA) Congress for Nursing Practice to publish educational standards and establish clearer definitions of specialty practice roles (Rounds, Zych & Mallary, 2012).

The educating of four different roles representing one type of nursing practice in multiple curriculums at numerous learning institutions can result in variations in the practice and inconsistent nursing outcomes. In an effort to alleviate such inconsistencies in the educational process, in 1993 representatives from 63 professional nursing organizations agreed to standardize the master's level as the educational requirement for APRNs (Rounds, Zych & Mallary, 2012). Organizations like the American Association of Nurse Anesthetists (AANA), the American Nurses Association (ANA), and the American College of Nurse Midwives (ACNM) began to establish national standards for their respective practices (Rounds, Zych & Mallory, 2013). The National League of Nurses (NLN) supported the recommendation that master's level education be offered, valued, and accredited for entry into advanced nursing practice (Malone, 2010). Preparation in nursing at the master's level would provide one the ability to function as an expert clinician (AACN, 1996). Certification provided validation of the educational process and was a reliable method of assuring the public of an NP's preparation and readiness to practice at the entry level of a specific role (Meadows & Schumann, 2010). In 1993, the American Academy of Nurse Practitioner Program

(AANP) began certifying NPs (Meadows & Schumann, 2010), further demonstrating advanced practice nursing and the NP role are effective strategies for patient care management.

The speed with which advanced practice nursing, especially the NP role, was adopted over the past two decades resulted in confusion about practice roles and regulatory measures (Bryant-Lukosius, DiCenso, Browne & Pinelli, 2004). Unlike other health professionals, APRNs who function as NPs are not certified to practice with a generalist certification but enter the profession as specialists, certified to care for populations that fall within their area of certification (Keough, et. al, 2011). In an attempt to mitigate the proliferation of new NP programs, some of which focused on sub-specialty practices with resultant certifications that were not uniformly recognized across all states, nursing leaders worked to develop the Consensus Model for Advanced Practice Registered Nurse Regulation (Kleinpell et. al, 2011). The APRN Consensus Work Group and the National Council of State Boards of Nursing (NCSBN) APRN Advisory Committee collaborated in 2008 in order to establish a model which would address issues of confusion regarding APRN practice. The model provided a mechanism for the enhancement of communication and transparency regarding APRN licensure, accreditation, certification and educational bodies while establishing essential elements of APRN regulation to ensure patient safety amid expanding patient access (APRN Consensus Model, 2008). According to the model, specification of the APRN title would be limited to individuals educated and competent in one of the four specified roles that provide advanced care (Burns-Bolton & Mason, 2012). Those four roles are nurse practitioner, certified registered nurse anesthetist, clinical nurse specialist, and certified

nurse midwife. The model has been endorsed by 48 organizations representing a variety of nursing regulatory and professional groups including the National Organization of Nurse Practitioner Faculties and all NP certification organizations (Rounds, Zych & Mallary, 2012; Stanley, 2011). One of the model's primary goals was to institute a nationally uniform APRN educational and regulatory process by 2015 (APRN Consensus Model, 2008). However, some NPs, practice in sites that are not actually population focused, such as emergency departments or in-patient acute care hospital settings, which is in contrast to the national consensus model (Keough, et. al, 2011). NPs working in these areas may treat a variety of patients across both the age and illness spectrum. Thus, the nurse practitioner role that has been in existence for more than 50 years continues to be questioned still today.

Four Decades of Changing APRN Educational Requirements.

The health care needs of the community, the potential for growth in nursing and the obvious primary care workforce shortage were the impetus for a new nursing niche known as NP (Lynch, 1996). The 24-month formal preparation program developed by Loretta Ford and Henry Silver was based on a model for health promotion and disease prevention in pediatrics (Marchione & Garland, 1980; Lynch, 1996). Even before Ford and Silver's pilot pediatric NP program could be completely evaluated, numerous quickly generated short-term programs of variable quality were established (Bush & Capezuti, 1996). In 1969, at the University of Washington, a four-month family NP program was initiated (Marchione & Garland, 1980). By 1973, 86 certificate programs and 45 Master's programs prepared NPs were launched; four years later, an additional 31 certificate and 16 Master's programs were added (Bush & Capezuti, 1996). NPs were prepared through

continuing education and clinical experiences offered by physicians (Dellasega & Hupcey, 1991). These programs admitted nurses with diploma, associate, or baccalaureate degrees and stressed only the medical aspect of the NP role (Dellasega & Hupcey, 1991). Nurses were taught the skills to provide health care services consistent with the medical model of health care delivery for individuals in rural and underserved communities.

During this explosion in NP programs in the mid-1960s, the American Nurses Association (ANA) issued its first position statement on nursing education which actually started the discussion on educational pathways to professional nursing and the role of collegiate preparation and advanced studies (Rounds, Zych & Mallary, 2012). By the late 1970s, the educational process for NPs was under the auspices of nursing educators (Dellasega & Hupcey, 1991). Federal interest in the expansion of the nursing role resulted in an increase in financial support of nursing education and prompted the consideration of standardized NP licensure and national certification (Rounds, Zych & Mallary, 2012). The need to develop curriculum guidelines for NPs led to the formation of the National Organization of Nurse Practitioner Faculties (NONPF) which enabled a national dialogue on NP education (Rounds, Zych & Mallary, 2012).

The NONPF gained the support of other nursing organizations to establish mandates regarding NP education and training. The next step was to assure the public that the education of these nursing professionals was at a level which reflected an advanced knowledge base as in graduate preparation with a curriculum that incorporated professional standards and clearly defined core competencies (AACN, 1996). Education at the graduate level would include the development of refined analytical skills, broad-

based perspectives, enhanced abilities to articulate viewpoints and positions, clarity in the ability to connect theory to practice, and enhanced nursing skills (AACN, 2011). Multiple specialties have evolved from the initial pediatric NP role to include specialties such as family, acute care, neonatal, and gerontology, which resulted in the development of educational programs for each specialty. In 1990, the NONPF released domains and competencies for each specialty (NONPF, 2002). The competencies were based on the work of Dr. Patricia Benner, who described domain and competencies for advanced practice, and the research of Dr. Karen Bryckzynski, who explored the clinical practice of NPs (NONPF, 2002).

Master's level NP programs contain substantial content related to nursing theory and research; but in regards to NP therapeutics, most of this content is based in pharmacology (Burman et al., 2009). Many in the nursing community argue that NP curriculums should be rooted in practice versus research and theory. Hence, the Doctor of Nursing Practice (DNP) has been brought to the forefront in NP clinical education. The DNP or practice doctorate was created to focus on clinical practice rather than research (Loomis, Willard, & Cohen, 2006). The NONPF has been examining key elements of the DNP movement since 2001 and the potential impact this new level of education will have on NP curriculum. (O'Sullivan, 2005). In contrast to academic doctoral degrees, terminal professional doctoral degrees are not research driven doctorates. The focus of the DNP is practice. The pairing of professional and academic degrees is common within the health sciences. It is exemplified in areas like Pharmacy (PharmD), Medicine (MD), and Education (EdD) (Hathaway et. al, 2005). The Nursing Doctorate (ND) was developed to be the equivalent of these professional degrees; however the ND is now being phased out

of many nursing programs as schools are converting to the DNP model (Loomis et al., 2006).

Existing health care practices are inextricably related to health policy, informatics and business practices. Clinicians are attaining multiple master's degrees and certifications in an attempt to keep pace with the growing need for knowledge and skills (O'Sullivan et al., 2005). As the master's preparation allowed early NPs to move upmarket from certificate programs, the DNP degree will enable NPs to move competently upmarket in the current complex practice environment (Hathaway et al., 2006). In 2004, at the American Association of Colleges of Nurses (AACN) general meeting, a majority gathering of the deans and directors of member institutions voted to progress advance practice nurse preparation from the master's level to the doctoral level by the year 2015 (Loomis et al., 2006). In 2009, there were more than 91 DNP programs open to NPs who had been prepared on the master's level or post-baccalaureate students who would enter into combined Master's and Doctorate studies (ACP 2009; Chase & Pruitt, 2006).

It should be acknowledged that NP programs have kept pace with changing health care demands by increasing program content and length, however, curricula have reached an educational tipping point at which the credits earned push over the master's preparation boundary into the realm of the doctoral degree (Hathaway et al., 2006). However, the proposed entry level educational requirement change has been met with resistance. Established APRNs not involved in the discussion and subsequent decision have voiced concerns that changing the entry level preparation infers the current system is not effective. Representatives of certain APRN organizations assert the current

educational process is not broken (Chase & Pruitt, 2006). Many question the DNP title, as this degree can be awarded to nurses who are not practicing NPs (Chase & Pruitt, 2006). Title nomenclature in existence among schools conferring the DNP degree include designations such as Nursing Doctorate (ND), DNP, and DrNP prompting further consumer and professional misunderstanding (Loomis et al., 2006). A variety of APRN roles have been shown to be effective, and the public recognizes and values the nurse practitioner or nurse midwife titles (Chase & Pruitt, 2006). The use of the prefix "Dr." or "Doctor" by NPs who have completed a DNP program could lead to confusion and misconceptions or blurring of medical and nursing practices (ACP, 2009). Lastly, the effect the DNP role will have on nursing education is yet to be understood. Graduates of PhD programs are essential to the building of science on which a specific discipline was built (Hathaway et. al, 2005). DNP prepared nurses seeking faculty positions may face academic marginalization if the PhD is the only accepted doctoral requirement for tenure eligibility (Loomis et al., 2006). If the DNP is to be the defining preparation for advance practice, a clear understanding of the degree and its potential effect on health care delivery and nursing education is warranted.

Mixed Messages Within Professional Nursing

The APRN role and scope of practice is determined by each state. There is a considerable variance in the regulation of NP scope of practice in 18 states. In these states NPs have the ability to evaluate, diagnose, and treat patients independently including the prescribing of necessary medications (American Association of Nurse Practitioners, 2014). In the remaining states NPs are subject to a range of requirements including direct physician supervision or delegated authority (Kaplan et al., 2006). Physician oversight

interferes with patient access to care and constrains independent advanced nursing practice (Plager & Conger, 2006). States that require physician oversight of advance practice nurses have a significantly lower number of managed care organization with credentialed nurse practitioners than those states that do not require physician oversight (Hansen-Turton et al.,2006).

NPs have focused on advancing their scope of practice in an effort to expand health care access. Organized medicine and state legislatures have thwarted attempts to gain independent NP practice throughout the United States (Kaplan et al., 2006). Nursing organizations like the ANA have voiced their belief in the value of APRNs and their contribution to increasing access to health care services (Brassard, 2014). However, this specific nursing role has not always had a smooth relationship with all nursing organizations and stakeholders. The complexities of advance nursing practice in comparison to the traditional nursing role have been noted. The regulation of traditional nursing roles and scope of practice generally fall under the auspices of each state's Board of Nurse Examiners; however, this is not always the case for APRNs. The inability of traditional nursing organizations and regulatory bodies to control a portion of the profession has caused dissonance in the past and has contributed to the lack of consensus on the scope and design of advanced practice for nurses.

Individuals tend to congregate and advocate for collective causes; this is evident by the breadth, depth, and sheer number of various nursing groups and organizations. There are over a hundred national nursing organizations and multiple international organizations (Matthews, 2012). In 2013, two national NP organizations, the American Academy of Nurse Practitioners and the American College of Nurse Practitioners merged

to form the American Association of Nurse Practitioners (AANP, n.d.). Even with the uniting of these two national organizations, there are still multiple national, state and local organizations representing different facets of NP education, NP practice, and individuals licensed to function as NPs. Specialty, sub-specialty, educational level, race, and even gender may have some form of organizational representation at either the local, state, or national level. This splintering of representation of advanced practice nurses may be viewed as a weakness as NPs seek national regulation and licensure.

Primary Care Physician Workforce Shortage

Throughout the country, the shortage of primary care physicians stands as a barrier to the goal of delivering adequate healthcare to all Americans (Pericak, 2011). The United States has ranked last or next to last in 3 of the last 10 years on five indicators of high performing health systems, which included health care access (Chaffee, Mason & Leavitt, 2012). The problem of accessible health care has persisted due to multiple factors that include: limited insurance or uninsured status, geographic location, and race/cultural issues. The ACA will address some of the uninsured or underinsured issues of millions of Americans (Stokowski, 2010). Beyond the expansion of health insurance coverage, the ACA provides incentives for enrollees in public and private health insurance plans to seek preventive healthcare services by eliminating patient cost-sharing (NGA, 2012). Unfortunately due to a decreasing primary care physician workforce, private or public health insurance coverage will not guarantee health care access.

Primary care in the U.S. is in crisis because there are far more people in need of primary care health services than there are primary care providers resulting in gaps in quality of care and patient safety (NONPF, 2013; Pericak, 2011). The shortages will

worsen as aging "Baby Boomers" require health services for age-related illness, and beneficiaries of the ACA attempt health care access (Center for American Progress, 2010). As of May 2012, 59.9 million people live in the 5,905 designated primary care health professional shortage areas (HPSA) in the United States (U.S. Department of Health and Human Services, 2011). There are about 80 primary care physicians per 100,00 people in the United States: however, the average is 68 per 100,00 in rural areas and 84 per 100,000 in urban areas (Peterson et al., 2013).

