

THE EMERGING ROLE OF THE PHYSICIAN ASSISTANT IN THE MEDICAL FIELD

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Abstract.

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The physician assistant (PA) profession was developed during the early 1960s as a response to growing demands in the medical field and the patient's desire for more accessible physicians and care. The developer of the physician assistant profession provided a solid start, helping it to grow into a position that is currently spreading across the globe. In the United States, PAs are now practicing in every state and recent health care reform through the Affordable Care Act has increased the demand for PAs and thus provided an environment for the number of PAs to continually grow. Presently and in the future, PAs will continue to extend the reach of physicians as the ever increasing medical needs of patients becomes more difficult to adequately satisfy. The role of the PA has already undergone significant expansion and as the medical field advances, the role and demand for physician assistant will continue to increase and adapt.

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Introduction:

In the past several decades, the healthcare field has continued to expand in patient load, personnel, along with the expansion of new techniques and technologies.¹ Throughout history, and to date, it has often been difficult for physicians and other medical staff to meet the ever increasing patient demand.¹ As a response to the inability for physicians to adequately care for the increasing numbers of patients, the Physician Assistant, or PA, emerged.² Since its conception the PA profession has evolved and developed in many different ways. A few of these developments are: 1) a significant improvement in the perception that public and other healthcare professionals hold toward the PA profession, 2) an increased number of individuals seeking the profession, and 3) a change in the scope of practice and specialization.³ The concept of an advanced care professional, which includes the Physician Assistant, as well as the Nurse Practitioner, has spread across the United States and even to other countries across the world.⁴ A more recent aspect that has and will continue to greatly impact the PA profession, as well as the entire health care field, is health care reform.⁵ With the recent implementation of the Affordable Care Act (ACA) commonly referred to as “ObamaCare,” physicians expect to see a significant increase in the number of patients they will see and thus, consequently, the need for physician assistants will also continue to rise.⁶ In the immediate and distant future, it is expected that physician assistants will continue to play an important role in helping physicians to best serve the patients’ needs.⁶ Indeed, the role of the physician assistant has undergone much growth since its early years, a trend that is likely to continue as the medical field continues to expand and advance.

General History:

The concept of the advanced care professional was first introduced by a physician named Charles Hudson in 1961.¹ Hudson published an article in the *Journal of the American Medical Association* exploring the need for a “non-professional personnel” in the growing medical field.² It was not until later that this proposed professional was deemed what we now know as the physician assistant. Hudson predicted that due to the increasing population of the United States there would be more hospital visits by patients and, therefore, the medical personnel, specifically physicians, would be forced to spend more time in the hospital setting and increasingly less time with individuals receiving home or office visits.² At the time there were different ways of coping with the growing number of patients. However, these methods were overall unsuccessful, which eventually led Hudson to write the article cited earlier. Prior to the 1960s, some of the ways the medical community was responding to growing patient numbers included increasing the number of medical student interns and residents working in hospitals, rotating hospital staff through different parts of the hospital, hiring medical residents or physicians to live in the hospital so that they could oversee the emergency department and attend to after-hours hospital duties, building physician offices in the hospital, and placing more responsibilities on the nursing staff.²

Aware of the challenges these methods created, Hudson sought an ulterior solution. He suggested and outlined two new groups of professionals, one of which he described as a “non-medical” personnel, and the other a “non-nursing” personnel.² According to his model, these individuals would provide routine medical care to patients, thus lessening the workload of the physicians. The physician overseeing the non-medical personnel were expected to determine the scope of practice for these new staff, as they were essentially an “extension of

the physicians' arms, legs, and mind.”¹ Hudson's concept of these support staff was modeled after the corpsmen in the military. The corpsmen received less education than physicians and were responsible for the health care of soldiers in combat.² Hudson felt that due to the success of this military model, it was equally possible in a civilian health setting to effectively utilize individuals with less medical training than a physician.² It was not until four years later that Dr. Hudson's vision became a reality.¹

Dr. Eugene A. Stead, Jr. of Duke University in North Carolina was equally aware of the increasing shortage of physicians in the country, especially in rural areas, and when he became the Chairperson of the Department of Medicine at the university he developed a vision for improving health care in North Carolina.¹ In 1965 Dr. Stead launched the first formal training program for the “non-medical” personnel, which he named the Physician assistant (PA).¹ In 1957, prior to joining the Department of Medicine and launching the new program, Dr. Stead worked with Thelma Ingles, the supervisor of Medical and Surgical Nursing at the Duke University Nursing School. Dr. Stead convinced Ingles to take a sabbatical year in order to study the various procedures at the medical school, which was a novel idea to a nurse.¹ Ingles returned from her sabbatical year and created a Master of Science in Nursing Program that was shaped after her experience in the medical school. Unfortunately, National League for Nursing never accredited the program and so it failed. Stead took advantage of the MS nursing program's failure to build up excitement for the physician assistant program that he would later develop in 1965.¹

