The Evolution of Advanced Practice Providers in Rural Settings

Historical Paper

Shirley N. Craft, CPPM, FACMPE

August 29, 2017

This paper is being submitted in partial fulfillment of the requirements of Fellowship in the American College of Medical Practice Executives.
The Evolution of Advanced Practice Providers in Rural Settings

The intent of this historical paper on The Evolution of Advanced Practice Providers in Rural Settings is to educate the reader on the growth, progress and development of these essential clinicians. The information presented will show that nurses and other physician supporters were providing advanced care to patients, particularly those in rural areas, for centuries prior to their titles as we know them today. The reader will have a better understanding of rural areas, the reasons for physician shortages in these areas and solutions to help alleviate this ongoing problem. They will also be reminded that Advanced Practice Providers have had to overcome continuous government mandates, and from time to time, physician scrutiny; yet consistently evolved throughout the years to unceasingly fill the gap in rural physician shortage areas.

Overview of Advanced Practice Providers and Rural Settings

Advanced Practice Providers

Advanced Practice Providers (APPs) have been around for many years and are defined as healthcare workers with two to three years of post-secondary training with extensive medical education. These providers perform the tasks that can be carried out by doctors, such as clinical and diagnostic functions. Advanced Practice Providers do much more than just deliver care; they are instrumental in providing education, mentoring, clinical research and a vital advocate for many different patient populations (World Health Organization, 2010). APPs consist of a variety of providers including Nurse Practitioners (NP), Physician Assistants (PA), Certified Registered Nurse Anesthetists (CRNA), Certified Nurse Midwives (CNM) and Clinical Nurse Specialist (CNS). Registered Nurse First Assistants (RNFA) are sometimes mistaken as APPs; however, according to the Competency and Credentialing Institute, RNFAs are Advanced Practice Registered Nurses (APRN) but not considered Advance Practice Providers.

Advanced Practice Providers are often referred to as “mid-level” providers or “physician extenders”; however APPs, in particular NPs, oppose those terms and want to be addressed by their appropriate titles (American Association of Nurse Practitioners, 2015). These providers are
caregivers who are licensed to evaluate and treat patients under the supervision and collaboration of a licensed physician and are often used to fill the openings in rural or remote areas.

Rural Areas

Rural areas are areas outside of big cities or towns. There are three federal government agencies whose definitions of rural are most commonly used. These agencies are the U.S. Census Bureau, the Office of Management and Budget and the Economic Research Service of the U.S. Department of Agriculture (Rural Health Information Hub, 2015). However, the federal government only uses two of these organizations to define rural; which are the U.S. Census Bureau and the Office of Management and Budget. According to the U.S. Census Bureau, rural is considered whatever is not urban; meaning any area having less than a nucleus of 50,000 or more people or having a core with a total land area of less than two square miles and a population density of 1,000 persons per square mile (U.S. Department of Health and Human Services, 2017). A rural community is also described as typically having a low population density and small settlements (Figure 1). As this map shows, rural areas are vast and cover much of the geographic area of the United States.

Background and History of Advanced Practice Providers

Nurse Practitioner

Nurse Practitioners are a type of APRN whose advanced education and clinical training allows them to provide higher levels of care and perform tasks Registered Nurses (RNs) are not licensed to do. They receive advanced degrees that allow them to practice independently and take on the roles comparable to that of a doctor (Learn how to become, n.d.).

Although the title of Nurse Practitioner (NP) didn’t become official until the 1960’s, the role NPs have played dates back to 1893. It was during this time that Lillian Ward, a young graduate nurse from New York Training School, along with her colleague, Mary Brewster, established the Henry Street Settlement (HSS) on the Lower Side of Manhattan. This group of nurses made home visits to the poverty-stricken European immigrants in a physician shortage.
area. They provided an array of services including providing necessities such as ice, sterilized milk, medicines, and meals. They would also make referrals to the physicians at the city’s hospitals (Keeling, 2015).

As the demand for nurses increased so did the number of nurses and the roles they played. By 1923, the HSS were making over 300,000 home visits. During these visits, the nurses would often dispense physician-prescribed medicine and home remedies they carried in their nursing bags. They were treating illnesses such as pneumonia, polio, measles, influenza, tonsillitis, burns, and tuberculosis (Keeling, 2015).

In the mid-20th century, there was a rise in medical technology, scientific progress in medicine and surgery, and with the growth of hospitals after World War II, most nurses worked in hospital settings rather than private duty environments. During this era, the boundaries between medical and nursing were challenged and clearly defined; nurses did not need to diagnose and prescribe. Therefore in 1955, the American Nurses Association (ANA) developed a model that emphasized the fact that nurses were neither to diagnose nor prescribe (Keeling, 2015). This drastically changed the way nurses had been practicing for more than 50 years.

It wasn’t until 1965 when pediatrician, Henry Silver, and assistant professor of nursing, Loretta Ford, developed the first Nurse Practitioner (NP) program at the University of Colorado and in 1967, Boston College initiated one of the earliest master’s programs for NPs (American Association of Nurse Practitioners, n.d., a). These programs afforded nurses the ability to expand their roles and work in a collaborative, collegial relationship with physicians (Keeling, 2015).

History demonstrates NPs faced many legal challenges of varying issues during their evolution. One case in particular was the 1980 case of Sermchief vs. Gonzales in which several NPs were charged with practicing medicine without a license. Initially, the ruling was against the NPs; but in 1983, the case was overturned by the Missouri Supreme Court. This finally permitted for the expansion of NPs roles and functions (Keeling, 2015).
Physician Assistants

A Physician Assistant (PA) is a healthcare professional who practices medicine under direct supervision of a physician. The type of practice a PA performs varies with training, experience and state law. They are educated in the medical model and in some schools they attend the same classes as medical students (MEDNEX Northwest, n.d.). PAs are also nationally certified and state-licensed. They were developed to address healthcare access in rural and underserved areas due to the shortage of primary care physicians (Boston College School of Medicine, n.d.).

As with the NPs, the formal title of PA did not exist until the 1960’s, even though PAs had been performing in this role as far back as the 1600’s. It was in 1650 when the first German military medical assistants called Feldshers were introduced into Russian armies. Feldshers provided primary, preventive and maternity services in rural areas and were also called “field surgeons” and “barber surgeons” (Physician Assistant History Society, n.d.). As time progressed, so did the evolution of the PA and in the 1940’s a prominent practitioner in rural North Carolina trained his own “doctor’s assistant” to care for his patients while he was away advancing his medical education. This partnership received accolades from the medical profession and began the road that would be paved by other educators (Physician Assistant History Society, n.d.).

In the 1960’s there continued to be shortages in primary care physicians. To help alleviate this ongoing problem, Dr. Eugene A. Stead, Jr of Duke University Medical Center, put together the first class of PAs in 1965. He selected a group of four Navy Hospital Corpsmen who had received intensive medical training to go through this class. His curriculum was based on his knowledge of the fast-track training of doctors in World War II. The four corpsmen graduated on October 6, 1967 as the first class of PAs (American Academy of Physician Assistants, n.d.).

The PA perception gained federal acceptance and backing and the medical community helped support this new profession. Today PAs practice medicine in all 50 states as well as in many countries around the world. As of October 2016, there were 210 accredited PA programs,
110,000 individuals certified to practice and nearly 7,000 students who took the national certifying examination (American Academy of Physician Assistants, n.d.).

**Certified Nurse Midwife**

Midwife is an old English word that means “with women”. Midwifery has been around since the beginning of time. The functions of midwives are recognized in the Bible as well as found in ancient Hindu records. In Greek and Roman eras, midwives functioned as care providers to women during their reproductive cycles. Midwifery in America began as an extension of European practices and it is noted that a woman by the name of Brigit Lee Fuller was present for three births on the Mayflower (Brucker, 1996). In the early 1900’s, physicians practiced more modern remedies as compared to the nurse midwives as they were continuing homeopathic therapies and other traditions passed down from former midwives. This led to the more wealthy women choosing physicians as their providers; which, in turn, left midwives to care for poor women who lived in rural or immigrant areas (Brucker, 1996).

In 1925, Mary Breckenridge, a certified nurse midwife from a distinguished family, noticed the need for medical care in Leslie County, Kentucky. This Appalachian community was one of the poorest and most remote areas in the United States and had one of the highest maternal and infant mortality rates in the country. Because there were so few physicians and such long distances to other towns, it was nearly impossible for anyone in this community to receive medical care. Therefore, Mary Breckenridge founded the Frontier Nursing Service (FNS) to demonstrate the immense difference a certified nurse midwife could make in infant maternal/infant mortality (Keeling, 2015). Mary Breckenridge worked with a committee of physicians who wrote specific instructions of what the FNS could do and this committee was also the overseers of this organization of nurses (Keeling, 2015).

After World War II, in the early 1940’s, the profession of nurse midwifery expanded tremendously. This was primarily due to increasing access to health insurance, reemergence of a childbirth movement that demanded the kind of care nurse midwives provided and a shortage of
obstetricians (Dawley, 2003). This growth provided opportunities for the nurse midwife to obtain more education that created better, more advanced practices. It also afforded the openings of free standing birthing centers (Dawley, 2003).