The lure of lucrative specialties along with the decreasing numbers of medical students choosing to work in primary care has resulted in a rapid decline in the primary physician workforce (Pericak, 2011; Whelan, 2009). The number of medical school graduates entering family medicine residences dropped by 50 percent between 1997 and 2005 (Whelan, 2009). "In 2013, only 1,916 U.S. medical school graduates, or about 12% of the total, went into primary care programs" (Vestal, 2013, para. 9). Specialists are paid better than family medicine physicians, and their practices are inclined to be both more manageable and intellectually stimulating (Mundinger, 1994). Another deterrent moving new physicians from family practice residency, may be related to the fact that specialists appear to be held in a higher degree of esteem among their colleagues (Mundinger, 1994). The medical community is also struggling with clinical competence of new physician graduates. This may be due to the current training protocols for residents. The restrictions on resident duty hours has led to a reduction in training and experiences, resulting in physicians less prepared for practice than previous generations (Spogen, 2012). Ironically, the AAFP's argument for limiting the scope of practice of NPs is the belief that NP education and training is insufficient. The additional training

completed by physicians has not been shown to result in measurable differences in the quality of care between family practice physicians and NPs in basic primary care services (Fairman et al., 2011).

Professional Tension Toward the NP Role

Since its inception the NP role has been wrought with controversy. Various members of nursing leadership and physician-lead organizations have publicly expressed reservations regarding the role. Factions of the medical community believe NPs are no longer practicing nursing, thus their title is misleading (Obrien, 2003). Some also question if advanced practice nurses should be allowed to have the designation of nurse when their role incorporates activities traditionally associated with medicine (Rounds, Zych & Mallary, 2012). Nurses who were pioneers in the role of NP reported frustration with colleagues who emphasized the medical component of NP role rather than noting the role had expanded nursing knowledge and blended science and caring in the service of patients (Hagedorn & Quinn, 2004). Even today fellow nursing professionals are uncertain if advanced nursing practice is a reflection of increased knowledge and ability or simply the overstepping of traditional nursing boundaries. Registered nurses perform medical activities as directed by physicians, whereas nurse practitioners substitute for the physician utilizing a range of predefined, protocol-driven clinical tasks (Fawcett, 2007). Thus some nurses equate participation in non-physician directed nursing functions as not being a part of the true nursing role.

Physicians who have vocalized criticism of this APRN role appear to take issue with both the NP scope of practice and the possibility that NPs may be given the authority to practice without physician direction or supervision. The Texas chapter of the American

Association of Family Physicians (AAFP) has acknowledged the importance of the APRN role, in particularly NPs, but maintain that nurses lack the experience to practice medicine independently without physician oversight (Arvantes, 2011). Organizations such as AAFP may be proponents of limiting APRN scope of practice primarily because of the possibility of NPs being direct competition for the same patient group.

Traditionally, family medicine has offered physicians an opportunity to treat entire families from the cradle to the grave (Spogen, 2012). Family/primary care physicians have watched the erosion of their practices due to the specialization of medicine. Areas such as gynecology, obstetrics, and pediatrics have moved away from family practice and become their own entities. A recent survey of the AAFP membership indicated less than 10% were providing maternity care, fewer than 20% hand hospital privileges for routine deliveries, and fewer than 60% had newborn care privileges (Spogen, 2012). The decrease in the provision of maternity care by family physicians could make it challenging to support family based medical curricula, recruit faculty, or develop sustainable models for residency graduates to include maternity care in their practices (Cohen & Coco, 2009).

The combination of internal medicine and pediatrics is another medical specialty with the potential to siphon more patients from family physicians practices. Those who are certified in this specialty are known as Med-Peds, These physicians have completed residency programs for both internal medicine and pediatrics and have the preparation to synthesize their clinical knowledge in order to care for patients spanning the spectrum from birth to death (ACP, 2012). Family physicians in states like Texas argue that granting NPs independent practice authority would further fragment a healthcare system

saturated with overlapping, duplicative, and unnecessary services and providers thus hurting rather than helping patient care (Arvantes, 2011).

Growing Acceptance of Comparable Quality by APRNs

The initial goal of the nurse practitioner movement was to provide primary care for those without access, educate patients on health maintenance and illness prevention and prompting the expansion of existing nursing skill to include thorough capabilities in health assessment (Marchione & Garland, 1980). The Consensus Model for Advanced Practice Registered Nurses Regulation (2008) specifies an NP must have completed an accredited graduate level program and passed a national certification examination that measures respective role and population-focused competencies. In spite of meeting the criteria that is enforced by national certification boards and state nurse examining boards, the NP practice remains under the jurisdiction of each respective state's legislative body. Thus, regulation and definition of the NP practice or role varies from state to state. This results in a less uniform level of functioning than physicians, physician assistants and registered nurses (Bodenheimer & Grumbach, 2012). Some states allow independent NP practice while other states insist on a collaborative or supervised practice agreement, which requires NPs to have designated physician oversight (Percy & Sperhac, 2007). There is no data reflected in the literature that suggests that NPs who practice in states that impose greater restrictions on their role or practice provide safer or better care than those in less restrictive states (Fairman et.al, 2011).

The quality and cost-effectiveness of NP care have been documented in multiple studies (Poghosyan, Boyd, & Knutson, 2014). One of the first occurred in 1981, when the United States Office of Technology Assessment (OTA) acknowledged the published

analysis of the quality of care provided by physicians and NPs. This report revealed NPs and physicians had comparable outcomes in the healthcare services they provided. Subsequent studies published in peer-reviewed journals have reinforced the OTA's conclusions that NPs could be used in the place of physicians in a significant portion of medical services such as primary care and even some specialty areas (Bauer, 2010).

A comparison of the effects of NP-provided care with physician-provided care in similar settings to equivalent clients was conducted by Brown and Grimes (1993) in a meta-analytic review for the ANA. This study demonstrated NPs could achieve clinical outcomes equivalent to physicians on most variables (Sherwood et. al, 1997). McCauley, Bixby and Naylor (2006), revealed APN strategies were effective in managing illness and improving overall health of patients with heart failure. Lemly and Marks (2009) reviewed several studies and found that when compared with primary care physicians, NPs deliver equivalent or sometimes higher quality of care and have increased patient satisfaction with no significant differences in health outcomes. Stanik-Hutt et al. (2013) reviewed 37 articles published from 1990-2009 assessing and comparing health care quality, safety, and effectiveness of NP and physicians. A high level of evidence was reported indicating similar outcomes on 11 items that included patient satisfaction, health status, and mortality (Stanik-Hutt et al., 2013).

The patient-centered nature of NP training includes care coordination and sensitivity to the impact that social and cultural factors, such as environment and familial status, can have on health indicating NPs are well prepared for the provision of primary care (Fund & Swanson-Hill, 2012). Philips, Palmer, Wettig and Fenwick (2000) explored patients' attitudes toward nurse practitioners and how gender, age, ethnicity,

education and income influenced the patients' attitudes. No statistically significant differences were found for gender; however, high school graduates had a statistically significant more positive attitude toward nurse practitioners than did non-high school graduates. To persons with limited education, the advanced practice nurse may not be perceived as someone with advanced clinical knowledge and skill but as someone with basic nursing competencies. Brunton and Beamon (2000) studied nurse practitioner perceptions of their own caring behaviors using the Caring Behaviors Inventory and a demographic questionnaire. The only significant relationship between the demographic variables of the nurse practitioner and their perceptions of their caring behaviors was tenure as a nurse practitioner. The longer the nurse practitioner had been in practice, the more frequently were behaviors that made up the caring dimension of positive connectedness reported. Despite reports that show the efficiency of advanced practice nursing and the apparent need for primary care providers, there continues to be limitations placed on the advanced practice role.

The documented cost-effectiveness, quality, and patient satisfaction associated with NP directed health care has prompted federal and state agencies to reassess the NP role. Economic and clinical gains can be realized by allowing nurse practitioners to practice independently (Bauer, 2010). The IOM position paper, *The Future of Nursing, Leading Change, Advancing Health*, acknowledges that NPs are well poised to meet the upcoming primary health care needs by virtue of their numbers, scientific knowledge, and adaptive capacity. The IOM report suggests that state laws have not kept pace with the evolution of advanced nursing practices over last 40 years (NGA, 2012). The philosophic underpinnings of the nursing care model in addition to advanced clinical training enable

NPs to seamlessly transition into the role of primary health care provider (Lemley & Marks, 2009). In light of the IOM's position paper, the National Governors Association (NGA, 2012) conducted a review of literature of NP practice and state rules governing NP scope of practice. The NGA's conclusion suggested that NPs are well qualified to deliver certain elements of primary care and states might consider changing practice restrictions (NGA, 2012).

Recommendations for Future Study and Conclusions

The number of designated health professional shortage areas in the United States is on the rise as the number of primary care workforce physicians dwindles. If this trend continues, the shortage of primary care physicians will reach 40,000 in less than ten years (Whelan, 2009). The IOM's report, *The Future of Nursing: Leading Changes, Advancing Health*, identified nursing, in particular advanced practice nursing, as key in transforming the health care in the United States (Poghosyan et al., 2013). The comparative effectiveness of APRN care to physician-delivered care has been supported in the literature since the OTA published its analysis of the quality of care provided by physicians and NPs in 1981(Bauer, 2010). Subsequent studies in peer-reviewed journals have failed to refute the conclusions reached by the OTA that NP care is commensurate with physician-based care. Yet, in the majority of the United States, NP practices continue to have some degree of limitation or restriction. Regulations vary from state to state as to how much autonomy an advance practice nurse can have.

Recommendations from previous studies fail to show a consistent research trajectory to guide future nurse practitioner research. The limited number of studies that assess perception indicate there are significant gaps in the research. "Future research

should be directed at developing and evaluating education models that enhance mutual understanding among professionals" (Aquilino, Damiano, & Willard, 1999, p.227). An examination of nurse practitioner attitudes toward physicians may assist in forming better relationships among these two groups of healthcare providers. Perceptions of care and caring behaviors of the nurse practitioner should be reexamined using qualitative research methods (Green & Davis, 2005). Nurse practitioners must constantly consider their behaviors in delivering health care, what they do, and how they do it; theses actions may affect the patients' perceptions of their care and their confidence in the advanced practice nurse provider. The use of other possible predictor variables in the study of patient outcomes, such as demographic variables, health variables, characteristics of the health system, and characteristics of the health provider, should form the basis of future studies of attitudes toward nurse practitioners should be researched (Phillips et al., 2000).

NPs provide comprehensive primary care to patients in various settings including private physician's offices, large primary care networks, and retail clinics (Liu, Finkelstein & Poghosyan, 2014). Sound economic analysis and strong evidence demonstrate the costs of delivering health care can be reduced by allowing the use of NPs to participate fully and freely in the delivery of primary care (Bauer, 2010). However, the role continues to be restricted and regulated by entities outside of nursing. The barriers or constraints to advanced nursing practice may be the result of misperception of the role. Or these barriers may be a method of restraining competition to the medical alternative. Either way, more research is needed in order to ascertain how the advanced practice role is perceived and how removing artificial restrictions can lead to better access to health care for more persons at a reasonable cost. An understanding of how advanced nursing

practice is perceived will help in clarifying the definition of the advance practice role and how it is differs from the medical role. However, only when the focus is moved to patients and improving health outcomes in the most effective way, regardless of level or title of the provider will the doors truly open to allow nurse practitioners to assume their optimal role in improving the health of the nation.

References

American Association of Colleges of Nursing. (1996). *The essentials of master's education for advanced nursing practice*. Retrieved from http://www.aacn.nche.edu/Education/pdf/MasEssentials96.pdf

American Association of Colleges of Nursing. (2011). *The essentials of master's education in nursing.* Retrieved from http://www.aacn.nche.edu/education-resources/MastersEssentials11.pdf

American Association of Nurse Practitioners. (n.d.). *Historical timeline*. Retrieved from https://www.aanp.org/all-about-nps/historical-timeline

American Association of Nurse Practitioners. (2014). *2014 nurse practitioner state practice environment.* Retrieved from http://www.aanp.org/images/documents/state-leg-reg/stateregulatorymap.p2014df

American College of Physicians. (2009). *Nurse practitioners in primary care.* Retrieved from http://www.acponline.org/advocacy/current_policy_papers/assets/np_pc.pdf

American College of Physicians. (2012). *Subspecialty carriers: Combine internal and pediatrics*. Retrieved from http://www.acponline.org/medical_students/career_paths/subspecialist/medicine_pediatrics.html

Aquilino, M., Damiano, P., & Willard, J. (1999). Primary care physician perceptions of the nurse practitioner in the 1990s. *Archives of Family Medicine*, 8, 224-227.

APRN Joint Dialogue Group. (2008, July 7). *Consensus model for APRN regulation: licensure, accreditation, certification and education* [Report]. Washington, DC: APRN Joint Dialogue Group.

Aravantes, J. (2011, December 28). *Texas AFP overcomes attempts to legislate independent practice for nurses.* American Association of Family Physicians. Retrieved from htttp://www.aafp.org/news-now/chapter-of-the-month/20112228texasspotlight.html

Bauer, J. C. (2010). Nurse practitioners as an underutilized resource for health reform: Evidence-based demonstrations of cost effectiveness. *Journal of the Academy of Nurse Practitioners*, *22*, 228-231.