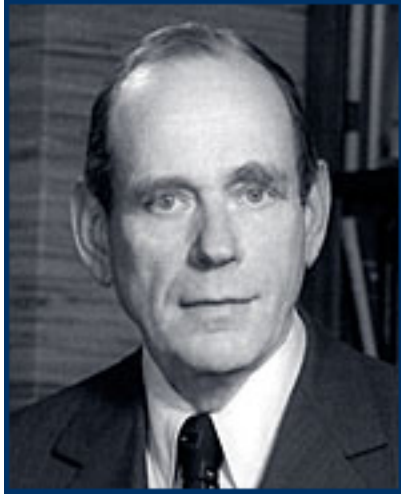


Figure 1. Picture of Dr. Eugene A. Stead. Dr. Stead was the founder of the Physician Assistant Profession and organized the first training program at Duke University in North Carolina in 1965.⁷

Dr. Stead designed the PA education program by examining different relationships and models within the medical community.¹ For instance; one of these examples was Dr. Amos Johnson, a well-known North Carolina physician. Dr. Johnson traveled often and in order to continue to reach his patient's needs, he hired an assistant named Buddy Treadwall, who was responsible for basic medical care and patient referrals while Dr. Johnson was away.¹ Another individual that Dr. Stead studied was Dr. Henry McIntosh a cardiologist at Duke University. In the early 1960s Dr. McIntosh was experiencing difficulties employing individuals in the cardiac catheterization laboratory. In an effort to find a solution to his problem, he reached out to the local fire department. In exchange for their time spent in the laboratory, Dr. McIntosh offered to train the firemen in emergency medical procedures so that they could better serve the community. Using these and other instances, Dr. Stead designed the program and carefully selected the individuals he was initially going to recruit for the program.¹

Dr. Stead's program was operated by the Department of Medicine at Duke University and was managed independent of the Duke Nursing School and the Hospital Administration.¹ He designed the program so that the training would take two years, the first nine months were dedicated to theoretical knowledge and the remainder of the time was spent in the clinical setting. The students learned diagnostic and therapeutic techniques and how to operate related equipment to aid in patient care. Similar to medical interns, PA students worked in different hospital settings, called rotations, and at the end of the program they selected an area of personal interest to practice.¹ Initially, the program was only promoted to men, specifically military corpsmen, who at the time were returning from Vietnam and likely seeking civilian employment. Knowing that these men had received several hours of special education and on the job training, Stead reasoned that they were prime candidates for the physician assistant program.¹ Stead foresaw that the first physician assistants to enter the workforce, upon graduation, were going to face opposition, he needed people that were capable of overcoming adversity, such as the corpsmen, in order for the program to be successful. Throughout the design and launching of the program, it was Dr. Stead's intention to ensure that physician assistants become an extension of the physician, unable to succeed without the guidance of a physician. To accomplish this goal, Dr. Stead outlined two choices for the PA, "The PA can have independence at a low level of performance, or he can accept dependence and achieve a high level of performance." From the start, the physician assistant profession was designed to extend the role of the physician, not hinder or demean the medical profession.¹

Physician Assistant Early Years:

After the program was developed, Dr. Stead experienced fierce opposition, mainly from the American Nurses' Association (ANA).¹ Five years after the program was created, the ANA complained that the new profession was created by the American Medical Association (AMA) to undermine the ANA's efforts to separate the nurse from the physician. Coincidentally, during the same period, nurses were working to generate a new identity for themselves because they no longer wanted to be known to the patient as the "physician's handmaiden."¹ Another aspect of the new profession that caused tension with the ANA and nursing community was the fact that most PAs were male and earned the same salaries, or even more than formally educated nurses. Although the controversy between the two large health care associations muddied the water for the young, emerging physician assistant profession, the claims of the ANA were inaccurate. Ten years before the creation of the new profession, the AMA had discussed possibility of training health care professionals, such as nurses, to perform advanced clinical care.¹ It was because of these earlier discussions within the AMA that Dr. Stead felt the need to develop the physician assistant profession.¹

Shortly after the Duke University program enrolled its first students it began to attract a lot of attention and publicity that lead to an applicant pool of two hundred by the second year of the program.¹ However, *Look* magazine published an article in 1965, against the wishes of Duke University, entitled "More than a Nurse, Less than a Doctor".¹ This article posed the danger of reigniting the pre-existing but at this point dormant tension between the nursing community and the new physician assistant profession. In order to counter the negative publicity, Dr. Stead worked hard in order to obtain the Medical field's endorsement for the new profession. This was a difficult task because at the time physicians

had mixed feelings toward the profession. For instance, some wondered how an individual with only a fraction of their educational experience could be capable of aiding a physician, while others also wondered how the dynamics of the intimate physician-patient relationship would change with the addition of the PA to the field. A final concern that physicians had was whether or not the benefits of employing a PA would outweigh the additional insurance coverage cost. Dr. Stead used the then existing nursing shortage to help demonstrate the consequences of the predicted future shortages of physicians, which ultimately helped to overcome the doubts physicians had. He warned physicians that if they did not support the PA profession it would lead to unknown hazardous outcomes in the future.¹ As time progressed and physicians gained experience working with PAs, they eventually responded well and embraced the new profession. According to Dr. Stead's original vision, physicians shaped the physician assistants into their roles, which led to the increased acceptance of the profession.¹