Building on these foundations, nurse midwifery would make major advances in the coming decades (Dawley, 2003). Today there are more than 11,475 CNMs, with the majority of them practicing in the United States. These advanced practice providers work under the supervision of an obstetrician and continue to play a vital role in women’s health (American College of Nurse Mid-Wives, 2016).

**Certified Registered Nurse Anesthetist**

Much like the other Advanced Practice Providers, Certified Registered Nurse Anesthetists (CRNA), began their careers out of necessity. In the mid 1800’s, with the advancements in surgical techniques, the demand for anesthesia increased. Because surgeons were not interested in providing this service, they turned to graduate nurses to fill this role (Ray, 2016). The surgeons felt nurses were ideal for this role because they would be satisfied with being in a subordinate role, accept lower pay, yet have a high ability and intellect in providing the anesthesia and relaxation that was required (Ray, 2016). Thus, the profession of nurse anesthetist was born.

Nurses were the earliest professional group to administer anesthesia services in the United States. They first gave anesthesia to soldiers on the battlefield during the Civil War (American Association of Nurse Anesthetists, n.d.). Catherine S. Lawrence has been identified as the first nurse to administer anesthesia. She administered Chloroform to wounded soldiers who needed emergent surgery during the Civil War in 1863 (Ray, 2016). Although, Catherine S. Lawrence was the first nurse to administer anesthesia, Sister Mary Bernard Sheridan was the first nurse to specialize in anesthesia. She took over the anesthesia duties in 1877 at St. Vincent’s Hospital in Erie, Pennsylvania. Her inspiration spread throughout the Midwest, influencing more Catholic nuns to begin training to administer anesthesia (Ray, 2016). The most well-known nurse
anesthetist of the nineteenth century was Alice Magaw. She worked at St. Mary’s Hospital in Rochester, Minnesota, which was operated by Dr. William Worrell Mayo and later became internationally known as the Mayo Clinic (American Association of Nurse Anesthetists, n.d.).

As the nurse anesthetist profession grew, so did the training and education criteria. Nurse anesthesia programs have evolved over time, from humble beginnings credited to Catholic nuns with informal training, to formal training and certification programs in existence today. Together with physician anesthesiologists, nurse anesthetists provide more than 40 million anesthetic episodes per year in the civilian and military setting throughout the United States (Ray, 2016).

**Clinical Nurse Specialists (CNS)**

The use of the term “specialist” in nursing occurred in the early 1900s. Psychiatric nursing was the first nursing specialty; originating from the Quaker activists who objected to the brutal treatment of the insane and advocated for kinder methods of providing for this group of patients. In the following decades, the CNS role grew significantly and in 1974 the ANA officially recognized the CNS as an expert practitioner. During this time, the ANA included master’s education as a requirement for the CNS. In 1971, Idaho was the first state to recognize diagnosis and treatment as part of the scope of practice of CNS (Gordon, J., Lorilla, J., Lehman, C., 2012).

Historically, CNS practice is rooted in the nature of nursing as originally described by Florence Nightingale. Based on her observations, Nightingale suggested that illness and disease are two noticeably different phenomena; although illness can have disease related etiologies, many times factors other than disease cause suffering. The practice of CNS is fashioned on Nightingale’s interpretation of illness and disease; understanding when patients had illness problems and disease problems simultaneously, they received services from both nursing and medicine (National Association of Clinical Nurse Specialist, 2004).

Clinical Nurse Specialists have the potential to play a large and important role in assuring the delivery of high-quality health services; however they have struggled with achieving
recognition, reimbursement and respect as an APRN (Gordon, J., Lorilla, J., Lehman, C., 2012). They have the capability to provide diagnosis, treatment and ongoing management of patients. They also provide knowledge and support to nurses caring for patients at the bedside, help create practice changes in healthcare organizations and ensure the best practices and evidence-based care is implemented to achieve the best possible patient outcomes (National Association of Clinical Nurse Specialist, n.d.).

In the late 1980s the ANA disbanded the Clinical Nurse Specialist Council and created the Council of Nurses in Advanced Practice. Clinical Nurse Specialists from around the country were afraid that blending all the advanced practice nurses would result in them losing their voice because there would be no one to represent the group. Therefore, in 1995 The National Association of Clinical Nurse Specialist was formed to advance and preserve the clinical nurse specialist role in health care (National Association of Clinical Nurse Specialist, n.d.). Due to their noted contribution to health care systems, CNS has regained support in recent years. The Institute of Medicine (IOM) has released reports on the need for increased quality and safety in health care. Clinical Nurse Specialists play a vital role in quality improvement, patient safety and improved health care outcomes; thus assisting in meeting the need identified by the IOM and securing a place in the future of health care in the United States (Gordon, J., Lorilla, J., Lehman, C., 2012).

**Education, Training and Salaries for Advanced Practice Providers**

In the beginning era of APPs and prior to this title, the education for these clinicians was very informal and non-structured as they learned their skills from experienced physicians. It wasn’t until the early 1900’s, with the demand of advanced practice providers, that the need for formalized training became a requirement and also more rigorous. It was also during this time, APPs were scrutinized by physicians; thus creating legislative/government oversite for these practitioners. Due to such mandates, programs specializing in different advance practice
practitioner programs were established, along with their relative professional organizations and credentialing bodies (Ray, 2016).

Today, Advanced Practice Providers must have advanced education and clinical experience beyond a bachelor’s degree in their healthcare specialty area. The nurse practitioner, nurse midwife and nurse anesthetist follow the study model as that of a nurse and are also referred to as an APRN. The physician assistant, however, follows the medical model that complements the training and education of a doctor (University of Pittsburgh Medical Center, 2017). Advanced Practice Providers undergo demanding national certifications, intermittent peer review, clinical evaluations and adhere to a code of ethical practices (American Association of Nurse Practitioners, n.d., b). Although not a requirement at this time, some practicing APPs have doctorate degrees. According to the 2016 MGMA Provider Compensation and Production Report, salaries vary depending on the specialty in which they practice, as depicted in Attachment A (MGMA provider compensation, 2016).

Though training and experience is vital, surprisingly, most APPs receive these skills on the job as part of the clinical practice. There have been training academies established to help improve overall training of advanced practice providers and to also help reduce inconsistencies among providers (EmCare, 2016).

**Board Certifications**

Advanced Practice Providers must also obtain board certifications from their governing associations. A nurse practitioner can either be board certified by the American Association of Nurse Practitioners (AANP) or the American Nurses Credentialing Center (ANCC). Certified nurse specialists are also board certified thru the ANCC. A physician assistant certification board is the National Commission of Certification of Physician Assistants (NCCPA). Likewise, a nurse anesthetist’s board certification comes from the National Board of Certification and Recertification for Nurse Anesthetists (NBCRNA) and a nurse midwife receives board certification from the American Midwifery Certification Board (AMCB).
American Association of Nurse Practitioners. There are two organizations that make up the AANP, the American Academy of Nurse Practitioners (founded in 1985) and the American College of Nurse Practitioners (founded in 1995). On January 1, 2013, these two organizations came together to form the American Association of Nurse Practitioners (AANP), the largest, full-service national professional membership organization for NPs of all specialties (National Association of Nurse Practitioners, n.d., a).

Board Certification is renewed every five years with the AANP. Over the course of this timeframe and in order to maintain board certification with the AANP, dues of $125.00 must be paid and the member must also have accumulated 100 contact hours. Twenty-five of these contact hours must be in pharmacotherapeutics.

American Nurses Credentialing Center. This credentialing body was incorporated in June 1990 with the purpose to globally promote excellence in nursing and healthcare through credentialing programs. It is a subsidiary of the ANA and currently offers 14 APRN and 14 specialty nursing certification programs. More than a quarter million nurses have been certified by ANCC since 1990 (American Nurses Credentialing Center, n.d.).

Much like the AANP, board certification with the ANCC is renewed every five years. Over the course of this timeframe and in order to maintain board certification with the ANCC, dues of $350.00 must be paid and the member must also have accumulated 75 continuing education units (CEUs) plus one or more of the eight ANCC renewal categories. Twenty-five of the 75 contact hours must be in pharmacotherapeutics.

National Commission of Certification of Physician Assistants. The National Commission on Certification of Physician Assistants is the only certifying organization for physician assistants in the United States. This organization was established in 1974 as a not-for-profit organization. NCCPA is dedicated to assuring that certified PAs meet established standards of clinical knowledge and rational skills upon entry into practice and throughout their careers. The United States decided to rely on NCCPA certification as one of the criteria for licensure or
regulation of PAs. As of Dec. 31, 2016, there were approximately 115,500 certified PAs (National Commission of Certification of Physician Assistants, n.d.).

The NCCPA renews its board certification every two years. During this timeframe and in order to maintain board certification with the NCCPA, dues of $150.00 must be paid and the member must have accumulated 100 CEUs.