Bodenheimer, T., & Grumbach, K. (2012). The health care workforce and the education of health professionals. In T. Bodenheimer, K., & Grumbach (Eds), *Understanding Health Policy: A Clinical Approach* 6th (Ed). Retrieved from http://www.accessmedicine.com.proxy.kumc.edu:2048/content.aspx?aID=56180975

Brassard, A. (2014). Overview and summary: APRN roles: Opportunities and challenges for practice and education. *The Online Journal of Issues in Nursing*, 19(2). Retrieved from http://nursingworld.org/MainMenuCategories/ANAMarketplace/ANAperiodicals/OJIN/TableofContents/Vol-19-2014/No2-May-2014/Overview-and-Summary-APRN-Roles.html

Brown, S.A., & Grimes, D.E. (1993). A meta-analysis of process of care, clinical outcomes and cost effectiveness of nurses in primary care roles: Nurses practitioners and certified midwives. Washington, DC: American Nurses Association, Division of Health Policy.

Bryant-Lukosius, D., DiCenso, A., Browne, G., & Pinelli, J. (2004). Advanced practice nursing roles: Development, implementation and evaluation. *Journal of Advanced Nursing, 48*, 519-529.

Brunton, B., & Beaman, M. (2000). Nurse practitioners' perceptions of their caring behaviors. *Journal of the American Academy of Nurse Practitioners,* 12(11), 451-456. doi: 10.1111/j.1745-7599.2000.tb00153x

Burman, M. E., Hart, A. M., Conley, V., Brown, J., Sherard, P., & Clarke, P. N. (2009). Reconceptualizing the core of nurse practitioner education and practice. *Journal of the American Academy of Nurse Practitioners*, 21, 11-17. doi:10.1111/j1745-7599.2008.00365x

Burns-Bolton, L., & Mason, D. J. (2012). Commentary on: Molding the future of advanced practice nursing. *Nursing Outlook, 60,* 248-249. Retrieved from http://dx.doi.org/10.1016/j.outlook.2012.07.003

Bush, B. L., & Capezuti, E. A. (1996). Revisiting "a nurse for all settings": The nurse practitioner movement, 1965-1995. *Journal of the American Academy of Nurse Practitioners*, 8(1), 5-11.

Center for American Progress. (2010). *Report: Closing the health care workforce gap*. Retrieved from http://www.americanprogress.org/press/release/2010/01/14/15784/report-closing-the-health-care-workforce-gap/

Chaffee, M.W., Mason, D.J., & Leavitt, J.K. (2012). A framework for action in policy and politics. In D. Mason, J. Leavitt, & M, Chaffee (Eds.). *Policy and Politics in Nursing and Healthcare* (pp.1-11). St.Louis: Elsevier.

Chase, S. K., & Pruitt, R. H. (2006). The practice doctorate: Innovation or disruption? *Journal of Nursing Education, 45*, 155-161.

Cohen, D., & Coco, A. (2009). Declining trends in the provision of prenatal care visits by family physicians. *Annals of Family Medicine*, 7(2), 128-133.

Dellasega, C., & Hupcey, J. (1991). Intents and perceptions of graduating BSN students toward the nurse practitioner role. *Journal of the American Association of Nurse Practitioners*, *3*(1), 30-34. doi: 10.1111/j.1745-7599.1991.tb01056x

Fairman, J. A., Rowe, J. W., Hassmiller, S., & Shalala, D. E. (2011). Broadening the scope of nursing practice. *The New England Journal of Medicine, 364*, 193-196.

Fawcett, J. (2007). Nursing qua nursing: The connection between nursing knowledge and nursing shortages. *Journal of Advanced Nursing*, *59*(1), 97-99.

Federal Trade Commission. (2014*). Policy perspectives: Competition and the regulation of advanced practice nurses*. Retrieved from http://www.ftc.gov/policy/reports/policy-reports/commission-and-staff-reports

Flinter, M. (2012). From new nurse practitioner to primary care provider: Bridging the transition through FQHC residency training. *OJIN: The Online Journal of Issues in Nursing*, 17(1). doi:10.3912/OJIN.Vol17No01PPT04

Fund, M.E., & Swanson-Hill, A. (2014). Cost-effectiveness of nurse practitioner care. *The Kansas Nurse*, 89(1), 12-15.

Green, A., & Davis, S. (2005). Toward a predictive model of patient satisfaction with nurse practitioner care. *Journal of the American Academy of Nurse Practitioners*, 17(4), 19-28.

Hagedorn, S., & Quinn, A.A. (2004). Theory-based nurse practitioner practice: Caring in action. *Topics in Advanced Practice Nursing eJournal*, 4(4). Retrieved from http://www.medscape.com/viewarticle/496718_1

Hansen-Turton, T., Ritter, A., Begun, H., Berkowitz, S.L., Rothman, N., & Valdez, B. (2006). Insurers' contracting policies on nurse practitioners as primary care providers: The current landscape and what needs to change. *Policy Politics Nursing Practice* 7, 216-226. doi: 10.1177/1527154406294339

Hathaway, D., Jacob, S., Stegbauer, C., Thompson, C., & Graff, C. (2006). The practice dctorate: Perspectives of early adopters. *Journal of Nursing Education*, 45, 487-496.

Holland, L. C., & McDonald, J. (2008). Counter point. *The Journal for Nurse Practitioners*, 40-41. Retrieved from http://dx.doi.org/10.1016/j.nurpra.2007.11.012

Institute of Medicine. (2010). *The future of nursing*: *Leading change, advancing health*. Washington, DC: The National Academies Press. Retrieved from http://iom.edu/Reports/2010/The-Future-of-Nursing-Leading-Change-Advancing-Health.aspx

Kaplan, L., Brown, M., Andrilla, H., & Hart, L. G. (2006). Barriers to autonomous practice. *Nurse Practitioner,* 31, 57-63.

Kleinpell, R.M., Hudspeth, R., Scordo, K.A., & Magdic, K. (2011). Defining NP scope of practice and associated regulations: Focus on acute care. *Journal of the American Academy of Nurse Practitioners,* 24, 11-18. doi: 10.111/j.1745-7599.2011.00683.x

Kennedy, K. (November 4, 2013). Doctor shortage may not be as bad as feared, study says. *USA Today.* Retrieved from http://www.usatoday.com/story/news/nation/2013/11/04/doctor-shortage-aca-rand-study/3432711/

Keough, V.A., Stevenson, A., Martinovich, Z., Young, R., & Tanabe, P. (2011). Nurse practitioner certification and practice settings: Implications for education and practice. *Journal of Nursing Scholarship,* 43(2), 195-202. doi:10.111/j.15475069.2011.01395x

Lemley, K. B., & Marks, B. (2009). Patient satisfaction of young adults in rural clinics: Policy implications for nurse practitioner practice. *Policy Politics Nursing Practice, 10*(2), 143-152. doi: 10.1177/1527154409341882

Liu, N., Finkelstein, S.R., & Poghosyan, L. (2014). A new model for nurse practitioner utilization in primary care: Increased efficiency and implications. *Health Care Management Review,* 39 (1), 10-20.

Loomis, J. A., Willard, B., & Cohen, J. (2006). Difficult professional choices: Deciding between the PhD and the DNP in nursing. *The Online Journal of Issues in Nursing*. Retrieved from http://dx.doi.org/10.3912/OJIN.Vol12No1PPT02

Lynch, A. M. (1996). At the crossroads: We must blend CNS + NP roles. Retrieved from http://nursingworld.org/MainMenuCategories/ANAMarketplace/ANAPeriodicals/OJIN/TableofContents/Vol121997/No1Jan97/ArticlePreviousTopic/BlendingCNSNPRoles.html

Malone, B. (2010). Commentary on "The doctor of nursing practice: a national workforce perspective." *Nursing Outlook*. Retrieved from http://dx.doi.org/10.1016/j.outlook.2011.03.002

Marchione, J., & Garland, T. N. (1980). An emerging profession? The case of the nurse practitioner. *Journal of Nursing Scholarship,* 12(2), 37-40.

Matthews, J. (2012). Role of professional organizations in advocating for nursing profession. *The Online Journal of Issues in Nursing,* 17(1). Retrieved from http://nursingworld.org/MainMenuCategories/ANAMarketplace/ANAperiodicals/OJIN/TableofContents/Vol-17-2012/No1-Jan-2012/Professional-Organizations-and-Advocating.html

McCauley, K.M., Bixby, M.B., & Naylor, M.D. (2006). Advanced practice nurse strategies to improve outcomes and reduce cost in elders with heart failure. *Disease Management,* 9(5), 302-310.

Meadows, R.F., & Schumann, L. (2010). Change comes to the AANP certification program. *Journal of the American Academy of Nurse Practitioners*, 22(3), 123. doi: 10.1111/j.1745-7599.2010.0048.x

Mundinger, M.O. (1994). Advanced-practice nursing—good medicine for physicians? *The New England Journal of Medicine*, 330, 211-214. doi: 10.1056/NEJM199401203300314

National Governors Association. (2012*). The role of nurse practitioners in meeting increasing demand for primary care.* Retrieved from www.nga.org/cms/home/nga-center-for-best-practices/center-publications/pafe health-publications/co12content/main-content-list/the-role-of-nurse-practitioners.htm/

National Organization of Nurse Practitioner Faculties. (2002). Nurse practitioner primary care competencies in specialty areas: Adult, family, gerontological, pediatrics, and women's health. Retrieved from c.ymcdn.com/sites/www.nonpf.org/resource/resmgr/competencies/primarycare comps02.pdf?hhSearchTerms=%22graduate+and+nursing+and+degree%22

Pohl, J.M., Hansen, C.M., & Newland, J.A. (2010). Nurse practitioners as primary care providers: History, context, and opportunities. In B.J. Culliton & S. Russell (Eds.). *Who will provide primary care and how will they be trained?* New York: Josiah Macy, Jr. Foundation.

Obrien, J.M. (2003). How nurse practitioners obtained provider status: Lessons for pharmacists. *American Journal of Health-System Pharmacy*, 60(22).

O'Sullivan, A. L., Carter, M., Marion, L., Pohl, J. M., & Werner, K. E. (2005). *Moving forward together: The practice doctorate in nursing.* Retrieved from http://nursingworld.org/MainMenuCategories/ANAMarketplace/ANAPeriodicals/OJIN/TableofContents/Volume102005/No3Sept05/tpc28_416028.html

Percy, M. S., & Sperhac, A. M. (2007). State regulations for pediatric nurse practitioners in acute care. *Journal of Pediatric Health Care, 21*(1), 29-43.

Pericak, A. (2011). Increased autonomy for nurse practitioners as a solution to the physician shortage. *Journal of the New York State Nurses Association*, 42(1), 4-7.

Petterson, S.M., Phillips, R.L., Bazemore, A.W., & Koinis, G.T. (2013). Unequal distribution of the U.S. primary care workforce. *American Family Physician*, 87(11). Retrieved from http://www.aafp.org/afp/2013/0601/odl.html

Phillips, C.V., Palmer, V., Wettig, V.S., & Fenwick, J.W. (2000). Attitudes toward nurse practitioners: Influence of gender, age, ethnicity, education and income. *Journal of the American Association of Nurse Practitioners*, 12(7), 255-259. doi: 10.1111/j.1745-7599.2000.tb00301.x

Phillips, R.L., & Bazemore, A.W. (2010). Primary care and why it matters for the U.S. health system reform. *Health Affairs*, 29 (5), 806-810. doi: 10.1377/hlthaff.2010.0020

Phillips, R.L., & Turner, B.J. (2012). The next phase of title VII funding for training primary care physicians for America's health care needs. *Annals of Family Medicine,* 10, 163-168. doi: 10:1370/afm.1367

Pickert, K. (August 3, 2009). If a health-care bill passes, nurse practitioners could be key. *Time*. Retrieved from http://content.time.com/time/nation/article/0,8599,19114222,00.html

Plager, K., & Conger, M. (2006). Advanced Practice Nursing: Constraints to role fulfillment. *The Internet Journal of Advanced Nursing Practice*, 9(1). Retrieved from https://ispub.com/IJANP/9/1/3418

Poghosyan, L., Boyd, D., & Knutson, A. R. (2014). Nurse practitioner role, independent practice, and teamwork in primary care. *The Journal for Nurse Practitioners*, *10*(7), 472-479.

Poghosyan, L., Nannini, A., Smaldone, A., Clarke, S., O'Rouke, N.C., Rosato, B.G., & Berkowitz, B. (2013). Revisiting scope of practice facilitators and barriers for primary care nurse practitioners: A qualitative investigation. *Policy Politics Nursing Practice*, 14(1), 6-15. doi: 10.1177/1527154413480889

Rounds, L. R., Zych, J. J., & Mallary, L. L. (2013). The consensus model for regulation of APRNs: Implications for nurse practitioners. *Journal of the American Association of Nurse Practitioners*, *25*, 180-185.

Safriet, B. (2010). Federal options for maximizing the value of advanced practice nurses in providing quality, cost-effective health care (Appendix H). In *The future of nursing*: *Leading change, advancing health*. Washington, DC: The National Academies Press.