As a result of the publicity surrounding the Duke University PA Program, several other similar programs were uncovered across the United States.¹ For instance, Fort Bragg had started a program for corpsman that prepared them to perform medical duties without direct medical supervision on military bases. Another program at the University of Washington in Seattle was also training corpsmen. However, in this particular program they were trained to serve communities in need of more complete medical care. The University of Colorado was training nurse practitioners and clinical nurse specialists for pediatric care. Although Dr. Stead approved of these programs, he felt that the PA profession offered more to an individual and patient than these other programs.¹

Due to the early disagreements between the American Medical Association (AMA) and the American Nursing Association (ANA), there has been continual tension, which consequently hindered the ability for these two groups to work together efficiently.¹ In the subsequent years the AMA made several attempts to invite nurses to train as physician assistants, however, the ANA and other nursing organizations rejected these invitations, wondering whether there were any benefits for nurses to lose their identity in order to become physician assistants. Such a change, they argued, would lead them to give up their freedom to work without the direct supervision of physicians.¹ At this point the ANA supported the physician assistant profession, however, they did not support the recruitment of nurses for the new profession. Ultimately, the resistance of the ANA to accept the new profession cost the association and its member's money, and led to the accumulation of a large debt between 1970 to 1972. Despite the tension and public disagreement between the ANA and the AMA, the physician assistant program continued to grow in size and strength and by 1972, there were approximately 20 different programs spread across the United States.¹

One of the key issues that Dr. Stead faced during the early years of the profession was securing program accreditation from the AMA.¹ Four years after the program was started the AMA still considered the profession to be “experimental.”¹ However, due to Dr. Stead's persistence and dedication the AMA finally took a stance in favor of the physician assistant, thus setting ground for an optimistic future for the PA profession.¹ The program at Duke University was first accredited in September of 1972.⁸ The governing body that was created for the accreditation of the PA programs is now known as the Accreditation Review Commission on Education for the Physician Assistant, Inc. or ARC-PA, an extension of the

AMA that took control of accrediting PA education programs on January 1, 2001.^{8,9} Prior to 2001, the governing body for accreditation changed hands quite frequently. Originally, accreditation was regulated by the American Medical Association's Council on Medical Education. In 1976, the American Medical Association's Committee on Allied Health Education and Accreditation (CAHEA) became the governing body, followed in 1994 by the Commission on Accreditation of Allied Health Education Programs (CAAHEP).⁹ Today, there are a total of 199 accredited programs throughout the United States, a number that has continued to grow.⁸

As previously stated, the early tensions between the medical and nursing communities hindered the acceptance of physician assistants across the United States.¹⁰ However, once the tension subsided and the profession grew, PA programs spread rapidly across the U.S., more individuals became interested in pursuing the new profession, and the role of the PA expanded. Notably, there were two major periods of rapid growth in the number of PA programs across the U.S. The first was between 1970 and 1974 and was triggered by increased federal support of the program and the profession.¹⁰ During the second phase of growth, which occurred between 1994 and 2000 led to a near doubling of the number of programs across the U.S. (see Figure 2). Another notable phase of growth was more qualitative than quantitative. In 1986, the majority of PA programs only offered a baccalaureate degree and only 28% of programs offering an associate's degree or certificate. There were few programs at this time that resulted in a master's degree, as is the case today. In contrast, by 2000, only 14.3% still offered an associate's degree or certification and 42.9% offered a Master's degree.¹⁰

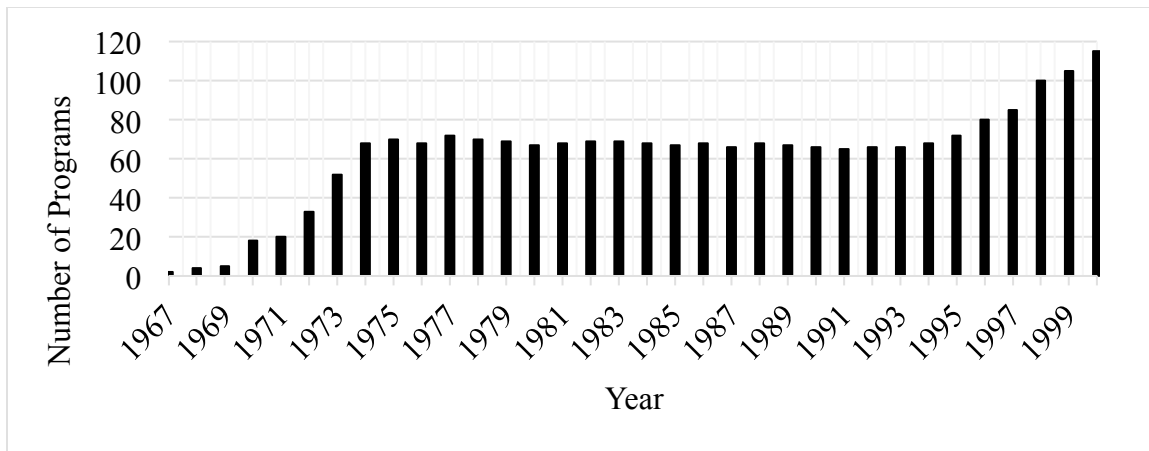


Fig. 2. Growth trends of the PA Program in the United States between 1976 and 1999. The number of PA programs experienced significant growth during two notable periods, from 1970-74 and from 1994-2000.¹⁰