**National Board of Certification and Recertification for Nurse Anesthetists.** The profession of nurse anesthetists has required recertification since 1978. In 1975, The American Association of Nurse Anesthetist (AANA) oversaw the accreditation and certification processes for nurse anesthetists. During this time there were two organizations that were members of the AANA, the Council on Certification of Nurse Anesthetists (CCNA) and the Council on Recertification of Nurse Anesthetists (COR). In 2007, the CCNA and COR became independent of the AANA, and together incorporated as the National Board of Certification and Recertification for Nurse Anesthetists (NBCRNA). This corporation is a not-for-profit entity dedicated to promoting patient safety by improving provider quality in the field of nurse anesthesia (National Board of Certification and Recertification for Nurse Anesthetists, n.d.). In order to maintain board certification with the NBCRNA, the member must pay a fee of $110.00 every two years and have accrued 40 CEUs over this timeframe.

**American Midwifery Certification Board.** The American Midwifery Certification Board (AMCB) is the certifying body for CNMs. The AMCB was formerly known as ACNM (American College of Nurse-Midwives) Certification Council (ACC). The name of the organization was changed to AMCB in 2005 when changes in the credentialing process emerged. The role of the AMCB is to develop and administer the national certification examination for Certified Nurse-Midwives (CNMs) and Certified Midwives (CMs) (American Midwifery Certification Board, n.d.).

The AMCB has the lowest criteria to remain board certified. This organization requires dues of $70.00 every five years with 20 contact hours or two CEUs during that five year period.
Rural Physician Shortages and the Demand for Advanced Practice Providers

History of Rural Physician Shortages

The common thread in the establishment of Advanced Practice Providers is the shortage of physicians, particularly in rural areas. Physician shortages have plagued rural areas for more than a century. Reports that date back to the 1920’s have exhibited the declining availability of physicians in rural and remote areas of the United States. Unfortunately, little has changed over the years, despite significant attention to this problem (Hancock, 2009). The patient-to-primary care physician ratio in rural areas is 39.8 physicians per 100,000 people, compared to 53.3 physicians in urban areas (National Rural Health Association, n.d.). About 20% of the United States population lives in rural areas but only 9% percent of the nation’s physicians practice in these rural communities (Hancock, 2009). Sixty-seven percent of rural areas are considered Health Professional Shortage Areas (HRSA’s), and the majority of areas continue to be the most underserved (Hancock, 2009). A March 2015 report by the Association of American Medical Colleges projects that the United States will have a shortage of 46,000 to 90,000 physicians by the year 2025 (Remedy Direct, 2016).

Reasons of Physician Shortages

Physician shortages come from several characteristics of the health care system. One of these characteristics is many Americans without health insurance reside in rural areas. This indicates that those Americans are uninsured and make up a poorer population. Because, the residents in these communities are uninsured and poorer, they seem to be sicker and have more chronic conditions than those living in urban areas. This population outnumbers the amount of physicians available to take care of them. An additional cause that drives physician shortage is the tendency of physicians to locate and practice in affluent and non-rural areas (Rosenblatt & Hart, 2000). Most of these physicians attend medical schools and complete a residency in urban
locations, where they become accustomed to city conveniences, an array of restaurants and retail stores and various cultural attractions and sporting events. As a result, most new graduates prefer to live in larger, more urban communities (Remedy Direct, 2016).

Another important benefactor for the physician shortage in rural areas is government regulations and healthcare reform that have been implemented. Health reform started as early as 1912, when Theodore Roosevelt campaigned with the promise of national health insurance. He also promised women’s suffrage and safe conditions for industrial workers. Over the last 100 years many presidents, numerous legislative mandates and other healthcare reforms have been introduced; some of which include (Goodridge & Atnquist, 2009):

- **1929:** Baylor Hospital in Dallas, Texas started a prepaid program with local teaching union to create the country’s first health insurance model.

- **1965:** President Lyndon Johnson created the Medicare and Medicaid programs, which provided health coverage for people 65 and older, the poor, and the disabled. This was done in response to the ability of state and local governments to afford to pay for health care for low income and non-working people.

- **1985:** Congress passed the Consolidated Omnibus Budget Reconciliation Act (COBRA), which allowed employees to continue their group health insurance plan up to 18 months after losing their jobs. The Emergency Medical Treatment and Active Labor Act (EMTALA) was passed, requiring hospitals to screen and stabilize all emergency room patients.

- **1993:** The Clinton Administration introduced health reform based on managed competition, in which private insurers compete to tightly regulated markets. Reform fails to pass; however in 1996, the Health Insurance Portability and Accountability Act (HIPAA) was passed. This act protects people in group health plans from being barred from pre-existing conditions and makes use of national data standards for tracking, reporting, and protecting personal health information.
1997: President Clinton signed legislation to create the State Children’s Health Insurance Program (SCHIP). This program provides matching funds to states for health insurance for children whose families’ incomes are average but too high to qualify for Medicaid.

The past 10 years have brought substantial healthcare reforms that have greatly impacted the physician community. These regulations include the American Recovery and Reinvestment Act (ARRA), the Patient Protection and Affordable Care Act (PPACA), also known as Obama Care and most recently, the Medicare Access and CHIP (Children’s Health Insurance Program) Reauthorization Act (MACRA). These performance-based reimbursement policies play a critical role in the physician shortage (Remedy Direct, 2016).

American Recovery and Reinvestment Act. This legislative milestone transpired in 2009 when President Barack Obama signed the American Recovery and Reinvestment Act (ARRA). This act includes federal funding for computerized medical records and expands preventive medical services to community-based health clinics. The ARRA also included the Health Information Technology for Economic and Clinical Health Act (HITECH). This act was enacted to promote the adoption and meaningful use (MU) of health information technology or better known as the electronic medical record (Health and Human Services.gov, n.d.).

Adoption of the electronic medical record. The cost for providers to adopt the electronic medical record (EHR) was and still is an exorbitant amount of money. Beginning in 2011, Medicare and Medicaid offered incentives to help offset this cost. The incentives were a maximum of $44,000.00 from Medicare and $63,500.00 from Medicaid per provider. There are also penalties for not implementing an EHR and/or not meeting the meaningful use requirements. These penalties began in 2015 with a 1% reduction in reimbursement and 1% every year thereafter; but not to exceed 5% by 2018.

The estimated cost of implementing an EHR was $32,409.00 per physician during the first 60 days of the system launch. Additional one-time expenses that are incurred during the
implementation are hardware cost of approximately $25,000.00 per practice for internet switches, cables and wireless internet connection; plus roughly $7,000.00 per physician for personal computers, printers and scanners. Annual software and maintenance cost of approximately $17,000.00 also has to be spent. These expenses do not include the training hours and the ongoing educational time spent in learning the initial system and any updates that will occur. Given all these expenditures, a rural healthcare physician who’s already serving an uninsured or underinsured population simply cannot afford these expenses; therefore, they chose to take the penalties (U.S. Department of Health and Human Services, 2011).

**Medicare Access and CHIP Reauthorization Act (MACRA).** In the spring of 2016, the most recent legislative mandate, MACRA was passed. The Medicare Access and CHIP Reauthorization Act repealed the Sustainable Growth Rate (SGR) Formula that has been used to determine Medicare Part B reimbursement rates to physicians and replaced it with new ways of paying for care. Under MACRA, participating physicians will be paid on value and not volume like the current fee-for-service structure. High value care will be defined by quality measures and efficiencies. Depending on their performance against their chosen measures, providers will receive incentive pay or take an adjustment (Network for Regional Healthcare Improvement, n.d.). Although MACRA went into effect in 2017, the incentives or adjustments will not begin until 2019. This will be based on data from 2017 performances. Therefore, beginning in 2019, the incentives or adjustments will be plus or minus four percent and will increase to nine percent by the year 2022 (Network for Regional Healthcare Improvement, n.d.).

Medicare Access and CHIP Reauthorization Act’s value based programs are based on two new reimbursement structures – The Merit Based Incentive Payment System (MIPS) and Alternative Payment Models (APMs). These two pathways will indicate how practitioners receive Medicare payments.

**Merit Based Incentive Payment System.** MIPS bundles three of the existing quality programs set forth by the Centers for Medicare and Medicaid Services (CMS) – MU, the
Physician Quality Reporting System (PQRS) and the Value-based Modifier (VBM). Clinicians receive payment incentives or adjustments to their Medicare revenue based on the combined score across 4 categories (Centers for Medicare and Medicaid Services, n.d):

- **Quality** – this measure replaces PQRS and accounts for 50% of the total score
  - each provider will choose 6 measures from a list of 271
  - depending on the measure, they can be reported via claims or via registry.

- **Advancing Care Information** – this measure replaces MU Attestation and accounts for 25% of the total score
  - there are 15 measures included in this section

- **Improvement Activities** – this is a new measure and accounts for 15% of the total score
  - each provider will choose 4 activities from a list of 92

- **Cost** – this measure replaces the cost component of the value-based modifier program and accounts for 10% of the total score
  - this score will be based on Medicare claims and no reporting is required from providers

**Alternative Payment Models.** The APM requires that clinicians accept both risk and reward for providing coordinated, high quality and efficient care. This model must also meet criteria for payment based on quality measures and for the use of an EMR. In order to determine whether clinicians met such requirements, all clinicians will report through MIPS in the first year (Centers for Medicare and Medicaid Services, n.d.).