Schwartz, M.D. (2011). Health care reform and the primary care workforce bottleneck. *Journal of General Medicine*, 27(4), 469-472. doi: 10.1007/s11606-011-1921-4

Sherwood, G., Brown, B., Fay, V., & Wardell, D. (1996). Defining nurse practitioner scope of practice: Expanding primary care services. *The Internet Journal of Advanced Nursing Practice*, 1(2). Retrieved from https://ispub.com/IJANP/1/2/10768

Spogen, D. (2012). Shrinking scope of practice raises questions about future of family medicine training. Retrieved from blogs.aafp.org/cfr/leadervoices/entry/shrinking_scope_of_practice_raises-

Stanik-Hutt, J., Newhouse, R. P., White, K. M., Johantgen, M., Bass, E. B., Zangaro, G., ... Heindel, L. (2013). The quality and effectiveness of care provided by nurse practitioners. *Journal for Nurse Practitioners*, 9, 492-500.

Stanley, J. M. (2011). *Advanced Practice Nursing: Emphasizing Common Roles* (3rd ed.). Philadelphia, PA: E.A. Davis.

Stokowsi, L. A. (2010). Overhauling nursing education. *Medscape*. Retrieved from http://www.medscape.com/viewarticle/736236

United States Department of Health and Human Services. (2000*). Healthy people 2010 understanding and improving health: Objectives for improving health part A: Focus areas 1-14* (2nd ed.). Washington, DC: Government Printing Office.

Vestal, C. (2013). *Nurse practitioners slowly gain autonomy*. Retrieved from http://www.pewtrusts.org/en/research-and-analysis/blogs/stateline/2013/07/19/nurse-practitioners-slowly-gain-autonomy

Weiland, S.A. (2008). Reflections on independence in nurse practitioner practice. *Journal of the American Academy of Nurse Practitioners,* 20(7), 345-352. doi:10.111/j.1745-7599.2008.00330.x

Whelan, E. (2009). Expanding the primary care workforce: An essential element of health care reform. *Center for American Progress.* Retrieved from www.americanprogress.org/issues/healthcare/report/2009/11/03/6959/expanding-the-primary-care-workforce/

Chapter 3

Establishing a Model for Independent Nurse Practitioner Practice in a State with Scope of Practice Limits

Abstract

Background: Due to a decreasing primary care physician workforce, the role of the nurse practitioner is being viewed as an alternative method of increasing health care accessibility. As nurse practitioners rise to meet current health care challenges, there appears to be confusion about the nurse practitioner role and independent practice.

Objective: The purpose of this study is to define independent nurse practitioner practice in a state where nurse practitioner practice is limited.

Method: Utilizing a Delphi technique, an expert panel of nurse practitioners were surveyed through a series of iterative rounds to describe "independent nurse practitioner practice." An expanded cohort of nurse practitioners from across the state were then asked to rank the descriptors obtained from the expert panel to establish a definition if independent practice that would become the basis of a model of practice.

Findings: Participant descriptors of independent practice resulted into five groups of similar factors that included actualization of full scope of practice. These groups formed the basis of an independent practice model.

Implication for practice: Attaining a consensus definition of independent practice and establishing a model of practice may eliminate confusion regarding the role among nursing and non-nursing professionals.

Keywords: nurse practitioner, independent practice, Delphi technique

Establishing a Model for Independent Nurse Practitioner Practice in a State with Scope of Practice Limits

The education and training of nurse practitioners (NPs) is a vital link in the provision of health services that includes physical examinations, diagnosis, treatment of acute and chronic illnesses, family planning, health education, and psychological counseling (Krisberg, 2011). This expertise requires that NPs have the ability to work independently in underserved areas and extend healthcare access to populations in need of primary health services (Lemley & Marks, 2009). Organizations, such as the Institute of Medicine (2010) and the Josiah Macy, Jr. Foundation, have acknowledged NP practice and the positive effects it has had on primary healthcare delivery (Madler, Kalanek & Rising, 2012). The recognition of NPs as an efficient alternative to the medical model of healthcare delivery has prompted many states to draft legislation that legitimizes and promotes independent NP practice. In 2012 and 2013, NPs in fourteen states sought legislation for complete statutory independence (Ford, 2012; Vestal, 2013). However, in only three of the states were nurses successful in the quest for NP practice independence (Ford, 2012; Vestal, 2013). Currently, nineteen states and the District of Columbia allow NPs to diagnose and treat patients without physician participation. The remaining states require some level of physician involvement in NP health care delivery. These include the state of Texas, which has been noted as one of the more restrictive states for nurse practitioner practice.

Background

In the wake of health care reform that will increase the ability of millions of Americans to access primary health services and the predicted shortages of the primary care workforce, multiple states are looking for alternative health care delivery methods. The U.S. health care system has been plagued by a confluence of problems that challenge the core of the primary care system (Naylor & Kurtzman, 2010). The escalation of health care costs and reduction of reimbursements has led to a realignment in the priorities of health providers. There has been a shift from treating illness to maintaining wellness, from acute inpatient care to a continuum of care across a wide variety of settings, and from caring for individual patients to accountability for the health status of a defined population (Hinch, Murphy, & Lauer, 2005). Since the inception of their role, NPs have provided direct, holistic, comprehensive care while maintaining family focus (Lynch, 1996). The Institute of Medicine (IOM, 2010) has recognized that NPs are well poised to meet upcoming primary health care needs by virtue of their numbers, scientific knowledge, and adaptive capacity.

Primary care in the U.S. healthcare system is in crisis because there are far more people in need of primary care than can be managed by the current number of primary care providers (Pericak, 2011). The American College of Physicians (ACP) has warned that the backbone of the nation's health care system, primary care, is at grave risk of collapse (Bodenheimer, 2006). While 56% of patient visits in American are in the primary care setting, only 37% of U.S. physicians practice primary care medicine (Iowa Nurse Reporter, 2012). The shortages of physician primary care providers will worsen as 78 million baby boomers hit retirement age

and require more health care services for age-related chronic illnesses (Center for American Progress, 2010; Donelan, DesRoches, Dittus, & Buerhaus, 2013). Nurse practitioners have made progressive inroads into the healthcare workforce and reportedly numbered 180,233 in 2011 (Donelan et al, 2013). New consideration is being given to NPs as one of the solutions to the looming healthcare provider crisis.

According to the Consensus Model for Advanced Practice Registered Nurses Regulation (2008), an advanced practice registered nurse (APRN) or advanced practice nurse (APN) must have completed an accredited graduate level program and passed a national certification examination that measures the respective role and population-focused competencies. In spite of state and national regulation, there is currently no fixed definition of independent nurse practitioner practice. Thus, regulation and definition of NP practice or role varies from state to state. This results in a less uniform level of functioning than what is found among physicians, physician assistants, and registered nurses (Bodenheimer & Grumbach, 2012).

Research Problem

The state of Texas, which is mostly rural, is experiencing a severe shortage of family physicians and other primary care physicians (Aravantes, 2011). Eight of the 15 fastest-growing U.S. cities are in Texas, and this population growth results in increased demands on the state's health care system (ARN, 2010). In 2010, Texas ranked 47th across the nation in resident access to primary care physicians (Window on State Government, 2010). There were 232 of the 254

counties in this state designated as either partially or totally medically underserved (Hendricks, 2011).

Texas NPs are attempting to fill the state's gaps in primary care access. More than 10,000 NPs work in Texas, but state-enforced regulations restrict them from performing all the duties of which they are capable (Henry J. Kaiser Foundation, 2011). Many in healthcare delivery consider this current system to be unnecessarily burdensome, especially in light of the state's considerable health access problem and the success of nurse practitioners in other states who practice successfully without such direct physician supervision (Krisberg, 2011). Professional nursing organizations within the state of Texas are lobbying for legislation allowing independent NP practice. Most recently, their efforts resulted in the passage of Senate Bill 406 which extended prescriptive privileges for NPs and eliminated the requirement for on-site physician supervision for NPs (Aronson, 2013). Independent NP practice, however, is still restricted in the state.

There are both nursing and non-nursing healthcare professionals who question whether NPs really want true practice independence. According to the American Association of Nurse Practitioners (AANP, n.d.), "the terms '*independence'* or '*autonomous*' have been misunderstood by some in the healthcare community to imply a '*lone ranger*' clinician, the removal of all parameters around NP practice, and equating to exclusive entrepreneurial efforts"(para. 2.). NPs can currently practice autonomously and in collaboration with other healthcare professionals in the diagnosing and treatment of patient's health problems. This ability to function collaboratively, as well as

autonomously, contributes to the confusion regarding NP practice independence. Misconceptions regarding practice independence may also stem from current modifications of the actual words "independent practice." NPs in the state of Texas have adopted the term "full practice authority" instead of "practice independence" in an attempt to appease legislatures and medical professionals who may have objections to NPs practicing without physician oversight by utilizing less threating nomenclature. Full practice authority has been defined as the collection of state practices and licensure laws that allow NPs to evaluate, diagnose, order and interpret diagnostic tests, and initiate and manage treatments under the state board of nursing licensing authority (Hain & Fleck, 2014). The term "full practice authority" emphasizes that all health professionals should be allowed to practice to the full extent of their education and training.

The problem addressed in this study is the lack of a clear definition of independent NP practice in a state that currently limits NP practice. Prior to establishing legislation that would remove all limitations to the NP role, an understanding of independent NP practice and role expectations is essential. The purpose of this research is to establish the basis for an independent NP practice model by providing expert descriptors of independent NP practice in a state that limits the NP role.

Research Questions

The study was guided by the following research questions: What factors are most central to the definition of independent NP practice according to NPs practicing in the state of Texas where the NP role has legislatively enforced

limitations, and what factors form the basis for a Model of Independent Practice for Nurse Practitioners. Prior to formulating a model for independent NP practice, the tenets of independent practice must be established.

Design

A descriptive survey study design utilizing the Delphi technique with three iterative rounds was employed to conduct the research. The Delphi method is a hybrid survey design and assists in gaining a consensus about a phenomenon using a systematic process to obtain the perceptions of experts (Clibbens, Walters & Baird, 2012; Yousuf, 2007). The Delphi method works well when the goal is to improve understanding of an issue or the development of forecasts (Skulmoski, Hartman, & Krahn, 2007). This technique uses a feedback process that allows and encourages participants to reassess their judgments about information they provided (Hsu & Sandford, 2007). It also encourages interaction between the researcher and a group of identified experts (Yousuf, 2007).

The panel of experts for this study consisted of tenured NPs working within the state of Texas. The classical Delphi Method has four key features; 1) anonymity of participants, 2) iteration which allows participants to refine their views, 3) controlled feedback which informs participants of the other participants' perspectives, and 4) statistical aggregation of group responses which facilitates quantitative analysis and data interpretation (Skulmoski, Hartman, & Krahn, 2007). These elements are consistent with the study's goal in obtaining descriptors of independent NP practice from tenured/expert NPs working in a state with practice restrictions.

The descriptors were used to formulate a model for independent NP practice. Kenney, Hasson, and MeKenna (2011) define true anonymity as the lack of ability or access to link a response to a respondent by either the researcher, research assistants, or participants. According to Chang, Gardner, Duffield, and Ramis (2010), "maintaining anonymity in a Delphi study allows participants to respond openly and avoids the influence of dominant personalities enabling expression of honest and open views" (p. 2321). Every effort was made to protect the identity of the panel respondents. The names of participants were known only to the researcher in order to allow feedback between the researcher and individual panel members for clarification of the research process, survey items, or participant responses. Participants on the panel may have known each other, but their contributions to the study remained anonymous. The larger statewide group of respondents were identified only at their discretion for entry into the drawing for the participant incentive prize. The participants may have provided contact data; however, their identity could not be related to their survey responses.

Sample

Sample for Rounds 1 and 2: The Delphi research technique focuses on eliciting expert opinions relating to a particular phenomenon (Hsu & Sandford, 2007). Expertise can be defined in several ways (Clibbens, Walters, & Baird, 2012). An expert, as defined by Chang et al. (2010), is well informed about the specific field of study, credible within the specific field, and interested in the research topic. The expert panel obtained for use in Rounds 1 and 2 consisted of 12 NPs. The group size in a Delphi study is not dependent on statistical power,

rather it depends on group dynamics for arriving at a consensus among the experts. For this reason, a smaller sample size is recommended (Okoli & Pawlowski, 2004). The expert panel was selected from the NP population around the state. Inclusion criteria were panel members must have been licensed to practice as an NP in the state of Texas with at least 5 years of NP practice experience. Participants were excluded from Rounds 1 and 2 of the study if they had an additional license to practice as an NP in a state that allowed independent NP practice and/or had less than 5 years of experience working as an NP.

A purposive sampling technique was utilized to recruit the expert panel members. This type of sampling technique is employed consistently in Delphi studies in order to ensure the experts meet the definition of expert (Clibbens, Walters, & Baird, 2012). Recruitment occurred at state and local NP organizational conferences, programs, and meetings. Once a potential participant was identified and had indicated interest in the study, information regarding the study and its purpose was sent in an email. This email also included a Qualtrics® link, which is a web-based computer analysis program utilized for completion of the first round questionnaire. Potential participants were informed in the email that a returned completed questionnaire was the consent to participate in the study. Potential candidates were also encouraged to identify and refer other respondents who met the criteria for inclusion in the study.