Another notable qualitative change was the increase in specialty options. The early physician assistants only provided primary care specialties for patients. However, following the growth of the 1990s, most PAs gained the responsibility of prescribing medications and new opportunities for specialties emerged.¹⁰ By 2000 surgical and medical subspecialty positions became available to PAs and the profession had spread to every state.¹⁰ Also notable is that within a five year period the number of trained PAs more than quintupled in size by 2000. In addition to these achievements in the PA profession by 2000, the number of PAs in urban areas was only slightly higher than in rural areas, thus close to accomplishing one of the original goals of the new profession, namely to supply PAs to rural areas of the country.¹⁰ The increase in specialization opportunities for PAs beyond primary care led to increased job opportunities from the 1980s and to date. It is estimated that in the year 1974, almost 70% (68.8%) of PAs were in primary care. This number changed drastically in the years that followed and by 2000 only 47.8% of PAs were in primary care and the most

commonly sought after areas were in internal medicine subspecialties, emergency medicine and surgical subspecialties.¹⁰

Physician Assistant Present Day:

Today, the role of the physician assistant has continued to expand with time.¹¹ Although the scope of practice of PAs depends on the USA state in which they are employed, their level of experience, and specialty, in general PAs are licensed in all 50 states and are allowed to perform a variety of medical tasks, including documenting medical history, performing physical exams, diagnosing and treating illnesses, ordering and analyzing tests, developing care and treatment plans, advising patients on preventative care, assisting in surgery, writing prescriptions, and performing rounds in the hospital, as well as in the nursing home setting. PAs are commonly involved in inpatient medicine and the largest employer of PAs today is the Veterans Health Administration (VHA).³ The inpatient procedures performed at the VHA and other settings are similar. However, one major difference is that PAs working for the VHA are under federal jurisdiction and therefore can bypass state legislation as far as the scope of practice is concerned, thus allowing them, in certain instances, more flexibility and freedom.³ It is clearly evident that the scope of practice for PAs has drastically expanded over the years beyond inpatient medicine.¹² Today, PAs are commonly employed in the Emergency Department, helping to decrease the patient load on both physicians and surgical residents. PAs have also been approved to work in fields, such as pediatrics, trauma, orthopedics, and thoracic and cardiovascular surgery. The current outlook of the usability of PAs in a growing number of medical fields is a positive one.¹²

In addition to the changing role of the PA, the education training programs for PAs has also adapted.¹¹ The program, originally designed to be two years, is mostly now a 26-

month or a 3 academic year program and each graduate is awarded a Master's degree. In addition to the in-class instruction, there is a minimum of 2,000 hours of clinical rotation required. Rotations include hours spent in family medicine, internal medicine, obstetrics and gynecology, pediatrics, general surgery, emergency medicine, and psychiatry. After graduation from a PA program, the new graduates are then expected to take the Physician Assistant National Certifying Exam or PANCE, an exam administered by the National Commission on Certification of Physician Assistants or NCCPA. In order for the new graduates to receive state licensure the PANCE exam must be passed. The final step of becoming a PA in the United States is maintaining certification, which is achieved by completing 100 hours of continual medical education every two years and completion of the Physician Assistant National Recertifying Exam every 10 years.¹¹

As the education and role of the physician assistant has progressed, the profession has sought more specialized positions in healthcare.¹³ Today the most common specialties for PAs are urgent care, dermatology, emergency medicine, cardiothoracic surgery, neurosurgery, orthopedic surgery, obstetrics and gynecology, neurology, and gastroenterology. Of these, Urgent Care is considered to be the highest paid specialty and obstetrics and gynecology is the lowest.¹³ It is common for PAs to change specialties at least once throughout their career.¹⁴ The training program involved in PA specialization is a residency program, making it easy to change specialties in comparison to the specialization process of physicians. The program on average lasts 12 months and usually has only two students per cycle. There are currently 41 PA residency programs that are members of the Association of Postgraduate Physician Assistant Programs in the United States. However, more programs are presently being developed. Additionally, PAs can be specialized in cardiovascular and thoracic surgery,

emergency medicine, nephrology, orthopedic surgery, and psychiatry through the CAQ system. In this system, PAs must pass an exam specific to their desired specialty in order to practice. In the future, it is predicted that PAs will continue to expand the list of specializations they practice and thus the PA profession and education system will continue to grow.¹⁴

Differences of Scope of Practice between States:

As the acceptance of the physician assistant increased across the United States, the position and training programs spread to all 50 states.¹⁵ National governing bodies continue to oversee PA education and training programs in all states.⁹ The current governing body for PA education training programs took over the accreditation process in 2001 and is the Accreditation Review Commission on Education for the Physician Assistant. The second national governing body involved in PA education is the National Commission on Certification of Physician Assistants. This group oversees the certification of PAs through an exam known as the PANCE.⁹