Over the years, there have been many changes to reimbursement, along with numerous government mandates. Due to these stringent regulations, more and more traditional country physicians are retiring or leaving private practice as they are overwhelmed by these mandates (Remedy Direct, 2016).

**Solutions to Rural Physician Shortages**

As a way to address the rural physician shortage, a number of state legislatures have created programs to recruit and encourage high school students to pursue careers in rural medicine. At least 21 state legislatures have created such programs to recruit and provide incentives for medical students to practice in rural areas upon graduation. They are doing this by
offering scholarships, grants and/or tuition breaks. There is also the expansion of medical residencies in rural areas; as medical students who graduate from rural residency programs are three times more likely to practice in rural areas than students who graduate from urban programs (National Conference of State Legislatures, n.d.).

In addition, another way to address the physician shortage in rural areas is the utilization of APPs. Advanced Practice Providers make up nearly half (46 percent) of providers at rural, federally qualified health centers. The strategy is to permit APPs to assume more responsibility in meeting primary care needs (National Conference of State Legislatures, n.d.). In 2015, there were 21 states and the District of Columbia that allow NPs to practice completely under their own licenses and without requirements for supervision (Pohl, 2015). Granting nurse practitioners and advanced-practice registered nurses full-practice authority without requiring a collaborative physician has been met with significant enthusiasm (Corley, 2017). With the removal of these barriers and with less restrictive regulation, APPs will be able to work at their fullest capacity; therefore helping to alleviate the high demand for medical providers in rural areas.

Future Projections for Advanced Practice Providers

Since the implementation of the Affordable Care Act (ACA), the number of advanced practice providers has risen. This is due in part to increased pressure to reduce costs, but it is also the result of the expanded number of people who now have healthcare coverage, and most importantly, a shortage of doctors. The Bureau of Labor Statistics estimates that the number of physician assistants in the healthcare workforce will grow 30.4% between 2014 and 2024 (Corley, 2017). The graduation rate for nurse practitioners has also increased. According to a report from the American Association of Colleges of Nursing and the National Organization of Nurse Practitioner Faculties, the 2014 primary care graduate rate totaled 14,400. This was 800 more than in the previous year, where there were 13,568 graduates. The NP graduate increases have been consistent over the past 5 to 7 years and are expected to continue (Pohl, 2015).
The success of APPs is obvious and has been recognized by researchers and healthcare providers alike. Their role has become crucial in medical subspecialties and intensive care units. However, even more critical is their role in primary care, as evidenced by provisions included in the ACA, which recognized APPs need to play an essential part in addressing the current and projected primary care shortage. The ACA formally recognizes physician assistants and nurse practitioners as two of the three categories of primary care providers, alongside doctors (Corley, 2017).

**Practice of Advanced Practice Providers**

Advanced Practice Providers perform an array of services, including, but not limited to, performing physical exams, completing patient histories, conducting clinical procedures, diagnosing and treating illnesses, prescribing medication, ordering and interpreting diagnostic tests, following chronic medical conditions, encouraging positive health behaviors and teaching and educating patients and patients’ family on various health related topics. They perform according to their scope of practice.

**Scope of Practice**

A scope of practice (Attachment B) describes the overall procedures, actions and processes an APP is permitted to perform in keeping with the terms of their professional license. It also reveals under what conditions the services may be delivered (American Nurses Association, n.d.). Scope of Practice laws are those passed by the state governments that regulate practitioners in the way they prescribe and the way they practice. Some state laws describe the scope of practice in great detail, while others are brief and vague (Jones and Barlett Publishers, n.d.).

**Collaborative Practice Agreement**

A collaborative practice agreement (Attachment C) is similar to a scope of practice, except the collaborative practice agreement is usually more specific. This agreement is customized to an individual APP and identifies procedures and processes that both they and their
collaborating physician feel are appropriate. A collaborative practice agreement typically contains
the following information (Midlevel U., 2016):

- Name of each party, practice site(s), and effective date
- Scope of practice of the APP as it relates to diagnosis and treatment of patients
- Scope of practice of APP as it relates to prescriptive authority
- A reference to practice protocols
- Requirement for documentation review and co-signature by the physician
- Availability of the overseeing physician as well as minimum oversight requirements

**Licensure Requirements**

Licensures for APPs are regulated by the state in which they practice and can vary
accordingly. There is variability between states related to qualifications for licensure/re-licensure.
Defining practice is commonly a two-step process that includes the state legislature passing a law
and the regulatory bodies creating and implementing rules and regulations. These processes are
put into place with the intent to protect the public (American Nurses Association, n.d.).
Attachment D provides an example of licensure requirements for APPs in the state of Virginia
(Virginia Department of Health Professions, 2012).

**Prescribing Authority**

Much like the licensure requirements for APPS, prescribing authority is also regulated by
the state in which they practice. The extent of an APPs prescriptive authority varies greatly by the
schedule of the drug in question. All prescribers of controlled medications must register with the
Drug Enforcement Administration (DEA). In most states, APPs write prescriptions under the
authority or collaboration of a supervising physician. Many states have made changes to existing
laws that regulate prescribing privileges to include independent prescribing privileges.
Independent prescribing is the ability for APPs to prescribe, without limitation, prescription and
controlled drugs, devices, adjunct health/medical services, durable medical goods and other
equipment and supplies (Stokowski, 2016). Although the requirement in most states is for the
physician to approve a prescription written by an APP, they are rarely questioned. This is because
a collaborative rapport and sense of trust have developed between the APP and the physician. The
physician has confidence in the APPs knowledge and skills and has allowed them to make
appropriate choices of medications for the patients (O’Connor, 2009).

**Rural Settings**

Because CRNAs administer anesthesia, they primarily practice in outpatient surgery
centers or in hospital operating rooms. All other APPs can work in a variety of settings that
include outpatient settings, inpatient hospital, emergency departments and surgery centers.
Outpatient settings consist of physician practices, oncology clinics, health departments, health
and wellness clinics and urgent care clinics. In outpatient setting, an APP can provide services
such as (EmCare, 2016):

- Diagnosing and treating acute conditions
- Managing diabetes, high blood pressure and other chronic conditions
- Conducting physical exams
- Providing immunizations
- Coordinating care with other specialists

Benefits of having an APP in and emergency department settings include (EmCare, 2016):

- Fast evaluation and treatment of acute conditions
- Communication to patients and families about diagnoses and treatment
- Communication about the patient with other providers involved in that patient’s care
- Stabilization and monitoring of acute conditions

Other benefactors in having an APP as part of the inpatient hospital team consist of (EmCare,
2016):

- Careful ongoing monitoring of the patient’s condition, progress and treatment though
  rounding
- Coordinating the services the patients need within and outside of the hospital
Answering questions presented by the patient and their family

Providing ongoing communication with other providers involved in the patient’s care

Timely discharge and planning to ensure continued treatment after discharge

Sending records to other providers of the patient

Advanced Practice Providers perform the same functions in Rural Health Clinics and Free Clinics as they do in the other settings. However, Rural Health Clinics and Free Clinics must qualify and meet specific criteria in order to become these types of facilities. They also must continue this criterion in order to remain as such.

**Rural Health Clinics.** The Rural Health Clinic (RHC) program is intended to increase access to primary care services for Medicare and Medicaid patients in rural communities. Rural Health Clinics must be located in a rural, underserved area and can be public, nonprofit or for profit clinics. They are required to use a team approach with physicians working with Advanced Practice Providers. According to the Center CMS, such clinics must be staffed at least fifty percent of the time with an APP. Although, all RHCs must operate under the medical direction of a physician, the physician’s direct patient care may be very limited (Rural Health Information Hub, n.d.).

**Free Clinics.** Free and charitable clinics are safety-net health care organizations that operate under a volunteer/staff model to provide a range of medical, dental, pharmacy, vision and/or behavioral health services to economically underprivileged individuals. These clinics are tax exempt organizations or operate as a program component of a tax exempt organization. Other than offering free services, these clinics can charge a minimal fee or have a sliding fee scale and still be considered free or chartable clinics provided they deliver essential services regardless of the patient’s ability to pay. Free or chartable clinics restrict eligibility for their services to individuals who are uninsured, underinsured and/or have limited or no access to primary or specialty care (The National Association of Free and Charitable Clinics, n.d.).
Credentialing and Reimbursement for Advanced Practice Providers

Hospital Credentialing/Privileges

Advanced Practice Providers must go through the same credentialing process as physicians and other members of the medical staff. In order to obtain hospital credentialing/privileges, the APP must complete an application. This application will require an array of information such as:

- Curriculum Vitae (CV)
- Education Information
  - University Attended
  - Graduation Date
  - Certificates/Diplomas
  - Time gaps and explanation of such
- Clinical Work History
  - Time gaps and explanation of such
- Professional License
- Drug Enforcement Agency (DEA) or Waiver
  - License to Prescribe
- Current Malpractice Insurance – if/when applicable
  - Claims
- Out of State Licenses
- Health Status Statement
- Consent for Background Checks
- National Provider Identifier (NPI) Verification
- Reference Letters

This information will be verified by someone in the Credentialing/Medical Affairs office within the hospital. Once this process has been completed, the APPs file will be presented to the
hospital’s Credentialing Committee, Medical Staff Executive Committee and the Board of Directors. If the committees approve, the APP will be credentialed and become a part of the medical staff. Their privileges will vary depending on their scope of service.