The 12-member expert panel had an average age of 54 (SD=12.1), and NP practice experience that ranged from 5 to 19 years. Nine members of the panel held a master's degree in nursing, and three members had completed doctoral

level education. Only one of the three panel members with a doctoral degree had completed the Doctorate in Nursing Practice program (DNP). The panel was predominately female with only one male member. The panel members worked in either a clinic or private practice setting.

Sample for Round 3: The third round of the Delphi study included data collection from a larger sample of NPs from throughout the state of Texas. Purposive sampling was used to survey the statewide group for Round 3. The Texas Nurse Practitioners Association has a membership of over 2800. Permission was obtained from the association to survey the membership. The executive office staff of the organization sent invitations to participate in the study via their emailing system. This email also contained a description of the study, shared its purpose, and provided researcher contact information for clarification of any concerns regarding the study. In an effort to obtain a statewide survey group sample of at least 200 NPs, a chance to win a new iPad® was offered as an incentive for participation. Participants had the option of entering their names into a drawing for the iPad® once they returned a completed questionnaire. As with the participants in rounds 1 and 2, contact information obtained for entry into the drawing could not be related to information obtained from the questionnaire responses.

The invitation link to respond to the survey was sent out to the 2800 members of the Texas Nurse Practitioner group. The survey was completed and returned by 220 members (an 8% return rate). Of those responding, 173 of the respondents held master's degrees in nursing, 26 were DNPs, and 15 had PhDs.

Similar to national statistics, 198 of the respondents were female and 21 were male. The mean average for years functioning as an NP was 9.77 (SD = 7.1). The respondents practiced in various areas, 108 practiced in large metropolitan areas, 58 practiced in small to medium sized cities, and 52 practiced in a small town or rural area.

Data Collection

Prior to initiation of data collection procedures, approval from the University of Tyler's Institutional Review Board (IRB) was obtained. All correspondence to the expert panel and the statewide survey group was conducted online.

Round 1: The first round questionnaire asked only one open-ended question, "how would you define independence in regards to nurse practitioner practice." The first round of a Delphi study is generally unstructured and may produce poorly defined or ambiguous data (Chang et al., 2010). Responses were collected and stored on Qualtrics®. Participants were also asked to provide demographic data that included age, gender, race, highest level of nursing education, and number of years worked as a certified nurse practitioner.

Returned responses were collapsed into a list by deleting duplicates and combining similar items. When several different terms were used for what appeared to be the same issue, these responses were grouped together in an attempt to move toward a parsimonious concept description with general application (Hasson, Keeney, & McKenna, 2000). Collapsed responses were assessed to ensure that the overall meaning had not been changed due to the

grouping of certain statements. Unique statements with nothing similar to other groupings were kept as worded. In a Delphi study, content analysis should be conducted to establish validity in order for the researcher to be able to group statements generated by the panel into similar areas (Keeney, Hasson, & McKenna, 2011). For this study, content validity was achieved through a consensus model using a second APRN reviewer who also collapsed the responses from the expert panel into a list of statements, patterns, and themes. The reviewer and investigator compared lists and arrived at a mutually agreed upon list through the process of consensus. This activity added to confidence in the content validity of the list.

Round 2: The second round questionnaire was conducted using the same expert panel and consisted of the consolidated list of terms and phrases associated with independent practice generated from the consensus review of Round 1 responses. The questionnaire provided feedback to the participants on the statements being assessed for defining the concept and provided an opportunity for the panel members to change responses provided in round one or add new ones (Keeney, Hasson, & McKenna, 2011). Participants were asked to score the responses relating their importance to the definition of independent NP practice using a 10-item Likert Scale with 10 representing extremely important and 1- not important at all

Round 3: Participants in the third round were a different group than the previous rounds and represented the statewide NP population. Their purpose was to validate and elucidate the consensus list generated in the first two rounds. The

invitations to participate in the study were sent by TNP via their online communication system and included a Qualtrics® link. The questionnaire consisted of the words or phrases related to "independent practice for advanced practice nurses" obtained in round two, which had been scrutinized for inclusion. Inclusion was deemed appropriate if the item had a diagnostic content validity (DCV) score of 0.5 or above (Fehring, 1987)

Participants were asked to rate each of the 16 responses (see Table 1) according to how important each one is related to their own definition of NP practice independence using a 10-item Likert scale. Responses were collected through Qualtrics®, the online data collection program. After rating the descriptors, participants were given the opportunity to provide additional responses by answering the following: "Are there any other descriptors you feel should be included in the definition of independent NP practice."

Findings

Data analysis in a Delphi study requires establishing methods to assemble and organize the responses of the participants (Hsu & Sandford, 2007). Each round has a distinct purpose; therefore, analysis of the findings from each round will differ.

Round 1: The purpose of Round 1 is the organization and reduction of responses from the initial open-ended question: "how would you define independence in regards to nurse practitioner practice?" into a list for additional scrutiny. Therefore, content analysis is the analytical tool of choice. The PI and a second reviewer independently organized and collapsed data into groupings

representative of the theme or idea of the responses. Similar responses were assessed for semantic differences and the intent of the participant deduced. Both the PI and the second reviewer determined if an item should stand alone or be collapsed into a similar grouping.

Round 2: The dataset from Round 2 consisted of Likert scale ratings for the items on the list from Round 1. The rating scale was 1-10 with one being the lowest score and ten being the highest score. A score was generated for each item. Using the input from the expert panel in Round 2, a mean and standard deviation was generated for each item. Validity was determined utilizing a DCV score generated by weighting each item by multiplying the mean by 0.10 so that the score will be no more than 1.0 (Fehring, 1987; Wieck, 1996). The following *a priori* standards was used to determine diagnostic efficiency for each item as an indicator of the focus topic: 1) discard any item with a DCV<0.50; 2) retain items with a DCV between 0.50-0.80 as minor descriptive items and enter into third round; and 3) retain items with a DCV>0.80 as a major defining characteristic and enter into the third round. The 16 items used in the round three questionnaire had DCV ratings 0.6 or greater, therefore no items were excluded. The items were randomly numbered for the Round 3 questionnaire.

Round 3: The final round included data from the larger statewide survey sample group. Using a 10-point Likert scale, each of the 16 items which advanced through round 2 were scored for respondent belief of importance to the definition of independent practice. This round resulted in a mean score for each item. Two analyses were used for this round. First, a ranked list was generated

using Qualtrics®. This list showed which item is most important to indicate independent practice, which is next, and so on. For comparisons, this ranked list was used in Spearman's rank test to determine differences between each item (see Table 1).

The ranked list was used to discuss which items are most important to defining independent practice. To determine themes or clusters of similar items as a basis for model development, factor analysis was used. The purpose of factor analysis is to use a statistical method for data reduction to explain relationships or correlations between items. Exploratory factor analysis (EFA) using principal components analysis (PCA) with varimax rotation was performed on the scale for the initial 220 respondents. The Kaiser-Meyer-Olkin (KMO) value of 0.82 verified the sampling adequacy (Field, 2013) indicating that factor analysis was appropriate. A significant Bartlett's test of sphericity X^2 (120) = 1008.71, ($p<0.001$) indicated the correlations between items were sufficiently large for exploratory factor analysis. Subsequent fit statistics validated the adequacy of data for reduced sample analyses. Factor analysis was done using principal component analysis and factors with eigenvalues over Kaiser's criterion of 1 demonstrated a 5-factor solution using the rotated matrix for interpretation of 16 items that had an explained variance of 61.93% and an internal consistency reliability of 0.82. Varimax rotation minimizes the number of variables that have high loadings on a factor. The resulting factors were identified and named based on their thematic relationship. Rotation in factor analysis can produce clustering of variables. The five groupings noted were utilized to establish a model of independent NP practice.

Independent Nurse Practitioner Practice Model

Maslow's Hierarchy of Needs was used as a guide in formulating an approach to identifying the traits of an independent NP practice model. Maslow's model has been used by multiple disciplines to assist in understanding human motivation and needs (Benson & Dundis, 2003). The theory conceptualizes human needs in five levels of ascending order of need or importance, with physiologic needs at the base, then safety, belonging, esteem, and self-actualization at the apex of the pyramid (Paris & Terhaar, 2011). Maslow posited, humans are motivated to fulfill basic/psychological needs such as food, water, sleep, and warmth before moving up the pyramid to levels such as safety and security (Tse, Leung, & Ho, 2012). The premise is that unless an individual's basic needs have been met, higher levels in the pyramid of are of no relevance (Benson & Dundis, 2003). Once a level is attained, one's focus is directed on the next level until the highest level, which is self-actualization, has been met. Attainment of self-actualization means to become all that one is capable of becoming in terms of talents, skill, and abilities (Paris & Terhaar, 2011).

The concept of independence is used synonymously with autonomy. The attribute of independence includes the ability to self-govern or self-direct. Nursing differs from the medical role in both education and training; nonetheless, nursing practice has always had some degree of medical direction or governance. Nursing models were established as a method of reframing the relationship with medicine while providing a way of conceptualizing nursing and emphasizing the independent aspects of the role but not ignoring medical delegation or direction

(Tierney, 1998). The advanced practice nursing role, which provides nurses the ability to diagnose and treat medical conditions in patients, has blurred the lines between medicine and nursing (Matthews & Muirhead, 2008). A nursing model would delineate what is uniquely nursing. Thus, an independent NP practice definition that distinguishes the nursing model of health care delivery from the medical model is warranted, especially in a state where NPs are trying to attain practice independence.

The application of Maslow's beliefs to a model of nursing practice suggests nurses with unmet practice environment abilities or needs may be less motivated and less likely to progress to higher functioning levels or to the extent of their education and training (Paris & Terhaar, 2011). The theory also provides a conceptualization of the restraint of NP practice as interference to nurses' ability to achieve higher levels on the hierarchy. The IOM (2010) acknowledged such restraints by noting the legislative processes of some states as being representative of barriers to NPs practicing to the fullest extent of their scope of practice. The American Association of Family Physicians (AAFP, 2012) is an example of a restraining force in their advancement of policies restricting NP practice and subsequent progress to self-actualization by insisting NPs are needed for only follow-through of treatment protocols after a physician has made a diagnosis. The intent of a model of nursing practice is to capture, represent, and articulate particular concerns, the purpose of nursing, and the development of a knowledge base that is characteristic of the professional nursing status (Murphy, Williams, & Pridmore, 2010).

Factor analysis and rotation of the survey data resulted in the grouping of certain variables. The groupings are representative of the definition of independent NP practice in the state of Texas and will be used to establish a model of independent practice based on Maslow's Hierarchy of Needs (Figure 1).

Group 1: the first group denoted the *ability to establish an autonomous health care delivery infrastructure* and corresponds with physiologic needs in Maslow's model. Group 1 included: the ability to delegate tasks to other healthcare professionals/personnel, the ability to practice to the full extent of one's education and training, ability to bill all commercial and government insurance agencies, ability to prescribe treatment modalities such as durable medical equipment or handicap placards, and payment for services based on level of service, not level of education or degree. This basic need to establish an autonomous health delivery system is the fundamental aspect of providing a mechanism where NPs can take the initiative to establish their role in health care access and assume accountability for health outcomes of their clients.

Group 2: the next grouping was titled *flexibility to establish voluntary interdisciplinary collaborations* and corresponded with security need on Maslow's model. Group 2 included: the ability to establish a practice site regardless of its proximity to a physician, the ability to practice without physician oversight/direction, and the ability to build independent patient/provider relationships. Nurse practitioners envisioning independent practice embrace the security of voluntary interdisciplinary relationships which transcend the gamut of available individual collaborators. Nurse practitioners are full members of the

health community with a clear understanding of the interdisciplinary options available to enhance outcomes which allow the clients to have access to the level of care depending on the need. The voluntariness of the collaboration is what allows a family practitioner to refer a patient to a specialist or higher level physician practice when needed in a seamless pattern of collegiality; there is no reason to think that nurse practitioner patterns of voluntary collaboration would be any different or less effective.

Group 3*: freedom to initiate appropriate patient treatment relationships* represents the next level and corresponds with love and belonging on Maslow's model. Group 3 included: full prescriptive authority (this would include the ability to prescribe all scheduled medications), ability to write prescriptions without time interval restrictions (e.g. yearly renewals), ability to admit and follow patients in the hospital or other long term/nursing facilities. Patient treatment options depend on the trusting relationship between the client and the health care provider. NPs are clearly aware of treatment options available and should have full ability to avail themselves and their clients of these services without artificial interference. The provider/patient relationship should not be compromised by a sense of concern or mistrust engendered by limiting the NP's access to needed health services for the patient.

Group 4: this group represented *elimination of artificial restraints on practice* and corresponded with esteem needs. It included: the ability to refer/consult with other health professionals at the NPs discretion, elimination of overhead expenses related to maintaining a supervising physician, frequency of

patient visits with NP are based on need and not a protocol, and the ability to conduct and sign physicals for government/state agencies or persons undergoing procedures/surgeries. Artificial restraints on practice are particularly frustrating to NPs whose skill and preparation makes them eminently suited to practice to the full extent of their licensure. It is degrading to the NP who must have a colleague from another discipline oversee or verify ability to do the job one has been prepared to do. Many NPs are subject to a subordinate role to providers with much less experience and knowledge whose endorsement of their actions appears to have little to do with the best outcomes for the patient.