Today, each individual state is responsible for the regulation of the scope of practice of the physician assistant.⁹ It is the desire of the AAPA, or American Academy of Physician Assistants to have the roles of the PA standardized. However, the states have not yet generated a standardized scope of practice. State laws and regulation determine the various aspects and extent of PA practice, including general supervision, scope of practice, authority to issue prescriptions, discipline, and the creation of regulatory agencies to oversee these issues (see Appendix One). Supervision determines the number of PAs that an allopathic physician (MD) or osteopathic physician (DO) can oversee at any given time. The MDs and DOs are the only two medical professionals who are authorized to assume supervisory

responsibilities over PAs, and they must be licensed to practice in the state that the PA is working. Supervision of a PA differs from the employment of a PA, thus a PA can be the employer of their supervising physician.⁹ The second aspect that is regulated at the state level is the scope of practice of the PA. The scope of practice of a PA determines the extent or scope to which the PA can practice under a supervising physician, while being as reasonable and practical as possible. Many states elect for the supervising physician to determine the scope of practice of their PAs. Individual states decide whether or not to allow PAs to sign for physicians in their absence when that task is delegated by their supervising physician. Prescribing authority is also determined at the state level.⁹ This determines what medications and what quantities physician assistants are allowed to both prescribe and administer to patients. Each individual state has the authority to implement their own regulatory agencies that are responsible for the governing of the state laws and discipline, if ever necessary. Such an arrangement and independence in state regulation of the PA profession creates differences in standards. However, there are also similarities across states in the U.S. Nonetheless, overall, the lack of standardization of the PA profession across states makes it difficult to have national standards for the profession.⁹

There are only thirteen states that do not allow the physician assistants to have full prescriptive authority.¹⁵ Some of these thirteen states do not allow PAs to prescribe schedule II medications, i.e., medications most likely to be abused. These states include Alabama, Florida, West Virginia, and Hawaii and others. No state in the Northeast United States limits PA prescriptive authority. Iowa is the only state that does not allow PAs to prescribe any schedule II depressants and Kentucky is the only state that does not allow PAs to prescribe or administer scheduled drugs.¹⁵

There are thirty-five states that allow the PA and their supervising physician to build a written agreement that determines the scope of practice for the PA.¹⁵ The other fifteen states regulate the scope of practice of the PA at the state level through state medical boards. There are ten states where the law specifically outlines the services that a PA can provide. These states include Florida, Iowa, New Jersey, Ohio, Oklahoma, Pennsylvania, Virginia, Maryland, Washington, and Wisconsin (see fourth column of Appendix 1). This category has an almost 50-50 split between states. Half of the states feel that state law should govern supervision requirements so that a responsible supervisory path is established. The other half allows each individual practice or medical setting to determine the supervisory path.¹⁵

Finally, the number of PAs that a single physician can supervise can greatly impact the overall practice as a whole. The average number of PAs that a physician can supervise at any given time is 3.65.¹⁵ The national median figure is four, with the highest number in Texas at seven PAs per supervising physician. However, there are eleven states that do not specify the maximum number of PAs that a physician can supervise. Nonetheless, there are exceptions to the number of PAs a MD or DO can supervise at any given time. For instance, in New York a physician may supervise up to six PAs at any given time in a correctional facility. In Ohio, the maximum number of PAs allowed per physician can be greater in a hospital setting. In West Virginia a physician is allowed to supervise four PAs in a hospital setting in comparison to three PAs outside of the hospital.¹⁴ It is hoped that one day, in the near future, a common standardized system will be adopted across all state lines.¹⁵

Public Perception:

The public perception of the physician assistant has played a critical role in the development of the profession. At first the profession was met with controversy and resistance from patients and doctors. However, over the course of years the perception of PAs has drastically changed for the better. For instance, in 1972, when the profession was still in its infancy and growing, a study was conducted to assess the public perception of physician assistants in rural Iowa and Minnesota.²⁰ The study addressed the public's acceptance of the new profession and asked what roles the physician assistant should be allowed to occupy. In general, the study found that the public accepted the new profession but was divided over the duties a PA should be allowed to perform.²⁰ Two-thirds of those interviewed stated that they would allow a physician assistant to provide extended care for them and their families when the individual providing the care was adequately trained. In addition to training, the individuals who completed the study also expressed that they would only allow a physician assistant to attend to them if their primary care physician recommended and supported the PA.²⁰ The study also found that 34% of the rural people in Minnesota and Iowa were uncomfortable with a PA performing an initial screening prior to seeing a physician. In contrast, 83.23% of the individuals were in support of physician assistants offering referrals to patients to determine where they should seek treatment.²⁰

A more recent study, performed in 2013, found that people continually preferred to see a physician over the physician assistant or other advanced care professional.²¹ However, if they could be provided care faster by a PA, the patient chose the PA over waiting longer for a physician. This study also found that 82.5% of the people who took the survey knew what a physician assistant was, therefore, showing that the public has a better understanding

of the PA today than they had in previous years.²¹ Another interesting statistic from the study showed that 81.4% of the survey respondents had been seen by a physician assistant prior to taking the survey. However, slightly over half of the people (50.3%) still preferred to be seen by a physician when available. Interestingly, women and younger adults were more likely to have been seen by a physician assistant than older males and whites were less likely to have been seen by a physician assistant compared to other ethnic groups. Overall, the study found that Americans were open to the idea of physician assistants and other advance care professionals having a greater role in healthcare.²¹ As the medical field becomes more reliant on advanced care professionals such as physician assistants, it is important to consider the patients perception on PAs. It is anticipated that as the number of PAs increase, patients will become more exposed and therefore familiar and knowledgeable about the new profession.²¹