**Insurance Credentialing/Provider Enrollment**

A practice or organization cannot get paid unless the advanced care provider is accurately credentialed with insurance companies. One of the first steps in the credentialing process is to ensure the APP has a NPI number. This number can be obtained by completing an online application on the CMS website. In addition to the NPI, the APP must have a current CV, copies of diplomas and board certifications, state license number, hospital privilege information, social security number, date of birth, place of birth, tax identification for the billing entity, proof of malpractice coverage and a copy of their DEA. Once this information is obtained, the provider enrollment process can begin.

Some insurance companies accept paper submissions, while others require online enrollment. The Centers for Medicare and Medicaid will allow either. They have created an internet-based Provider Enrollment, Chain and Ownership System (PECOS) in which the provider can initially enroll, make changes in their Medicare enrollment, view or check the status of their Medicare enrollment. Other carriers get information from a central location, such as the Council for Affordable Quality Healthcare (CAQH). Using the online process makes it easier to identify any errors compared to applications done on paper. Regardless of whether done on paper or online, it is important to maintain a spreadsheet that contains a listing of insurance carriers, the criteria they require for enrolling a provider and the status of the provider’s enrollment with the effective date.

Please note that there are insurance companies that do not credential APPs. It is imperative to call each insurance company serving a specific state to confirm their processes and procedures.
Payor Reimbursement

Once an APP is credentialed with an insurance company, they receive a provider’s billing number. In some instances, the billing number is their NPI number. Insurance companies that do not credential APPs will allow them to bill using their collaborating/supervising physician’s billing/NPI number. Guidelines for billing under a physician’s number can differ for each individual insurance company; therefore, it will be beneficial to keep a listing of insurance companies and their requirements for billing under this circumstance.

Medicare does credential APPs; so upon billing a visit, the APP can bill using their unique billing number. When billing under the APPs number, Medicare’s reimbursement rate is 85% of Medicare’s allowable fee schedule; which means, the APP is compensated 15% less than a physician. Reimbursement is customarily reduced by other insurance companies, as well, when billing under the APPs number.

Medicare will also allow APPs to bill “incident to”. Billing “incident to” indicates the APP bills under the physician’s billing number and will be reimbursed at 100% of Medicare’s allowable. Although APPs can bill “incident to”, Medicare’s guidelines are very specific and strict. One of their guidelines is the physician must be in the same location as the APP; they cannot be in another building or suite, they must be in the same area or office – in very close proximity.

As previously stated, insurance companies that do not credential APPs will allow them to bill under the physician’s billing number. This, too, is considered billing “incident to” but with more lenient guidelines. Anthem, for example, does not mandate that the physician is in the office; their rule is the physician is “available”. This could mean in another location that is miles away but can be reached via telephone. As with provider enrollment, it is always a best practice to check with each insurance company individually to confirm their specific mandates.
Advantages and Challenges of Advanced Practice Providers

Advantages

There are many benefits to having an advanced care provider; one is the cost to employ an APP is considerably lower than that of a physician. This suggests that APPs may present an opportunity for increasing the volume in practices without significantly increasing payroll cost. Advanced care providers are also cost-effective in all practice settings where they can assist and relieve physicians of providing routine care. They provide much of the medical care a patient needs, allowing physicians to focus more attention on the complex issues (O’Hare, 2010). Employing APPs not only saves a practice money but also provides more access to patients and helps to lessen physician burnout by assisting them with the patient load.

Other important benefactors in having an APP are increased patient satisfaction, better patient flow and reduced wait time for patients. According to a 2011 U.S. Agency for Healthcare Research and Quality’s Consumer Assessment of Healthcare Providers and Systems (CAHPS) survey, APPs had a higher patient satisfaction rate than physicians. The questionnaire included questions about patient perceptions of how carefully each group listens. While physician scored an average of 7.2 out of 10, the APP received a score of 9.8 (Clinical Advisor, 2011). By having an APP on staff, many physician practices are able to offer same day appointments. The patient will be seen by the APP sooner than waiting for an appointment to see the physician (Perrino, n.d.). In addition to offering same day appointments, APPs improve the patient flow and produce shorter wait times (Collins, 2015). Advanced Practice Providers also provide education to patients, listen to patients and explain anything the patient may not understand. This results in improved patient satisfaction by creating a better patient experience.

Challenges

Along with the advantages of APPs, there are also challenges. One of the challenges is the need for more specialized training. There is a need to find more APPs trained in specialty areas and who have experience to manage more complex patients. Although, APPs get a
minimum of 500 clinical hours during training, those hours are spread across a spectrum of areas (Austin, 2016). Other barriers include regulations on licensures, scope of practice and prescribing authority; all of which are regulated by the state in which an APP practices. The laws vary from state to state and can hinder an APP from practicing to their fullest extent. The variation of the scope of practice has an indirect impact on patient care because the degree of physician supervision may affect practice opportunities (Hain & Fleck, 2014).

Another obstacle for APPs is some physician professional organizations, including the American Medical Association (AMA), believe that APPs are not as capable as physicians in providing safe and quality care. According to these organizations, this is because physicians have longer and more rigorous training than APPs. However, other physicians recognize that even though the education and training is not the same, they still value APPs and the roles they play (Hain & Fleck, 2014).

**What Do Patients Think**

In a 2012 survey of health care consumers, nearly half recognized that APPs can provide comparable care to that of a physician, but only eight percent reported using one as their primary care provider. However when considering wait times, the results changed. Although consumers preferred physicians as their primary care provider, 60 percent were willing to be treated by an APP when wait time was a factor (Huffpost, 2014). The results of this survey is surprising due to the patient satisfaction scores of APPs are higher than that of physicians.

**Advanced Practice Providers and Collaborating Physician Survey Results**

A survey was distributed to APPs (Attachment E) and to collaborating/supervising physicians (Attachment F) in rural areas. It was also posted on the American College of Medical Practice Executives (ACMPE) site for any APPs who practice in a rural area. Eleven responses were received from APPs and 19 from collaborating physicians. Although the responses were nominal, they supported the information present throughout this manuscript. According to the survey results, 100% of APPs preferred to be called by their title and not by a generic term such
as mid-level or physician extender. As it relates to education, 100% have a master’s or doctorate degree.

When the APPs and collaborating physicians answered the same questions about each other, the responses were quite different. One hundred percent of responding APPs agreed their scope of practice was sufficient, while only 84% of physicians agreed. The physicians also showed uncertainty when asked if the APP worked within their scope of practice, responding with an 89% agreement. There was an additional variance when asked about the working relationship; 100% of APPs agreed that they have a good working relationship with their physician, while only 89% of physicians agreed. Out of the 19 physician responses, 89% preferred to practice with an APP.

Comments received from APPs when asked why they chose this profession included empowering women, the love of educating patients, providing compassionate care, direct patient care and the autonomy of practicing as an APP. Most all the responses about why APPs chose a rural setting were to be close to home and to give back to the community. As for the question about their roles and duties changing, all but one stated yes.

The physicians’ answers to the question about choosing a rural area comprised of wanting to expand public health interest and clinical opportunities, it was close to home, raising a family in a rural area, to deliver patient care to those with high needs, underserved population areas and life preference. One of the comments also included the difficulty of recruiting physicians in their rural area.

**Conclusion**

This paper has illustrated the evolution of Advanced Practice Providers from an environment of necessity, such as shortages of doctors in rural settings, to becoming an essential component of modern day healthcare. These providers are exceptionally educated in their areas of expertise and skillfully provide services to the underserved as well as to communities that have excellent access to healthcare. No doubt there have been extreme obstacles over the years but
with each obstacle came growth and advancements.

For centuries, although not always addressed by this title, Advanced Practice Providers have consistently bridged the gap in rural, physician shortage areas. From their start as a couple hundred nurses in a rural Appalachian community or Feldshers on the battlefield, today there are more than 140,000 physician assistants and over 190,000 nurse practitioners practicing in the United States (Merritt Hawkins, n.d.). There are also 11,475 certified nurse midwives (American College of Nurse Mid-Wives, 2016.), 50,000 registered nurse anesthetists (American Association of Nurse Anesthetists, n.d.) and 72,000 clinical nurse specialist (National Association of Clinical Nurse Specialist, n.d.) who practice in various setting across the United States. Advanced Practice Providers remain an integral part of maintaining the health and well-being of people around the world, in particular those in the rural, underserved areas.