Group 5: the fifth and final grouping corresponds with the need for self-actualization and is titled *actualization of full scope of practice*. Group 5 represented the attainment of practice independence with the ability to practice within the scope of practice for NP licensure. The goal of attaining full scope of practice capability allows the NP to practice at the highest level of skill and competence. It is the essence of professionalism and is the goal for which all professionals strive.

Discussion

Nurse Practitioner Views of Independent Practice

The study demonstrates that nurse practitioners functioning under practice restrictions can articulate their goals for independent practice. When participants were asked what they thought were the biggest barriers to independent NP practice, the responses consistently noted were organized medicine, state legislatures, money, and lack of public understanding of the NP role. These

barriers correspond with the groups derived from the factor analysis that define independent practice and formulate the model for independent practice. Elimination of these barriers would enable NPs to establish an autonomous health care delivery infrastructure and allow flexibility in voluntary interdisciplinary collaborations, which would result in the *actualization of full scope of practice.*

The understanding of the influences of legislators and the medical profession on independent NP practice is what causes grass-roots nursing organizations in states that have attained independent advanced nursing practice, as well as states seeking practice independence, to first emphasize the necessity of practice independence for the expansion of health care services. These proponents of independent practice then stress the additional benefits of NP-directed health care. The president of the Texas Nurse Practitioners (TNP) noted that the state would see between 1.5 and 2 million low income Texans became eligible for Medicare in 2014. The TNP president also stated lifting restrictions on NPs practicing in Texas would extend access to care for these newly insured individuals that would be cost effective (ARN, 2013). In the state of Massachusetts, proponents of independent practice voiced that alleviating barriers would not only extend health care services but reduce overall health care expenditures (Page, 2013). These examples correspond with the views of respondents noted in this study. Study participants and individuals actively working to remove NP practice restrictions appear to be in agreement as to the cause of practice barriers and the benefits to be obtained with the removal of such restraints.

APRN Independent Practice Model

The use of an accepted model for comparison with a newly proposed model is a good way to ensure that the model has some structural support before testing is initiated. However, the uncanny similarity of the Maslow Hierarchy of Needs model and the proposed model based on the data reported lends support to the model's ability to depict the progressive priorities of nurse practitioners in Texas who desire independent practice. However, the model remains untested, and no assumption of validity can be made at this time. Nevertheless, the thematic groups, which evolved from the factor analysis, provide a progressive visual pathway toward independent practice for Texas nurses and others whose practice is limited by artificial restraints imposed by external groups.

Study Strengths

Currently, in the state of Texas, the definition of *independent* in relation to NP practice is unclear. The use of a Delphi research technique was helpful because this method is used when there is incomplete knowledge about a phenomenon (Skulmoski, Hartman, & Krahn, 2007). Delphi studies inherently produce richer data due the multiple iterations and feedback driven response revisions (Keeney, Hasson, & McKenna, 2011). Use of a multiple-round research method with different groups may facilitate the generation of knowledge about the topic under study toward development of a model for independent NP practice. Another strength noted in this type of research methodology is its ability to promote confidentiality; panel members who may have been reluctant to state

unpopular views may feel freer to voice their perceptions or opinions (Yousuf, 2007).

The third round sample, which represented NPs from around the state with varying degrees of practice experience, is another strength of the study. These individuals are practicing under legislatively enforced restrictions and know firsthand how these regulations limit their methods of health care delivery. Gaining the perspective of independent practice from NPs working in the state of Texas is imperative since their practices and patients would be affected most by any changes in the current status. A final strength of the study was the similarities between the Maslow model and the APRN Independence Model with each showing a progression of steps from the most basic to the highest-ranking priority/need.

Study Weaknesses

A weakness noted in the use of the Delphi technique is the risk of not clearly identifying how consensus is reached. The consensus reached in a Delphi may be the product of manipulation (Yousuf, 2007). Consensus necessarily compromises the extreme position forcing everyone toward the middle, which may negate some respondents' strongly-held positions. Utilizing the Delphi method may eliminate extreme positions forcing a middle of the road consensus (Yousof, 2007).

Sampling methods used in this research method can be a potential weakness. A participant may meet the requirements for inclusion in the study, but that does that make the participant an expert. There is not a clear definition of an

expert NP. For this reason, the selection of the expert panel was done by purposefully inviting persons in whom the researcher had confidence as an expert. The sample obtained using purposive sampling was not a heterogeneous representation of the NPs in the state of Texas since the expert primarily consisted of women with a mean age of 54. Thus the data yielded may not reflect the total population's view of independent NP practice. An expert panel that is not representative of all NPs in the state of Texas would be a study limitation. The respondents to round three were members of an NP organization, and not all Texas NP's belong to this organization, so this may have skewed the data somewhat. Furthermore, only 8% of the potential respondents participated in the study. This is a very low number. However, there was much activity around nurse practitioners at this time of data collection. Frequent requests for participation in studies to very busy individuals like nurse practitioners may result in research fatigue. This possibility must be considered in the low response rate. It is unclear which NPs were moved to participate and whether they were significantly different from the ones who did not choose to participate

The Delphi process does not provide opportunities for the researcher to interact with participants in order for them to explain or provide a rationale for their responses (Keeney, Hasson, & McKenna, 2011). The combining or deleting process can be distorted to communicate the researcher's expectations of the study to the participants (Polit & Beck, 2008). Thus, this process of data analysis had the potential to introduce bias. It is also important to note that geographical

differences may limit the assumptions that these findings would be noted among nurse practitioners in other states that limit NP practice.

Recommendations and Conclusions

Research evaluating nurse practitioner perceptions of practice sovereignty has previously been conducted. In an effort to better understand the nurse practitioner interpretation of autonomy, Weiland (2014) surveyed a purposive sample of nine NPs who practiced in primary care. The study deduced that both NP/patient relationships and the overall practice environment influence the definition of autonomy. Weiland (2014) acknowledged the need for an advanced practice nursing model, which reflects autonomy and/or independence. This current research is in alignment with such a recommendation.

The findings in this study were used to formulate a model of practice based on nurse practitioner perceptions of practice independence and are congruent with Weiland's (2014) conclusions. In order to reach the actualization of full scope of practice NP practice or "genuine" independent NP practice versus what is dictated by other professions or government entities, nurse practitioners must have basic practice needs met. These needs include, but are not limited to, the ability to establish an autonomous healthcare delivery infrastructure and freedom to initiate appropriate patient treatment relationships.

Information obtained from this study could be utilized as talking points to members of the nursing profession, in particularly those who question this advance practice nursing role. Results of this study could also be discussed with state and federal legislators in order to clarify the meaning of NP practice

independence. Legislative bodies must fully understand what it means to practice to the full extent of one's education and training in order to be able to grant this ability. These discussions should be held in the context of improving patient access and outcomes by allowing all providers to practice to the upper limit of their licensure qualifications.

Future studies are recommended that will examine the NP student's interpretation of practice independence. Future NPs will be practicing with a significantly decreased primary physician workforce; therefore, their beliefs regarding models of NP practice and the definition of practice independence should be explored. Utilization of the Delphi method to conduct such studies is also recommended. This technique facilitates the establishment of consensus or agreement on the tenets of independent practice.

In conclusion, the primary care workforce is facing significant challenges with its decreasing number of physician participants while populations seeking primary care services are on the rise, especially in the state of Texas. While the primary care physician numbers are decreasing, the number of practicing NPs is on the rise. The literature has shown that NPs can provide alternatives to the medical model that promote continuity, advocacy, and education (Cronenwett & Dzau, 2010) without compromising quality or outcomes. Yet, the definition of independent NP practice is not clearly reflected in the literature. In order for NPs to be effective in initiating legislation that will resolve limitations to the role, independent NP practice must be defined. The strength of any group is in its ability to bring ideas to the table that have strong support from the masses. This

study has attempted to define “independent practice” in nursing by developing a model of independent practice to guide education and practice endeavors in the coming decade.

References

American Academy of Family Physicians. (2012). Primary care for the 21st century: Ensuring a quality physician led team for every patient. Retrieved from http://www.aafp.org/dam/AAFP/documents/about_us/initiatives/AAFP-PCMHWhitePaper.pdf?cmpid =npp12_ad_com _na_ van_1

American Association of Nurse Practitioners. (n.d.) Issues at a glance: Full practice authority [Online Forum Comment]. Retrieved from http://www.aanp.org

Aronson, B. (2013, May 14). House tentatively approves "scope of practice bill." The Texas Tribune. Retrieved from http://www.texastribune.org/2013/05/14/house-tentatively-approves-scope-practice-bill/

Aravantes, J. (2011, December 28). Texas AFP overcomes attempts to legislate independent practice for nurses. American Association of Family Physicians. Retrieved from htttp://www.aafp.org/news-now/chapter-of-the-month/20112228texasspotlight.html

Bain, D., & Fleck, L.M. (2014). Barriers to NP practice that impact healthcare redesign. The Online Journal of Issues in Nursing, 19(2). doi: 10.3912/OJIN.Vol19No02Man02

Benson, S.G., & Dundis, S.P. (2003). Understanding and motivating health care employees: Integrating Maslow's hierarchy of needs, training, and technology. *Journal of Nursing Management*, 11, 315-320.

Bodenheimer, T. (2006). Primary care---Will it survive? *The New England Journal of Medicine,* 355(9), 861-864.

Center for American Progress. (2010). Closing the gap. [Report]. Washington, DC: Center for American Progress. Retrieved from http://www.americanprogress.org/issues/healthcare/report/2010/closing-the-health-care-workforce-gap

Chang, A.M., Gardner, G.E., Duffield, C., & Ramis, M. (2010). A Delphi study to validate an advanced practice nursing tool. Journal of Advanced Nursing, 66(10), 2320-2330. doi: 10.1111/j.1363-2648.2010.05367.x

Clibbens, N., Walters, S., & Baird, W. (2012). Delphi research: Issues raised by a pilot study. *Nurse Researcher*, 19(2), 37-43.

Cronenwett, L., & Dzau, V. (2010). Chairman's summary of the conference. In B. Culliton & S. Russell (Eds.). *Who will provide primary care and how will they be trained*? Durham, N.C: Josiah Macy, Jr. Foundation.

Donelan, K., DesRoches, C. M., Dittus, R. S., & Buerhaus, P. (2013). Perspectives of physicians and nurse practitioners on primary care practice. *New England Journal of Medicine, 368*(20), 1898-1906.

Fehring, R. (1987). Methods to validate nursing diagnoses. *Heart and Lung*, 16, 625-629.

Field, A. (2013). Discovering statistics using IBM SPSS statistics (4th Ed.). Los Angeles, CA: Sage.

Hasson, F., Keeney, S., & McKeena, H. (2000). Research guidelines for the Delphi survey technique. *Journal of Advanced Nursing*, 32(4), 1008-1015.

Hendricks, D. (2011, February). It's time to pass Texas nurse bill: Access to care would improve; consumers would save money. My San Antonio. Retrieved from http://mysanantonio. com/business_columnist/article/It-s-time-to-pass-Texas-nurse-bill-1025863.php

Henry J. Kaiser Family Foundation. (2011). Total Nurse Practitioners. Retrieved from http://kff.org/other/state-indicator/nurse-practitioners-per-100000-pop/

Hinch, B.K., Murphy, M., & Lauer, M.K.(2005). Preparing students for evolving nurse practitioner roles in health care. *Medical Surgical Nursing*, 14 (4), 240-245.

Hoffart, N., & Woods, C.Q. (1996). Elements of a nursing professional practice model. *Journal of Professional Nursing*, 12(6), 354-364.

Hsu, C., & Sandford, B.A. (2007). The delphi technique: Making sense of consensus. *Practical Assessment, Research & Evaluation*, 12 (10), 1-8. Retrieved from http://pareonline.net/pdf/v12n10.pdf

Institute of Medicine. (2010). The future of nursing: Leading change, advancing health. Washington, DC: The National Academies Press. Retrieved from http://iom. edu/Reports/2010/The-Future-of-Nursing-Leading-Change-Advancing-Health.aspx

Iowa Nurse Reporter. (2012, December). The cost effectiveness of nurse practitioner care. *Iowa Nurse Reporter.* Retrieved from: http://www.iowanurses.org

Keeney, S., Hasson, F., & McKenna, H. (2011). Delphi technique in nursing and health research. West Sussex, United Kingdom: Wiley-Blackwell Publications.

Krisberg, K. (2011, February). Nurse practitioners call for greater independence: Relaxed rules could help medically underserved. *AARP Bulletin*. Retrieved from http://www.aarp.org/ health/doctors-hospitals/info-01-2011/nurse_practitioners_in_texas_call_for_greater _independence.html

Lemley, K. B., & Marks, B. (2009). Patient satisfaction of young adults in rural clinics: Policy implications for nurse practitioner practice. *Policy Politics Nursing Practice*, *10*(2), 143-152. doi: 10.1177/1527154409341882

Madler, B., Kalanek, C.B., & Rising, C. (2012). An incremental regulatory approach to implementing the APRN consensus model. *Journal of Nursing Regulation*, 3 (2). Retrieved from www.journalofnursingregulation.com

Matthews, S.K., & Muirhead, L. (2008). The interaction model of client health behavior: a model for advanced practice nurses. *Journal of the Academy of Nurse Practitioners*, 20, 415-422.