Globalization of the Physician Assistant:

The shortage of physicians is a global trend and recently many countries are now turning to the U.S. PA model to resolve and mitigate the shortage.⁴ For this reason, there has been a steady globalization of the PA profession and by 2007 at least seven countries had either already employed or began to train PAs, including Australia, Canada, England, the Netherlands, Scotland, South Africa, and Taiwan (See Figure 3). In all of these countries, except South Africa and Taiwan, the PA functioned similarly to the roles practiced in the United States. In both South Africa and Taiwan, American-trained PAs worked independent of doctors and were involved in developing educational programs to train health care providers. Much like the U.S., the United Kingdom (UK) seeks PAs to help reduce the workload of physicians. Over the years the challenges faced by the UK health care system has resulted in increased wait times for patients, an increased desire for providers to

specialize, and an increased workload on physicians.⁴ Similar to the UK and other countries, the PA profession was introduced in Canada due to physician shortages and the inability to provide adequate healthcare for its citizens. Australia's major challenge has been providing adequate care to citizens in rural areas. As a result, physician assistants have been employed to help serve these communities. The Netherlands is currently experiencing an increasing number of elderly individuals and an increase in healthcare costs. With the introduction of the PA, the Netherlands hopes to improve caregiver-to-patient ratios and reduce health care costs. The truth is that the USA PA model in health care is not a novel idea. Countries such as Russia, the Ukraine, China, Malaysia, Zambia and others have developed PA-like professions to improve health care.⁴

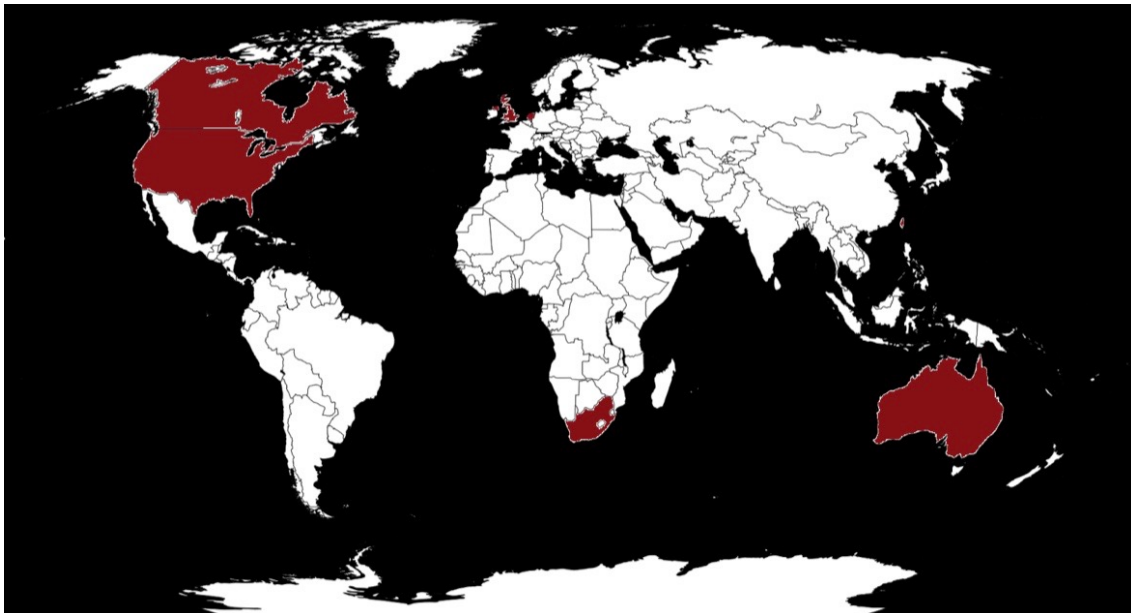


Figure 3. *Depiction of the Countries across the world who currently employ Physician Assistants.* These seven countries are Australia, Canada, England, the Netherlands, Scotland, South Africa, and Taiwan.⁴

For now, the critical mass of PAs are in the U.S.¹⁶ As of 2013, the U.S. employs at least 84,855 PAs compared to Canada and the UK that only employ 250 and 165,

respectively. Canada, like the United States, developed their PA programs from the military. However, they follow a different process in employing PAs. In Canada, a physician seeking to employ a PA must apply for a grant from the government and present evidence on the need of the PA. This process makes the employment of PAs in Canada difficult, thus contributing to the low number of practicing PAs. The UK system was not established until 2003 after a group of twelve experienced PAs performed a pilot project in England. As a result of the success of the program, four training programs were erected. As the United States, Canada, and the United Kingdom continue to support the growth of the PA profession, it is expected that the PA profession will continue to experience globalization and offer an efficient addition to the health care system in many countries.¹⁶

Anticipated Impact of Health Care Reform on PA Profession:

Health care reforms have occurred several times throughout the history of the United States and will continue to do so as new societal challenges arise. The most recent and perhaps most influential health care reform in recent times was signed into law in 2010 and is still in the phase of implementation.⁶ This health care reform is known as the Patient Protection and Affordable Care Act, more commonly as the Affordable Care Act, or “Obamacare,” as cited earlier. The implementation of this reform has been controversial in both politics and health care.