With the continuous changes in healthcare, the one constant is the vital role that APPs play. These clinicians have escalated care in rural, physician shortage areas that has improved customer service, enriched the quality of care and met the fundamental needs of patients who otherwise may not have access to any healthcare.
Figure 1 – Urban and Rural Areas

Source: USDA, Economic Research Service using data from the U.S. Census Bureau.
Reference


### Nonphysician Provider Total Compensation - Excluding Academic

<table>
<thead>
<tr>
<th>Provider</th>
<th>Specialty</th>
<th>Median Salary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Certified Registered Nurse Anesthetist</td>
<td></td>
<td>$172,000</td>
</tr>
<tr>
<td>Nurse Midwife: Outpatient/Inpatient Deliveries</td>
<td></td>
<td>$108,265</td>
</tr>
<tr>
<td>Nurse Practitioner</td>
<td>Acute Care</td>
<td>$110,795</td>
</tr>
<tr>
<td>Nurse Practitioner</td>
<td>Adult</td>
<td>$98,269</td>
</tr>
<tr>
<td>Nurse Practitioner</td>
<td>Cardiology</td>
<td>$102,553</td>
</tr>
<tr>
<td>Nurse Practitioner</td>
<td>Emergency Medicine</td>
<td>$124,126</td>
</tr>
<tr>
<td>Nurse Practitioner</td>
<td>Endocrinology</td>
<td>$99,380</td>
</tr>
<tr>
<td>Nurse Practitioner</td>
<td>Family Medicine (w/ OB)</td>
<td>$91,350</td>
</tr>
<tr>
<td>Nurse Practitioner</td>
<td>Family Medicine (w/o OB)</td>
<td>$98,515</td>
</tr>
<tr>
<td>Nurse Practitioner</td>
<td>Gastroenterology</td>
<td>$95,193</td>
</tr>
<tr>
<td>Nurse Practitioner</td>
<td>Gerontology/Elder Health</td>
<td>$105,572</td>
</tr>
<tr>
<td>Nurse Practitioner</td>
<td>Hematology/Oncology</td>
<td>$98,174</td>
</tr>
<tr>
<td>Nurse Practitioner</td>
<td>Hospitalist</td>
<td>$106,146</td>
</tr>
<tr>
<td>Nurse Practitioner</td>
<td>Internal Medicine</td>
<td>$94,041</td>
</tr>
<tr>
<td>Nurse Practitioner</td>
<td>Neonatal/Perinatal</td>
<td>$119,051</td>
</tr>
<tr>
<td>Nurse Practitioner</td>
<td>Neurology</td>
<td>$96,375</td>
</tr>
<tr>
<td>Nurse Practitioner</td>
<td>Neurosurgery</td>
<td>$111,174</td>
</tr>
<tr>
<td>Nurse Practitioner</td>
<td>Pediatric/Child Health</td>
<td>$98,092</td>
</tr>
<tr>
<td>Nurse Practitioner</td>
<td>Psychiatry</td>
<td>$110,827</td>
</tr>
<tr>
<td>Nurse Practitioner</td>
<td>OB/GYN/Women's Health</td>
<td>$98,258</td>
</tr>
<tr>
<td>Nurse Practitioner</td>
<td>Pulmonary Medicine</td>
<td>$93,748</td>
</tr>
<tr>
<td>Nurse Practitioner</td>
<td>Urgent Care</td>
<td>$109,930</td>
</tr>
<tr>
<td>Nurse Practitioner</td>
<td>Surgical</td>
<td>$102,595</td>
</tr>
<tr>
<td>Nurse Practitioner</td>
<td>Primary Care</td>
<td>$98,464</td>
</tr>
<tr>
<td>Nurse Practitioner</td>
<td>Non-Surgical/NonPrimary Care</td>
<td>$100,220</td>
</tr>
<tr>
<td>Physician Assistant - Surgical</td>
<td></td>
<td>$116,521</td>
</tr>
<tr>
<td>Physician Assistant</td>
<td>Orthopedic (Surgical)</td>
<td>$111,605</td>
</tr>
<tr>
<td>Physician Assistant</td>
<td>General Surgery</td>
<td>$113,150</td>
</tr>
<tr>
<td>Physician Assistant</td>
<td>Cardiothoracic Surgery</td>
<td>$122,536</td>
</tr>
<tr>
<td>Physician Assistant</td>
<td>Neurosurgery</td>
<td>$125,221</td>
</tr>
<tr>
<td>Physician Assistant - Primary Care</td>
<td></td>
<td>$105,300</td>
</tr>
<tr>
<td>Physician Assistant</td>
<td>Family Medicine (w/ OB)</td>
<td>$100,731</td>
</tr>
<tr>
<td>Physician Assistant</td>
<td>Specialty</td>
<td>Salary</td>
</tr>
<tr>
<td>---------------------</td>
<td>------------------------------------------------</td>
<td>----------</td>
</tr>
<tr>
<td></td>
<td>Hospitalist (Primary Care)</td>
<td>$108,233</td>
</tr>
<tr>
<td>Physician Assistant</td>
<td>Internal Medicine</td>
<td>$102,720</td>
</tr>
<tr>
<td>Physician Assistant</td>
<td>Pediatric</td>
<td>$93,905</td>
</tr>
<tr>
<td>Physician Assistant</td>
<td>Urgent Care (Primary Care)</td>
<td>$103,502</td>
</tr>
<tr>
<td>Physician Assistant</td>
<td>OB/GYN/Women’s Health</td>
<td>$99,797</td>
</tr>
<tr>
<td>Physician Assistant</td>
<td>Cardiology</td>
<td>$112,999</td>
</tr>
<tr>
<td>Physician Assistant</td>
<td>Dermatology</td>
<td>$131,458</td>
</tr>
<tr>
<td>Physician Assistant</td>
<td>Emergency Medicine</td>
<td>$109,000</td>
</tr>
<tr>
<td>Physician Assistant</td>
<td>Gastroenterology</td>
<td>$102,148</td>
</tr>
<tr>
<td>Physician Assistant</td>
<td>Hospitalist (Nonsurgical/Nonprimary Care)</td>
<td>$101,168</td>
</tr>
<tr>
<td>Physician Assistant</td>
<td>Neurology</td>
<td>$103,920</td>
</tr>
<tr>
<td>Physician Assistant</td>
<td>Orthopedic (Nonsurgical/Nonprimary Care)</td>
<td>$118,606</td>
</tr>
<tr>
<td>Physician Assistant</td>
<td>Pulmonary Medicine</td>
<td>$96,242</td>
</tr>
<tr>
<td>Physician Assistant</td>
<td>Urgent Care (Nonsurgical/Nonprimary Care)</td>
<td>$109,023</td>
</tr>
</tbody>
</table>
Attachment B

Example of Nurse Practitioner Scope of Practice

1. As a member of the patient care team, the nurse practitioner will provide an appropriate level of care for patients in accordance with:
   a. Educational preparation and specialty-specific national certification
   b. Applicable state and federal regulations related to advanced practice nursing
   c. The rights and privileges granted through licensure by the Joint Nursing and Medical Boards of Virginia
   d. Institution-specific medical staff bylaws and regulation (Optional)

2. As a member of a patient care team, the NP will provide nurse practitioner services in the following hospital department or office, clinic, facility, retail clinic, home care or other practice setting listed below: _____________________

3. As a member of a patient care team, the nurse practitioner will maintain a current collaborative and consultative practice agreement with at least one patient care team physician. Within this practice agreement care will be provided to [patient population, such as "adult patients" or "pediatric patients"]. Care will typically include but not be limited to: [change a. - k. below to suit your clinical situation and competencies]:
   a. Evaluation and management of patients with acute/chronic conditions
   b. Emergency care [if practicing in an Emergency Department]
   c. Histories and physicals, episodic visits, treatment plan
   d. Prescribing of medications, ordering of diagnostic tests and medical devices
   e. Ordering of treatments, including but not limited to physical therapy
   f. Episodic and daily care of interventional patients pre & post-procedure
   g. Counseling and coordination of care
   h. Admitting of patients
   i. Discharge of patients
   j. Writing "Do Not Resuscitate" orders
   k. Procedures

4. The nurse practitioner may sign any orders, certifications, stamps, verifications, affidavits or endorsements as are in accordance with the license of the nurse practitioner, within the scope of practice of the patient care team physician, permitted by applicable sections of the Code of Virginia and not in conflict with federal law or regulation.

5. Collaboration and consultation may be accomplished through the use of telemedicine.

6. A joint review of patient records will occur periodically in a frequency or manner mutually determined by the patient care team and will include records reflecting evaluation by the nurse practitioner. The review may occur electronically. Joint review may involve periodic visits to the practice site where health care is delivered but site visits are not required by law. The patient care team may determine the frequency and nature of any such visits.

7. In accordance with the rights and privileges granted through licensure by the Joint Boards of Nursing and Medicine, the NP may order medical devices, and prescribe and/or dispense medications in Schedules II - VI. [Any exceptions to prescriptive authority desired by the team may be identified.]
8. The nurse practitioner will utilize professional judgment and seek consultation with the collaborating physician or referral to an appropriate consultant should a patient’s condition be determined to fall outside of APRN scope of practice or if the NP determines such consultation is indicated. When a patient is in need of emergency care the nurse practitioner shall follow standard hospital/facility/office protocols for emergency situations, and communicate subsequently with the team care physician as appropriate.

9. The collaborating physician or a physician designee will be available to consult with the nurse practitioner, either in person or via electronic means. The collaborating physician will communicate peer coverage arrangements to the nurse practitioner in advance of his or her absence from the practice.