Murphy, F., Williams, A., & Pridmore, J.A. (2010). Nursing models and contemporary nursing 1: Their development, uses and limitations. *Nursing Times* 106 (23), 18-20.

Naylor, M.D. & Kurtzman, E.T. (2010). The role of nurse practitioners in reinventing primary care. *Health Affairs*, 29, 893-899. doi: 10.1377/hlthaff.2010.0440

Okoli, C., & Pawlowski, S.D. (2004). The delphi method as a research tool: An example, design considerations and applications. *Journal of Information and Management*, 42 (1), 15-29.

Paris, L.G., & Terhaar, M. (2011). Using Maslow's pyramid and the national database of nursing quality indicators to attain a healthier work environment. *The Online Journal of Issues in Nursing*, 6(1), 1-1p.

Pericak, A. (2011). Increased autonomy for nurse practitioners as a solution to the physician shortage. *Journal of the New York State Nurses Association*, 42(1), 4-7.

Skulmoski, G.J., Hartman, F.T., & Krahn, J. (2007). The Delphi method for graduate research. *Journal of Information Technology Education*, 6, 2-21.

Tierney, A.J. (1998). Nursing models: Extant or extinct? *Journal of Advanced Nursing*, 28(1), 77-85.

Tse, M., Leung, R., & Ho, S. (2012). Pain and psychological well-being of older persons living in nursing homes: An exploratory study in planning patient-centered intervention. *Journal of Advanced Nursing*, 68(2), 312-321.

Vestal, C. (2013, July 19). Nurse practitioners slowly gain autonomy. The Pew States. Retrieved from http://www.pewstates.org

Wieck, K.L. (1996). Diagnostic language consistency among multicultural English-speaking Nurses. *Nursing Diagnosis*, 7(2), 70-78.

Window on State Government. (2010). Health Care. Texas in Focus: A statewide view of opportunities. [Report]. Windows on State Government. Retrieved from http://www.windo.state.tx.us/specialrpt/tif/healthcare.html

Yousuf, M.I. (2007). The Delphi technique. *Essays in Education*, 20, 80-89. Retrieved from http://www.usca.edu/essays/vol202007/yousef

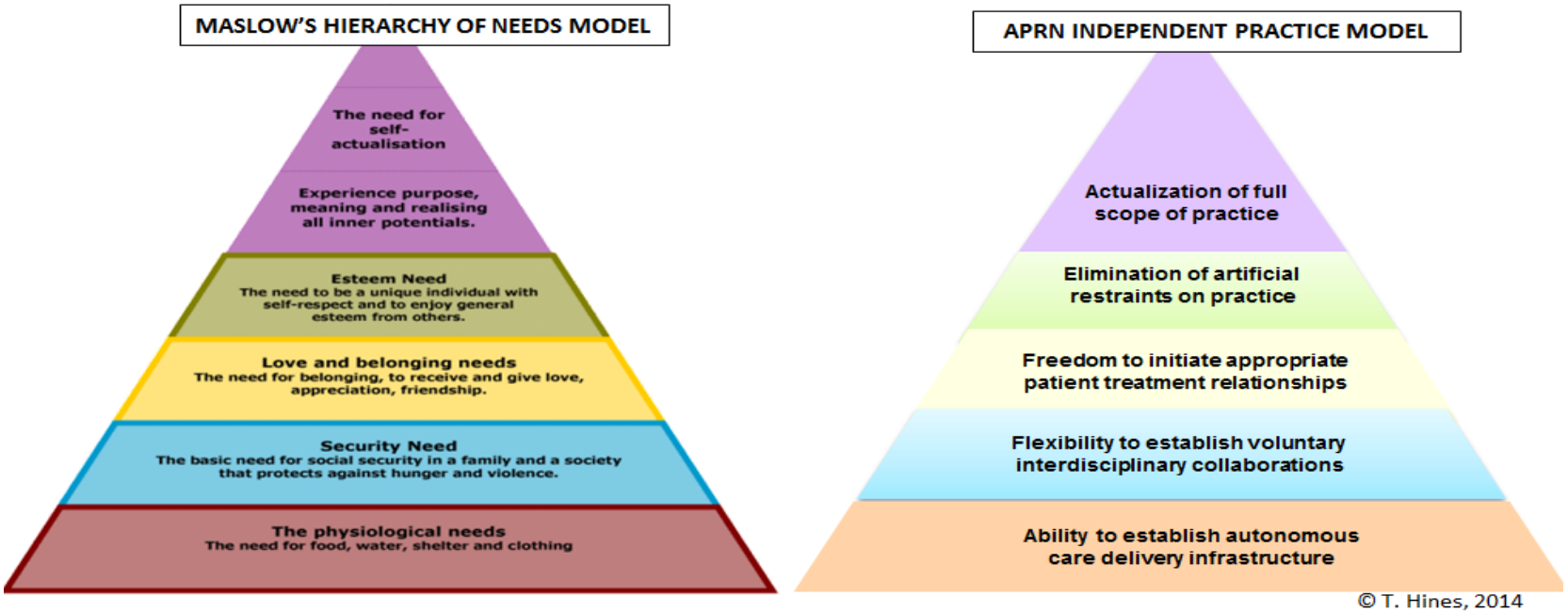

Figure 1. Hines APRN Independent Practice Model Compared with Maslow's Hierarchy of Needs Model

Table 1. Factor Analysis of Descriptors of Independent Nurse Practitioner Practice

Ranked Items	Mean	Standard Deviation	Rotated Component
practice the full extent of one's education and training	9.8	.657	.717
practice within the scope of practice for NP licensure	9.64	1.34	.891
refer/consult with other health professionals at the NP's discretion	9.61	1.18	.697
prescribe treatment modalities	9.54	1.26	.495
payment for services based on level of service not level of education or degree	9.49	1.41	.777
bill all commercial and government insurance agencies	9.43	1.57	.482
build independent patient/provider relationships	9.43	1.44	.601
delegate tasks to other healthcare professionals/personnel	9.27	1.30	.452
frequency of patient visits with NP are based on need	9.09	1.64	.731
full prescriptive authority	9.04	1.5	.607
ability to conduct and sign physicals for government/state agencies	8.8	1.9	.544
elimination of overhead expenses	8.72	2.1	.490
write prescriptions without time interval restrictions	8.45	2.2	.485
practice site regardless of proximity to a physician	8.25	2.37	.697
practice without physician oversight/direction	7.87	1.69	.794
admit and follow patients in the hospital or long term nursing facilities	7.68	2.52	.776

Chapter 4: Summary and Conclusion

Evaluation of Project

The researcher aimed to obtain a consensus definition of independent nurse practitioner practice in a state that restricts NP practice. In order to implement change, one must first understand the consequences that change can produce. The respondents invited to participate in this study (Appendices C & D) identified the elements needed to function independently as nurse practitioners. In doing so they demonstrated that advanced practice nurses understand their role and the effect of practice restrictions in the provision of health care.

Overview of Findings

The majority of the nurse practitioners in the United States practice in what is known as reduced or restricted practice/licensure setting. In other words, NPs must have either a collaborative or supervisory agreement with a delegated physician (Hain & Fleck, 2014). Through recent policy changes, the state of Texas has had some barriers to NP practice removed. Participants in this study still practice with legislatively-imposed supervisory delegation restrictions within the state of Texas. However, these respondents were able to define the elements of independent practice.

Principle component analysis identified components of independent practice as reported by the larger participant sample from the initial descriptors obtained from the expert panel. A table of Rotated Component Matrix (Table 1) was generated utilizing Statistical Package for the Social Sciences (SPSS®). The derived factors were then grouped according to factor loading values. The groups were labeled based on the activities represented by the factors within each group and the groups were then placed in

ascending order in accordance to their generated scores. The hierarchal order of the groups corresponded with Maslow's model.

Maslow's Hierarchy of Needs is a constructive tool in understanding human behavior and provides a means to affect motivation (Benson & Dundis, 2003). Fundamental to Maslow's theory of motivation is that unfulfilled lower needs dominate one's thinking and actions until they are satisfied; thus, fulfillment of the needs of one level is a prerequisite to pursuit of the next level (Zalenski, R.J. & Raspa, R., 2006). The identified NP Independent Practice Model groups are in ascending order and represent the definition and model of independent nurse practitioner practice as reflected in the data. From lowest to highest, these needs are: establish an autonomous health care delivery infrastructure, flexibility to establish voluntary interdisciplinary collaborations, freedom to initiate appropriate patient treatment relationships, elimination of artificial restraints on practice and actualization of full scope of practice. These are the factors determined to be representative of independent practice for nurse practitioners.

Recommendations Based on Findings

Licensure and scope of practice regulations for nurse practitioners as well as other health care professionals are important for consumer protection objectives (FTC, 2014). The goal, however, should be avoidance of imposing restraints that are greater than necessary in addressing legitimate health and safety concerns (FTC, 2014). The literature reflects the competency of nurse practitioners in delivering quality health care; however, a consensus definition of independent nurse practitioner role has not been noted.

According to Pohl et al., (2010) the majority of NPs view independent practice from a licensing perspective, inferring that NPs want the ability to practice under their own license with oversight dictated strictly by the Board of Nursing. Under this definition, independent NP practice could take place in a myriad of settings including in collaborative practice with physicians (Pohl et al., 2010). It is not clear if this is one perspective or a consensus definition of independent practice among tenured NPs.

In 2013, there were over 3800 students enrolled in 25 nurse practitioner programs offered in the state of Texas (TBNE, 2014). Initially this study attempted to gain insight on the student nurse practitioner perspective of independent practice. The University of Texas at Tyler School of Nursing, Texas Tech University School of Nursing (Abilene Campus), Patty Hanks Shelton School of Nursing, and Abilene Christian University School of Nursing were contacted about the study (Appendix A). Each school granted the researcher permission to invite NP students enrolled at these schools of nursing to participate in the study (Appendix B) after receiving a copy of the informed consent (Appendix E) to conduct the study. However, the student response rate was poor, n=20. Information obtained from student participants was not utilized in the final analysis due to the inadequate sample size. Today's nurse practitioner student will be key in future primary care workforce solutions and understanding their perception of NP practice is warranted. Therefore, an evaluation of the student perception of independent nurse practitioner practice is recommended for future study.

The findings in this study demonstrate that nurse practitioners practicing under legislatively imposed restrictions are able to define the components of independent practice. Weiland (2014) recommended further research for the development of an

autonomous practice model and exploration of the relationship between NP identity formation and autonomy. This study established a model of independent practice based on Maslow's Hierarchy of Needs. The model defined the activities associated with independent NP practice and listed them in ascending order of priority. Utilizing a model for independent practice could result in a more uniform NP practice, which would facilitate understanding regarding the role among individuals questioning the role. This would include nursing and medical professionals, legislators, as well as the general patient community. Further research that includes statistical validation of this model is recommended.

Conclusions

In spite of being in existence since the 1960s and research that supports the effectiveness of the nurse practitioner role in the provision of health care services, there continues to be confusion regarding the role. If access to primary health care services for all continues to be a political aim during a time when primary care physicians are declining in number, then independent practice for nurse practitioners is a necessity. However, before independent NP practice can be attained, the concept must be defined. This research project did result in a definition of independent practice and contributes to the literature, which was lacking a consensual definition of this concept. Establishing a model of independent practice can result in a more consistent nurse practitioner role and reduce confusion regarding nurse practitioner practice. The future of health care delivery in the U.S. depends on having a knowledgeable, competent primary care workforce; this workforce can only be achieved when all providers are able to

practice within the full scope of their licensure and are welcomed into the practice arena on an equal footing.

References

Benson, S.G., & Dundis, S.P. (2003). Understanding and motivating health care employees: Integrating Maslow's hierarchy of needs, training, and technology..*Journal of Nursing Managemen*t, 11, 315-320.

Federal Trade Commission. *(2014). Policy perspectives: Competition and the regulation of advanced practice nurses*. Retrieved from http://www.ftc.gov/policy/reports/policy-reports/commission-and-staff-reports

Kleinpell, R.M., Hudspeth, R., Scordo, K.A., & Magdic, K. (2011). Defining NP scope of practice and associated regulations: Focus on acute care. *Journal of the American Academy of Nurse Practitioners*, 24, 11-18. doi: 10.111/j.1745-7599.2011.00683.x

Poghosyan, L., Boyd, D., & Knutson, A. R. (2014). Nurse practitioner role, independent practice, and teamwork in primary care. *The Journal for Nurse Practitioners*, 10(7), 472-479.

Pohl, J.M., Hanson, C., Newland, J.A., & Cronenwett, L. (2010). Analysis and Commentary: Unleashing nurse practitioners potential to deliver primary care and lead teams. *Health Affairs*, 29(5), 900-905. doi: 10.1377/hlthaff.2010.0374

Safriet, B. (2010). Federal options for maximizing the value of advanced practice nurses in providing quality, cost-effective health care (Appendix H). In *The future of nursing: Leading change, advancing health*. Washington, DC: The National Academies Press.