The main objective of the Affordable Care Act (ACA) is to expand coverage of care to the general citizenry by providing health insurance to individuals of a lower socioeconomic class that previously were not able to afford insurance.¹⁷ The bill guarantees affordable health care for all Americans and plans to provide a better environment for health care professionals, such as physicians and advanced care professionals. The bill is intended

to provide patients with more available information about physicians and treatment options. For health care professionals, legislatures anticipate the bill to implement strong incentives that improve quality and reliability of patient care, while capping the increasing cost of health-related procedures. The ACA promotes and incentivizes preventative practice and intervention testing, in order to avoid readmissions and secondary prevention measures. The bill also supports the training of advanced care professionals so that they may one day join the primary care sector of health care. In order to address the decrease in primary care professionals, the ACA has offered a 10% payment bonus to qualifying individuals who are practicing primary care to encourage individuals to seek the primary care sector.¹⁷ The major controversy of the ACA involves the cost of program implementation. Some politicians, health care professionals, and American citizens have voiced disagreement with various aspects of the health care plan.

With the increased availability of health care to uninsured citizens, who are largely of a low socioeconomic background, it is anticipated that there will be an increase in the number of patients seeking care, thus leading to a significant increase in demand for primary care providers.⁶ For instance, it is estimated that 8.5 to 22.4 million people will join a Medicaid program in order to gain access to health care. As a result, approximately 4,500 to 12,100 new health care providers will be needed in the primary care setting to reach the new demands.⁶ As the shortage of physicians continues to grow, reaching its critical point in 2025 when the baby boomer generation reaches an age that will require more medical attention, the services of the PAs will especially become crucial. It is estimated that an additional 40,000 health care professionals will be needed by 2025 to care for these individuals.⁶

Predictive models suggest that with the current growth of the PA profession coupled with the growth of PA training programs across the country, by the year 2025 there will have been a 72% increase in the number of practicing PAs.¹⁹ The recent trend shows the decrease in the number of physician assistants choosing primary care is not expected to be a major issue in meeting the growing need of primary care physicians. It is predicted that there will be a significant increase in the number of physicians or advanced care professional to offset the exodus of PAs from primary care. However, it is important to note that with the anticipated 72% increase in the number of practicing physician assistants, it will only provide 16% of the total providers required to adequately care for the baby boomer generation.¹⁹ Consequently, the role of the physician assistant will continue to evolve as it is shaped by various forces, one of which being Health care reform.¹⁹

Concluding Remarks:

The physician assistant profession has significantly evolved since its inception in 1965 at Duke University and has spread into different aspects of health care. It appears that the greatest beneficiaries have been the patients, who have overall been welcoming and appreciative of the incorporation of the PA in the medical field. The PA profession also has had a significant impact on the other health care professionals, including nurses, physicians, and advanced care professionals and is now a force to reckon with even in health care politics, to the extent that the PA profession was recognized as an important player in the recent health care reforms. This recent development will likely catapult the PA program into the biggest growth it has ever experienced before. However, challenges still remain. There are still patients that are reluctant to receive care from a physician assistant. It is expected that this mentality will change with time as integration of the PA in health care accelerates and as

the patient demand increases across the globe. PAs will likely be in the frontlines while continuing to provide their historical role of extending the physicians reach to patients.

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Table One. Differing Physician Assistant Laws by State.

United States	Full Prescriptive Authority:	Scope of Practice determined on site:	Adaptable Supervision Requirements:	Maximum Number of PAs a Physician can Supervise at One time:
AL, FL	No	No	No	4
AK, MT, NM, NC, TN	Yes	Yes	No	N/A
AZ, CA, DE, MI, NH, NY, OR, SD, UT, DC,	Yes	Yes	Yes	4
AR	No	Yes	No	N/A
CO	Yes	Yes	No	4
CT	Yes	Yes	Yes	6
GA	No	No	Yes	4
HI	No	Yes	Yes	2
ID, NV	Yes	Yes	No	3
IL, MN	Yes	Yes	Yes	5
IN	Yes	Yes	Yes	2
IA	No	No	No	5
KS, NE	Yes	Yes	No	2
KY, OK	No	No	No	2
LA	No	Yes	No	2
ME	No	Yes	Yes	N/A
MD	Yes	No	Yes	4
MS, PA	Yes	No	No	2
MO	No	Yes	No	3

NJ, OH, SC	Yes	No	No	4
ND, RI, VT, MA	Yes	Yes	Yes	N/A
TX	Yes	Yes	Yes	7
VA	Yes	No	No	6
WA	Yes	No	Yes	5
WV	No	No	No	3
WI	Yes	No	Yes	2
WY	Yes	Yes	Yes	3

Appendix One.