10. Clinical references may be used as guidelines to prescriptive and nurse practitioner practice. This may include, but not be limited to electronic media, specialty standards of care, evidence-based research.

11. The nurse practitioner shall revise this agreement to reflect any changes to the scope of practice or prescriptive authority described in this agreement.

12. This agreement shall be reviewed at least every two years as part of the credentials reappointment process or as determined by the patient care team members or institutional policy. The members of the patient care team whose signatures appear below have agreed to the terms of this agreement on the date stated.

Nurse practitioner signature ______________________________ Date:  __________

Collaborating physician(s) signature___________________________  Date:__________

Department Chair or CNO signature (if applicable)_______________Date:  _________
Example of an APPs Collaborating Agreement in a Pain Management Practice

Practice Name and Location:

Under the general supervision of the supervising physician, the APP will provide ongoing assessments of the patients’ medical, physical, and psychological status as pertaining to facility/practice name including:

1. Conducts histories, performs physical exams, assists in developing treatment plans and records progress notes.

2. Writes orders for medications, treatments, and tests.

3. APP may see patients in the office when the supervising physician is not in the office as long as the APP is credentialed with the patient’s insurance but the supervising physician should be accessible by phone if needed and as per the APPs licensing board.

4. Orders outpatient procedures such as interventional injections with consultation from the supervising physician if needed.

5. Orders PT evaluations as applicable.

6. Promptly evaluates test results and notifies the patient; discuss results with supervising physician as needed.

7. Every conversation with the patient must be documented in the patients’ charts.

8. Calling in prescriptions to the pharmacy should only be done in an emergent situation and only on rare occasions between patient visits.

9. Any prescription called to the pharmacy must be documented in patients’ chart.

10. Stolen narcotics cannot be replaced. APP may replace with a lower scheduled controlled substance medicine if patient is on a beta blocker; otherwise prescribe clonidine for withdrawals. A police report must be requested for any stolen narcotics.

11. APP can make changes in the patient’s pain medication regimen depending on comfort level of prescribing. Consultation with supervising physician as needed or with change to fentanyl, methadone, or dilaudid (hydromorphone).

12. When prescribing Methadone, it must be documented the use of this medication is for pain and pain only – not for detox or maintenance.

13. In rare cases, Suboxone may be prescribed for pain but never for treatment of addiction. Consultation with supervising physician is needed to prescribe Suboxone.
14. APP can treat depression or anxiety disorders temporarily (i.e. 1 – 2 weeks). Long term depression or anxiety needs to be referred to psychiatrist or managed by PCP. Exception is antidepressants that are commonly used for pain management (i.e. Wellbutrin, Cymbalta, Savella, and Effexor).

15. APP may perform trigger point injections and intraarticular knee injections.

16. Orders drug screens on any patient that has not had one in the past year and as needed.

17. Recognizes patients with “red flags”- i.e. pill count short, not bringing bottles, multiple providers and/or multiple pharmacies on PMP, allergies to most non-narcotic meds, constantly “loses” meds, routinely ask for increase dosage on meds, etc.

18. Provides patient education and counseling covering such things as health status, test results and disease processes. Also participates in practice development, such as study group meetings.

19. Orders scheduled II-V medications as per Virginia Board of Medicine state regulations.

20. Sees established patients for follow up in the office.

21. Treatment of any new diagnosis on established patients must be referred to supervising physician.

22. Completes charts within 24 hours of the patient’s office appointment.

23. Assists supervising physician with completing patients’ paperwork – i.e. return to work, FMLA, DME requests, etc.

24. Review, revise and update patient handouts – i.e. patient questionnaires, opioid agreement.

25. Travels as required for work and/or continuing education.

26. Attends and completes 20 contact hours of continuing education annually; 60% must be in pain management.

27. Maintains current registration/certification requirements with licensing board and complies with the practice’s policies and procedures.

The APP shall recognize and be aware of the limitations upon his/her activities with facility name and practice within the scope of the subspecialty of Pain Management. Treating other conditions or writing prescriptions for other medical conditions outside of pain management should be done on rare occasions.

The APP shall inform each patient that he/she is an APP and not a physician.

The APP will promptly consult the supervising physician with problems beyond his/her competencies or established guidelines.
The APP will participate in QA and will serve on committees as applicable. The APP must also aide in the development and implementation of Quality Management initiatives.

The APP will participate in North Carolina and Virginia PMP.

The APP must exemplify effective written and verbal communication skills and computer software proficiency.

The APP is required to demonstrate the ability to work collaboratively with diverse people/groups.

Evaluation of the APP performance will be by the supervising physician and office manager with documented input from the staff, other physicians, and patients. Review will include, but is not limited to: patient rapport, ability to function according to protocols, knowledge of medical practice, chart review and recognition of personal limitations.

Review and revision of this agreement may be performed as needed but will be reviewed on a yearly basis. This includes but is not limited to changes in practice setting(s) and/or acuity and prescriptive authority.

_____________________________   ___________________
Advanced Practice Provider     Date

_____________________________   ____________________
Supervising Physician      Date

**Office Use Only**

Effective: _________    Revised: ________    Ofc Mgr Initials: ______
Statutory and Regulatory Requirements for Initial Licensure Virginia Department of Health Professions

Physician Assistant § 54.1-2951.1. Requirements for licensure as a physician assistant.
A. The Board shall promulgate regulations establishing requirements for licensure as a physician assistant which shall include, but not be limited to, the following:
   1. Successful completion of a physician assistant program or surgical physician assistant program accredited by the American Medical Association or a committee of the American Medical Association established to approve or accredit allied health education programs;
   2. Passage of the certifying examination administered by the National Commission on Certification of Physician Assistants;
   3. Documentation that the applicant for licensure has not had his license or certification as a physician assistant suspended or revoked and is not the subject of any disciplinary proceedings in another jurisdiction.

Regulation:
18VAC85-50-50. Licensure: entry requirements and application.
The applicant seeking licensure as a physician assistant shall submit:
   1. Documentation of successful completion of an educational program as prescribed in §54.1-2951.1 of the Code of Virginia.
   2. Documentation of passage of the certifying examination administered by the National Commission on Certification of Physician Assistants.

National Commission on Certification of Physician Assistants – requirements for certification:
If you graduate from a physician assistant program accredited by the Accreditation Review Commission on Education for the Physician Assistant (ARC-PA) or its predecessors, you can take the Physician Assistant National Certifying Examination (PANCE) for certification. The multiple-choice exam assesses basic medical and surgical knowledge. After passing PANCE, physician assistants are issued NCCPA certification and can use the PA-C designation until the certification expiration date (approximately two years).

Licensed Nurse Practitioner (includes Nurse Anesthetist and Nurse Midwife)
§ 54.1-2957. Licensure of nurse practitioners.
A. The Board of Medicine and the Board of Nursing shall jointly prescribe the regulations governing the licensure of nurse practitioners. It shall be unlawful for a person to practice as a nurse practitioner in this Commonwealth unless he holds such a joint license.
B. The Board of Medicine and the Board of Nursing shall jointly promulgate regulations specifying collaboration and consultation among physicians and certified nurse midwives that shall include the development of, and periodic review and revision of, a written protocol; guidelines for availability and ongoing communications that define consultation among the collaborating parties and the patient; and periodic joint evaluation of the services delivered.
C. The Boards may issue a license by endorsement to an applicant to practice as a nurse practitioner if the applicant has been licensed as a nurse practitioner under the laws of another state and, in the opinion of the Boards, the applicant meets the qualifications for licensure required of nurse practitioners in this Commonwealth.
Pending the outcome of the next National Specialty Examination, the Boards may jointly grant temporary licensure to nurse practitioners.
Regulation:
A. An applicant for initial licensure as a nurse practitioner shall:
   1. Hold a current, active license as a registered nurse in Virginia or hold a current
      multistate licensure privilege as a registered nurse;
   2. Submit evidence of a graduate degree in nursing or in the appropriate nurse
      practitioner specialty from an educational program designed to prepare nurse practitioners that is
      an approved program as defined in 18VAC90-30-10;
   3. Submit evidence of professional certification that is consistent with the specialty area
      of the applicant’s educational preparation issued by an agency accepted by the boards as
      identified in 18VAC90-30-90;

18VAC90-30-90. Certifying agencies.
A. The boards shall accept the professional certification by examination of the following:
   1. American College of Nurse Midwives Certification Council;
   2. American Nurses’ Credentialing Center;
   3. Council on Certification of Nurse Anesthetists;
   4. Pediatric Nursing Certification Board;
   5. National Certification Corporation for the Obstetric, Gynecologic and Neonatal
      Nursing Specialties; and
B. The boards may accept professional certification from other certifying agencies on
   recommendation of the Committee of the Joint Boards of Nursing and Medicine provided the
   agency meets the definition of a national certifying body set forth in 18VAC90-30-10 and that the
   professional certification is awarded on the basis of:
   1. Completion of an approved educational program as defined in 18VAC90-30-10
      ("Approved program" means a nurse practitioner education program that is accredited by the
      Council on Accreditation of Nurse Anesthesia Educational Programs/Schools, American College
      of Nurse Midwives, Commission on Collegiate Nursing Education or the National League for
      Nursing Accrediting Commission or is offered by a school of nursing or jointly offered by a
      school of medicine and a school of nursing which grant a graduate degree in nursing and
      which hold a national accreditation acceptable to the boards) and
   2. Achievement of a passing score on an examination.
Survey for Advanced Practice Providers in Rural Areas