Texas Board of Nurse Examiners. (2014). 2013 Enrollment graduation admissions advanced practice nursing education programs. Retrieved from http://www.dshs.state.tx.us/chs/cnws/EducReports.shtm#Advanced

Weiland, S. (2014). Understanding nurse practitioner autonomy. *Journal of the American Association of Nurse Practitioners*. doi: 10.1002/2327-6924.12120

Zalenski, R.J., & Raspa, R. (2006). Maslow's hierarchy of needs: A framework for achieving human potential in hospice. *Journal of Palliative Medicin*e, 9(5), 1120-1127.

Table 1. Rotated Component Matrix

Component	1.	2.	3.	4.
Set site w/o MD close	.037	.697	.212	.113
practice w/o MD direction	.269	.790	.139	-.087
independent pt relationship	.346	.624	.201	.183
Rx authority	.436	.170	.610	-.234
Delegate	.446	-.007	.455	.385
practice optimizes training	.732	.205	.224	.209
refer	.228	.191	.101	.731
no_pay_MD_supervision	-.021	.637	.080	.477
physicals govt & state	-.104	.185	.622	.534
visits per need not protocol	.167	.014	.118	.708
Rx w/o time restrictions	.141	.111	.520	.146
admit & follow	.061	.258	.776	.081
bill	.475	.340	.100	-.067
payment for service w/o ed restriction	.770	.060	-.100	.240
Rx treatment	.466	.116	.462	.189

Appendix A. Letter to Schools Requesting Permission and Assistance to Evaluate NP Students

Dr. Jane Smith
University in Texas
School of Nursing
7777 Nursing Street
Anywhere, Texas 11111

Dear Dr. Smith,

My name is Tracy Hines, RN, FNP-C, PhD(c). I am a doctoral student in the College of Nursing at the University of Texas at Tyler. I am conducting a research study. The purpose of the study is to define independent nurse practitioner practice in a state that limits the nurse practitioner role. I am seeking the perception of independent nurse practitioner practice from NP students in the state of Texas. This letter is a request for assistance in recruiting NP students for the study. Can the attached letter be forwarded to NP students in your program? The letter provides information about the study as well as a web address to upload student responses.

Participation in the study is strictly voluntary. Student responses will remain confidential. For their participation in the study, the students will have their names entered into a drawing for a new iPad®.

Thank you for your consideration of this matter.

Sincerely,

Tracy Hines, RN, FNP-C
Doctoral Student at the University of Texas at Tyler
6234 Live Oak Trail
Abilene, Texas 79606
325-695-2295
thines4@patriots.uttyler.edu

Appendix B. Nurse Practitioner Student Invitation to Participate in Round 3

Hello Nurse Practitioner Student,

My name is Tracy Hines, RN, FNP-C, PhD(c). I am a doctoral student in the College of Nursing at the University of Texas at Tyler. I am inviting you to participant in a study I am conducting. The purpose of the study is to define independent nurse practitioner practice in a state that limits the nurse practitioner role. I am seeking the perception of independent nurse practitioner practice from NP students in the state of Texas.

You are being invited to participate in this research study by answering some questions about NP practice. Listed below is a link to Qualtrics®, a computer analysis program.

- Once connected to link you will be asked to provide some demographic information and then complete a questionnaire.
- The questionnaire will list descriptors ranked as relevant to the definition of independent nurse practitioner practice. There will be a scale numbered 1-10 beside each one to rank the relevance of the descriptor. Please circle the descriptor that best defines independent nurse practitioner practice to you.

There are no right or wrong answers. I am seeking your opinion as an NP student. Participation is strictly voluntary, and no one, including your school or instructors, will know whether you participated or not. Your consent to participate in the study will be assumed when the questionnaire is returned completed.

1 2 3 4 5 6 7 8 9 10

1-not important at all 10- extremely important

Please click on the link below and provide your responses. The survey will close on Month XX, 2013.

Thank you for your assistance in this study.

Sincerely,

Tracy Hines, RN, FNP-C
Doctoral Student at the University of Texas at Tyler
6234 Live Oak Trail
Abilene, Texas 79606
325-695-2295
thines4@patriots.uttyler.edu

Appendix C. Invitation to Participate in Rounds #1 and #2

Hello Fellow Nurse Practitioner,

My name is Tracy Hines. I am a doctoral student in the College of Nursing at the University of Texas at Tyler. I am inviting you to participant in a study to define what "independent practice means to Texas nurse practitioners.

You are being invited to do two things. You will use the link below to tell me what the words "independent practice" in relation to nurse practitioners means to you. I will take all of the descriptions I receive and will create a master list. The other request I have of you will be to check the list and see if you agree with the responses by rating how important each one is to independent practice. Each session should take only about 10-15 minutes of your time. All correspondence will be confidential. There are no right or wrong answers. The study is seeking your expert opinion. Your consent to participate will be assumed when you return the first questionnaire.

I sincerely hope you agree to participate. If you have any questions regarding the study please feel free to contact via my email.

Thank you for your time and assistance with this matter. Please click on the link below to answer the question and provide some demographic information

(Qualtrics link to be inserted here)

Sincerely,

Tracy Hines
Doctoral Student at the University of Texas at Tyler
6234 Live Oak Trail
Abilene, Texas 79606
325-695-2295
thines4@patriots.uttyler.edu

Appendix D. Nurse Practitioner Invitation to Participate in Round 3

Hello Nurse Practitioner,

My name is Tracy Hines, RN, FNP-C, PhD(c). I am a doctoral student in the College of Nursing at the University of Texas at Tyler. I am inviting you to participant in a study I am conducting. The purpose of the study is to define independent nurse practitioner practice in a state that limits the nurse practitioner role. I am seeking the perception of independent nurse practitioner practice from experienced nurse practitioners working in the state of Texas.

You are being invited to participate in this research study by answering some questions about NP practice. Listed below is a link to Qualtrics®, a computer analysis program.

- Once connected to link you will be asked to provide some demographic information and then complete a questionnaire.
- The questionnaire will list descriptors ranked as relevant to the definition of independent nurse practitioner practice. There will be a scale numbered 1-10 beside each one to rank the relevance of the descriptor. Please circle the descriptor that best defines independent nurse practitioner practice to you.

There are no right or wrong answers. I am seeking your opinion as an NP. Your consent to participate in the study will be assumed when the questionnaire is returned completed.

1 2 3 4 5 6 7 8 9 10

1-not important at all 10- extremely important

Please click on the link below and provide your responses. The survey will close on Month XX, 2014.
Thank you for your assistance in this study.

Sincerely,

Tracy Hines, RN, FNP-C
Doctoral Student at the University of Texas at Tyler
6234 Live Oak Trail
Abilene, Texas 79606
325-695-2295
thines4@patriots.uttyler.edu

Appendix E. Informed Consent

THE UNIVERSITY OF TEXAS AT TYLER

Informed Consent to Participate in Research

Institutional Review Board # F2013-43
Approval Date: December 7th, 2013

1. **Project Title**: Defining "Independent Practice" for Nurse Practitioners in the State of Texas: Envisioning a Workable Model

2. **Principal Investigator:** Tracy Hines, RN, PhD (C)

3. **Participant's Name:**

To the Participant:

You are being asked to take part in this study at The University of Texas at Tyler (UT Tyler). This permission form explains:

- Why this research study is being done.
- What you will be doing if you take part in the study.
- Any risks and benefits you can expect if you take part in this study.

After reading this consent, you should be able to:

- Understand what the study is about.
- Choose to take part in this study because you understand what will happen

4. Description of Project

The purpose of this study is to determine factors about independent nurse practitioner practice, and to assess differences in perceptions about independent nurse practitioner practice among experienced nurse practitioners and among nurse practitioner students.

This survey is the result of previously conducted surveys used to identify factors important to independent nurse practitioner practice. However, you can add additional items that are not on the survey if you think something else is important.

5. Research Procedures

If you agree to be in this study, we will ask you to do the following things:

1. Complete a survey that takes about 10-15 minutes about independent nurse practitioner practice. The survey will also ask questions about your age, gender, education, experience, and other demographic information

2. Rank items in terms of what you believe to be how important they are about independent nurse practitioner practice.

6. Side Effects/Risks

There are no foreseeable risks for completing the questionnaires for the study. The survey will be completed on-line and should take about 10-15 minutes to complete. You may refuse to answer any question that makes you feel uncomfortable. You are free to not participate in this study or to stop participating in this study at any time without any undue consequences. If you have concerns before or after completing the questionnaires, you are encouraged to contact the principal investigator, her contact information is provided at the end of this form

7. Potential Benefits

Your participation in this study will contribute to efforts to gain insight on how independent nurse practitioner practice is viewed by working nurse practitioners and nurse practitioner students residing in a state that limits the nurse practitioner role. This information may assist in establishing the basis of a independent nurse practitioner practice model. There are no direct benefits to you by participating in this study.
Following completion of the survey, you will be entered into a drawing for an iPad®.

Understanding of Participants

8. I have been given a chance to ask any questions about this research study. The researcher has answered my questions.

9. If I sign this consent form I know it means that:

- I am taking part in this study because I want to. I chose to take part in this study after having been told about the study and how it will affect me.
- I know that I am free to not be in this study. If I choose to not take part in the study, then nothing will happen to me as a result of my choice.
- I know that I have been told that if I choose to be in the study, then I can stop at any time. I know that if I do stop being a part of the study, then nothing will happen to me.
- I will be told about any new information that may affect my wanting to continue to be part of this study.
- The study may be changed or stopped at any time by the researcher or by The University of Texas at Tyler.

- The researcher will get my written permission for any changes that may affect me.

10. I have been promised that that my name will not be in any reports about this study unless I give my permission.

11. I also understand that any information collected during this study may be shared as long as no identifying information such as my name, address, or other contact information is provided). This information can include health information. Information may be shared with:

- Organization giving money to be able to conduct this study
- Other researchers interested in putting together your information with information from other studies
- Information shared through presentations or publications

12. I understand The UT Tyler Institutional Review Board (the group that makes sure that research is done correctly and that procedures are in place to protect the safety of research participants) may look at the research documents. These documents may have information that identifies me on them. This is a part of their monitoring procedure. I also understand that my personal information will not be shared with anyone.

13. I have been told about any possible risks that can happen with my taking part in this research project.

14. I also understand that I will not be given money for any patents or discoveries that may result from my taking part in this research.

15. If I have any questions concerning my participation in this project, I will contact the principal researcher: Tracy Hines at: thines4@patriots.uttyler.edu, or at (325) 670-3440.

16. If I have any questions concerning my rights as a research subject, I will contact Dr. Gloria Duke, Chair of the IRB, at (903) 566-7023, gduke@uttyler.edu
or the University's Office of Sponsored Research:

The University of Texas at Tyler
c/o Office of Sponsored Research
3900 University Blvd
Tyler, TX 75799

I understand that I may contact Dr. Duke with questions about research-related injuries.

17. CONSENT/PERMISSION FOR PARTICIPATION IN THIS RESEARCH STUDY

I have read and understood what has been explained to me. I give my permission to take part in this study as it is explained to me. I give the study researcher permission to register me in this study. My participation in this study is implied by proceeding to the Survey. I understand my name and email address are listed below for any needed clarification, and that no identifying information will be released by the PI.

BIOGRAPHICAL SKETCH

NAME	POSITION TITLE
Tracy Ann Hines	Family Nurse Practitioner Radiology Associates Abilene, Texas

EDUCATION/TRAINING

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	YEAR(s)	FIELD OF STUDY
Cisco Junior College	LVN	1989	Nursing
McMurry University, Abilene,Texas	ASN	1993	Nursing
McMurry University, Abilene, Texas	BSN	1994	Nursing
University of Texas at Arlington, Arlington,Texas	MSN, FNP	1999	Nursing
University of Texas at Tyler, Tyler, Texas	PhD	2015	Nursing

NOTE: The Biographical Sketch may not exceed two pages:

A. Positions and Honors.

Positions:

1989 – Present	Staff Nurse Med-Surg/iCU	Hendrick Medical Center, Abilene, Texas
2004 – Present	Family Nurse Practitioner	Radiology Associates, Abilene, Texas
2008-2009	Adjunct Faculty	Cisco Junior College, Abilene, Texas
2002--2004	Family Nurse Practitioner	Abilene Hematology Oncology Group
2003-2004	Adjunct Faculty	Patty Hanks Shelton School of Nursing, Abilene, Texas
2002-2003	Adjunct Faculty	Vernon College, Wichita Falls, Texas
1999-2001	Family Nurse Practitioner	Anson Family Wellness Clinic, Anson, Texas
1998-2000	Faculty	Cisco Junior College, Abilene, Texas

Licensures/Certifications:

2000- Present	Certified Family Nurse Practitioner	American Nursing Credentialing Center
1991-Present	Certified Critical Care Nurse	American Association of Critical Care Nurses

Honors:

2012-Present	Vice President	Big Country Advanced Practice Nurses
2008-2014	Abilene/San Angelo Regional Representative	Texas Nurse Practitioners
2004-2009	President	Abilene Area Association of Critical Care Nurses
1989	Member	Sigma Theta Tau