Name of person completing questions: Elizabeth Wynja PA, Fast Med Urgent Care, Boone, NC

Date: 2/26/16

Questions:

1. Throughout the years have you changed your perception on Physician Assistants?
Honestly, not really. I've always viewed us as physician extenders – to allow for the role of physicians to be expanded in an economical way, rounding out a physician's services. This may be manifest as a physician assistant working on-site with his/her supervising physician, working a tightly-defined limited role, or serving more of an independent comprehensive-care role with his/her supervising physician available by phone for consult. I guess I did not realize the scope of practices a physician assistant could take on – we can serve in just about any role a physician can. Our supervising physician tells us how far we can go!
2. Throughout the years have you noticed a change in the Patient's perception of Physician Assistants? Maybe because I am a physician assistant, people have spoken very highly of physician assistants in my presence. Patients seem very comfortable seeing a mid-level provider for their medical needs and oftentimes prefer mid-level provider care because we generally have more time to spend with our patients. There have been a few that feel we provide inferior sub-optimal level care, but these are rare, and they generally change their opinions after they have received care by a physician assistant.
3. Throughout the years have you noticed a change in your Coworkers' perception of the Physician Assistant? If anything, I feel like my coworkers have become more comfortable with seeing Physician assistants for medical care, after they have witnessed the care we provide.
4. Do you think that the creation of the PA position has made a positive impact on the medical field? In what ways? PAs are able to provide cost-effective care, they are able to work in all fields of medicine, they are able to relieve care burden/share care burden with physicians, they are able to fill voids when there are physician shortages, and they oftentimes are able to serve an educator's role and thus enhance patient experience and therefore potentially patient well-being due to having more time to spend with patients.
5. Do you think that the creation of the PA position has made a negative impact on the medical field? In what ways? PAs do not in any way impinge upon medicine, in how it is provided today. They provide quality care without any threat to those in medicine with higher degrees.
6. How do you expect the role of the PA in the medical field to change in the future? I would expect even more physicians to expand their practices to include more PA services, and for PAs to take on even more comprehensive and specialized roles in the future.

7. How has recent health care reform changed the outlook of the PA profession, if any? Do you expect it to change the role of the PA in the future? With ever-increasing emphasis on more economical health care, I expect to see more and more PAs providing services that physicians would otherwise provide in all specialties.

Appendix Two.

Name of person completing questions: Kathy Benge RN, Fresenius Medical Care at Novant Health Rowan Medical Center, Salisbury, NC

Date: 2/23/2016

Questions:

1. Throughout the years have you changed your perception on Physician Assistants?

When I first started going to the doctor many years ago, I don't even remember hearing the term "physician assistant". I have only in recent years begun hearing the term and actually interacting with them both personally and professionally. At first, I did not see them as professionals but just as doctor's assistants and assumed that everything they said and did came straight from the doctor they were assisting. It wasn't until I took the time to listen and work with them did I start to view them as professionals who were capable of treating myself and the patients I took care of.

2. Throughout the years have you noticed a change in the Patient's perception of Physician Assistants?

What I have witnessed through my patients is that they have become much more accepting of the PA's role as they have come to get to know them and have more interactions with them. They also seem to be more accepting of the PA when they are presented to them by their own doctor. I have some patients that prefer the PA's to the doctors because they seem to "listen better" and take more time with them. However, there are still those few patients who only want to see their doctor and do not take the time to consider the value of a PA.

3. Throughout the years have you noticed a change in your Coworkers' perception of the Physician Assistant?

My Coworkers perception of the PA has become much more respectful as they have worked beside them in various roles in the medical field. For the most part, they are treated with the same respect given a doctor. Depending on the age of my coworker, the younger ones are much more at ease with the PA's because they have always been around than some of the older nurses who have tons of experience and remember a time when there were no PA's.

4. Do you think that the creation of the PA position has made a positive impact on the medical field? In what ways?

I feel the creation of the PA position has made a positive impact on the medical field as it allows someone to come in and learn under the guidance and experience of a seasoned medical doctor. That doctor can pass on the knowledge they have gained from their own mistakes and their successes to their PA to take and grow further. It also gives more patients the benefit of having 2 medical minds working with them.

5. Do you think that the creation of the PA position has made a negative impact on the medical field? In what ways?

I wouldn't necessarily say it has made a negative impact but I am sure medical school applications are down due to the high cost of education since its creation. However, I do have some reservations that someone with pretty much any college degree and some patient care hours can apply to PA school and become a PA in 2 years. I do feel more medical education and experience would be appropriate.

6. How do you expect the role of the PA in the medical field to change in the future?
I expect it to see it continually grow and expand into even more medical specialties. In recent years, I have witnessed its continual steady growth and added acceptance by patients and coworkers alike.

7. Concluding remarks: I believe the PA position is an awesome career path for the up and coming new generation. I believe the opportunities will be endless and am excited to see where it will lead in the near future. I am biased because I am in the medical field but I find it so interesting and uplifting.

Vita:

Haley McCune was born on Decemeber 31st, 1993 in Winston Salem, North Carolina. She grew up in Mocksville, North Carolina. As a child and still today, Haley has a passion for the outdoors and helping others. These passions led her to enroll in Appalachian State University in the fall of 2012. Haley will graduate in May 2016 Cum Laude with a Bachelor of Arts degree in Biology and a Chemitry and Spanish minor. Haley plans to pursue further education and a career in the medical field.

During her academic career at Appalachian State University, Haley was a member of Beta Beta Beta, the Honors College at Appalachian State University, and Club sports. Haley held various executive postions on the Appalachian State University Equestrian Team, which include Vice President during the 2014-15 academic year and President during the 2015-16 academic year.