1. What title do you prefer?  (11 Responses)
   a. Nurse Practitioner (8)
   b. Mid-level Provider (0)
   c. Physician Extender (0)
   d. Nurse Midwife (1)
   e. Nurse Anesthetist (1)
   f. Advanced Nurse Practitioner (1)
   g. Clinical Nurse Specialist (0)
   h. Physician Assistant (0)
   i. Other (please specify):_______________________ (0)

2. What is the highest level of education that you have completed?  (11 Responses)
   a. Bachelor’s degree or equivalent (0)
   b. Master’s degree or equivalent (10)
   c. PhD, JD, EdD or equivalent (1)
   d. MD, DO or DDS (0)
   e. MD, DO or DDS with advanced degree (0)

3. How long have you been practicing as an APP?  (11 Responses)
   a. Less than 1 year (0)
   b. 1 – 5 years (4)
   c. 6 – 10 years (0)
   d. 11 – 15 years (4)
   e. 16 – 20 years (1)
   f. More than 20 years (2)

4. If you practice in a surgical setting, what specialty?  (10 Responses)
   a. General Surgery (0)
   b. Orthopedic Surgery (1)
   c. Urology (0)
   d. Otorhinolaryngology (ENT) (0)
   e. N/A (7)
   f. Other (please specify):_______________________ (2)

5. If you practice in a medical setting, what specialty?  (11 Responses)
   a. Family Medicine (4)
   b. Pediatric (0)
   c. Internal Medicine (1)
   d. Pain Management (1)
   e. Cardiology (0)
   f. Pulmonology (0)
   g. Women’s Health Services (1)
   h. N/A (3)
   i. Other (please specify):_______________________ (1)

6. I am adequately compensated.  (11 Responses)
a. Strongly Agree  (2)
b. Somewhat Agree  (7)
c. Neither Agree or Disagree  (1)
d. Somewhat Disagree  (1)
e. Strongly Disagree  (0)

7. My scope of practice is sufficient.  (11 Responses)
   a. Strongly Agree  (6)
b. Somewhat Agree  (5)
c. Neither Agree or Disagree  (0)
d. Somewhat Disagree  (0)
e. Strongly Disagree  (0)

8. I have adequate support from Administration.  (11 Responses)
   a. Strongly Agree  (7)
b. Somewhat Agree  (2)
c. Neither Agree or Disagree  (1)
d. Somewhat Disagree  (1)
e. Strongly Disagree  (0)
f. N/A  (0)

9. I have a good working relationship with my collaborating physician.  (11 Responses)
   a. Strongly Agree  (8)
b. Somewhat Agree  (3)
c. Neither Agree or Disagree  (0)
d. Somewhat Disagree  (0)
e. Strongly Disagree  (0)

10. Why did you choose this profession?  (10 Responses)
    
    Direct Patient Care – Critical Thinking.
    I want to improve myself.
    To provide compassionate, caring, knowledgeable care to patients in the community setting, by improving education, and providing evidence based treatment plans.
    Strong desire to empower women to make informed choices. Strong desire to give women the opportunity to birth with only necessary interventions. Belief that women are absolutely incredible human beings who need someone to help them understand how important they are. I wanted to be that “someone”.
    I love caring for my patients.
    I love working with clients and providing education to chronic and acute health conditions.
    I loved nursing, I love helping others. There were so many more things I wanted to do to impact patient care and outcomes.
11. Why did you choose to work in a rural area?  (10 Responses)

- I do not work in rural area.
- I love this community.
- Love the country. Would not enjoy being in the city.
- I have lived here since 1958 except for 20 years when my husband and I were in GA and NC.
- Close to home.
- This is home to me and I wanted to serve the citizens of my community.
- I grew up in this area and I wanted to give back to the community.
- I grew up in this area and like being able to help this type of population.
- I am from South Hill originally and prefer to work in a relatively small area/locale where you can get to know patients and their families on a more personal level.
- Wanted to live at the lake.

12. Do you feel your roles and duties have changed over the years? If so, how?  (10 Responses)

- No.
- Yes, I feel like we are getting more complex patients.
- Developing as an independent practitioner, gaining more knowledge to better serve the clients in my setting.
- For sure. I transitioned from the traditional RN role in 94-96 (after 20 years) to the provider role. I began with limited GYN experience as a CNM and now perform colposcopies and biopsies in addition to routine care for women.
- No.
<table>
<thead>
<tr>
<th>More appreciated as an NP; better understanding of the role of an NP now.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes, my role has evolved from day one. We started new hospitalist group and I was first person hired. I have filled and worn many hats. Here lately I’ve had time to focus more on direct patient care which is what I love.</td>
</tr>
<tr>
<td>Absolutely. Advancing from a hospital staff nurse now to a nurse practitioner, I have more autonomy but also more responsibility. I am responsible for subordinate staffing and also for my care provided to my patients. I appreciate the autonomy to practice as a provider and make decisions independently but my collaborating physician is available if needed.</td>
</tr>
<tr>
<td>Yes. As the advanced practice nurse role has grown as well as my knowledge and skills, I have been able to practice more autonomously.</td>
</tr>
<tr>
<td>More independence encouraged by my supervising physician and administration.</td>
</tr>
</tbody>
</table>
Survey for Collaborating Physician of Advanced Practice Providers in Rural Areas

1. I had adequate input on the Advanced Practice Provider (APP) that was hired. (19 Responses)
   a. Strongly Agree (9)
   b. Somewhat Agree (4)
   c. Neither Agree or Disagree (5)
   d. Somewhat Disagree (1)
   e. Strongly Disagree (0)

2. What type of APP do you work with? (Select all that apply) (19 Responses)
   a. Nurse Practitioner (12)
   b. Nurse Midwife (2)
   c. Nurse Anesthetist (1)
   d. Physician Assistant (3)
   e. Clinical Nurse Specialist (0)
   f. Registered Nurse First Assistant (0)
   g. Other (please specify): ____________________ (1)

3. If you practice in a surgical setting, what specialty? (18 Responses)
   a. General Surgery (1)
   b. Orthopedic Surgery (1)
   c. Urology (0)
   d. Otorhinolaryngology (ENT) (1)
   e. N/A (11)
   f. Other (please specify): ____________________ (4)

4. If you practice in a medical setting, what specialty? (17 Responses)
   a. Family Care (5)
   b. Pediatric (0)
   c. Internal Medicine (3)
   d. Pain Management (0)
   e. Cardiology (0)
   f. Pulmonology (0)
   g. Women’s Health Services (0)
   h. OB/GYN (2)
   i. N/A (2)
   j. Other (please specify): ____________________ (5)

5. I feel the APP’s scope of practice is sufficient. (19 Responses)
   a. Strongly Agree (9)
   b. Somewhat Agree (7)
   c. Neither Agree or Disagree (1)
   d. Somewhat Disagree (2)
   e. Strongly Disagree (0)

6. The APP works within their scope of practice. (18 Responses)
   a. Strongly Agree (12)
   b. Somewhat Agree (4)
c. Neither Agree or Disagree  (1)
d. Somewhat Disagree  (1)
e. Strongly Disagree  (0)

7. Having an APP increases productivity in the practice.  (18 Responses)
a. Strongly Agree  (12)
b. Somewhat Agree  (6)
c. Neither Agree or Disagree  (0)
d. Somewhat Disagree  (0)
e. Strongly Disagree  (0)

8. I have a good working relationship with my APP.  (19 Responses)
a. Strongly Agree  (16)
b. Somewhat Agree  (1)
c. Neither Agree or Disagree  (2)
d. Somewhat Disagree  (0)
e. Strongly Disagree  (0)

9. Would you want to practice without an APP?  (19 Responses)
a. Yes  (1)
b. No  (17)
c. Not sure  (1)

10. Why did you choose to work in a rural area?  (9 Responses)

<table>
<thead>
<tr>
<th>Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>I have always worked in a rural setting and enjoy it.</td>
</tr>
<tr>
<td>Expand public health interest and clinical opportunities.</td>
</tr>
<tr>
<td>To deliver patient care to those in high needs area.</td>
</tr>
<tr>
<td>Close to my home where I am raising my family.</td>
</tr>
<tr>
<td>I am not sure how rural we are considered. We work in Dalton, GA. Don’t want to skew your survey so I will let you decide if this helps. We do have a difficult time recruiting physicians due to the size of our community. My specialty is Nephrology.</td>
</tr>
<tr>
<td>Help the underserved population.</td>
</tr>
<tr>
<td>Life preference.</td>
</tr>
<tr>
<td>Enjoy the challenges of the population.</td>
</tr>
<tr>
<td>Used to being in a rural area – have been in a rural practice before.</td>
</tr>
</tbody>
</table>