

# The changing physician assistant profession: A gender shift

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## ABSTRACT

The physician assistant (PA) movement originally served as an avenue for male veterans to transition into the civilian workforce. After a half-century of development, the profession in the United States is now predominantly female and nonveteran. Using archival data and other resources, this article documents the influences on gender and age shifts in the PA profession with related policy perspectives. Now entering its sixth decade, the profession continues to evolve as demand for PA services outpaces supply.

**Keywords:** physician assistant, military, health professions, medicine

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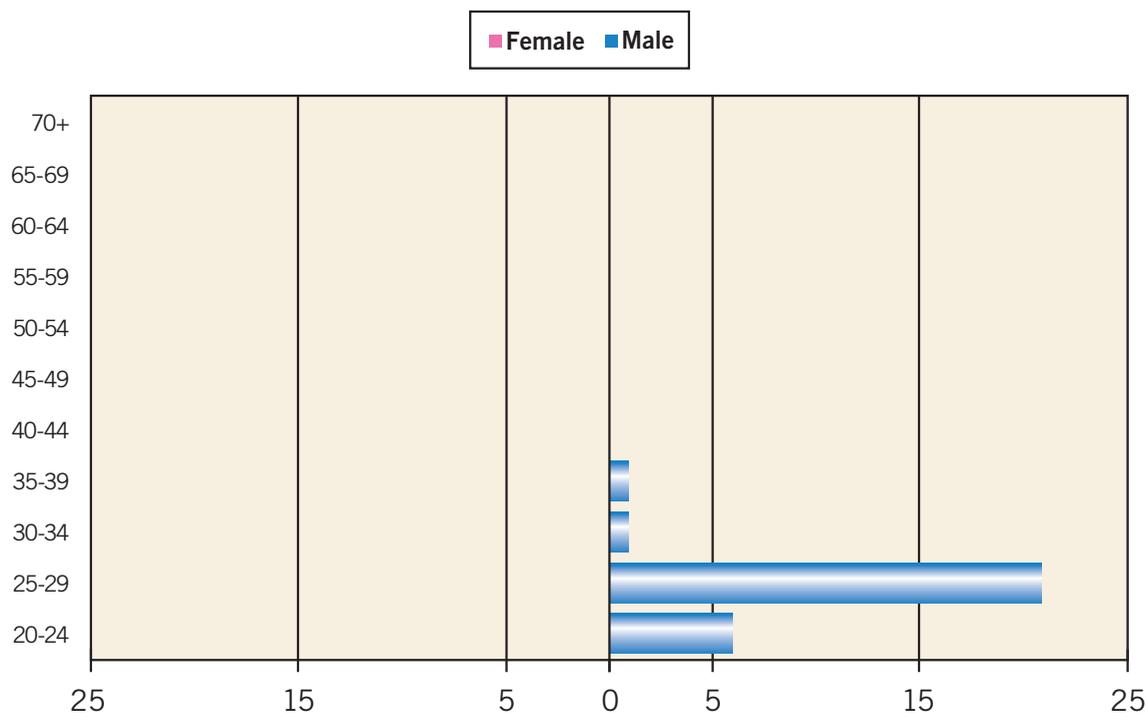
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Men almost exclusively dominated medicine until the mid-20th century, but since the new millennium, in North America at least, the proportion of women in medicine has closely matched men. In a parallel fashion, the physician assistant (PA) profession has changed from an all-male to a predominantly female demographic profile. As the new century evolves, female physicians make up 30% of their profession, while female PAs make up over 65% of theirs. This is likely to increase further as more than 50% of medical school admissions are women, and 75% of PA students are women.<sup>1,2</sup>

Change of this nature is subtle and gradual for almost any specialized labor force and the determining factors are not easily identified. Yet influences such as socialization, compensation, and shifts in age and gender tend to affect the profile of labor and how that labor operates, sometimes unnoticed. For example, a smaller group of older PAs (predominantly male) has entered retirement, and a larger and younger cadre (predominantly female) has emerged.<sup>3</sup> Though the differences in PA characteristics appear clear when compared half a century apart, the underlying sociologic factors responsible for this phenomenon are not as clear or extensively understood.

The intention of this project was to document the development of the PA profession from historical, cultural, gender, and sociological viewpoints. In particular, the project sought to uncover the influencing factors for gender and age shifts in the PA profession. Because this occurred within the societal

## 1967-69: PAs entering workforce gender / age distribution



**FIGURE 1.** By the end of the 1960s, 29 PAs were clinically active. The median age was 29 (range: 24-39), male to female ratio was 1:0, and all were veterans.

milieu of changing roles for men and women, historical recounts of the PA profession have typically focused on the new roles for health providers, returning Vietnam veterans, the social upheaval of the 1960s, and new solutions to recurring health workforce issues.<sup>4</sup> The civil rights movement, the women's movement, and the Vietnam war protests of the '60s and early '70s resulted in major cultural shifts. The authors sought to provide a qualitative reflection with quantitative illustration of a half-century of PA development within the greater changes in society. This research centers on understanding the characteristics and transformative events of the PA profession at various times throughout its development and the trend from a second-career, all-male profession to one that is now predominantly female and a first career.

### METHOD

A retrospective analysis of records and reports from a variety of sources was undertaken to identify the demographic characteristics of PAs at different times and then classify them into eras of PA development. Sources included data from the American Academy of Physician Assistants (AAPA), the National Commission on the Certification of Physician Assistants (NCCPA, ranging from computerized databases to handwritten records used in the 1970s), Duke University administrative records, the PA History Project archives, interviews with many pioneers of the PA movement, unpublished data, dissertations, theses, and personal

communications. The authors also called up an extensive personal collection of meetings, interviews, records, and notes to supplement the literature.<sup>5</sup> Not least, the work draws heavily on research undertaken by various predecessors.<sup>6-13</sup>

### RESULTS

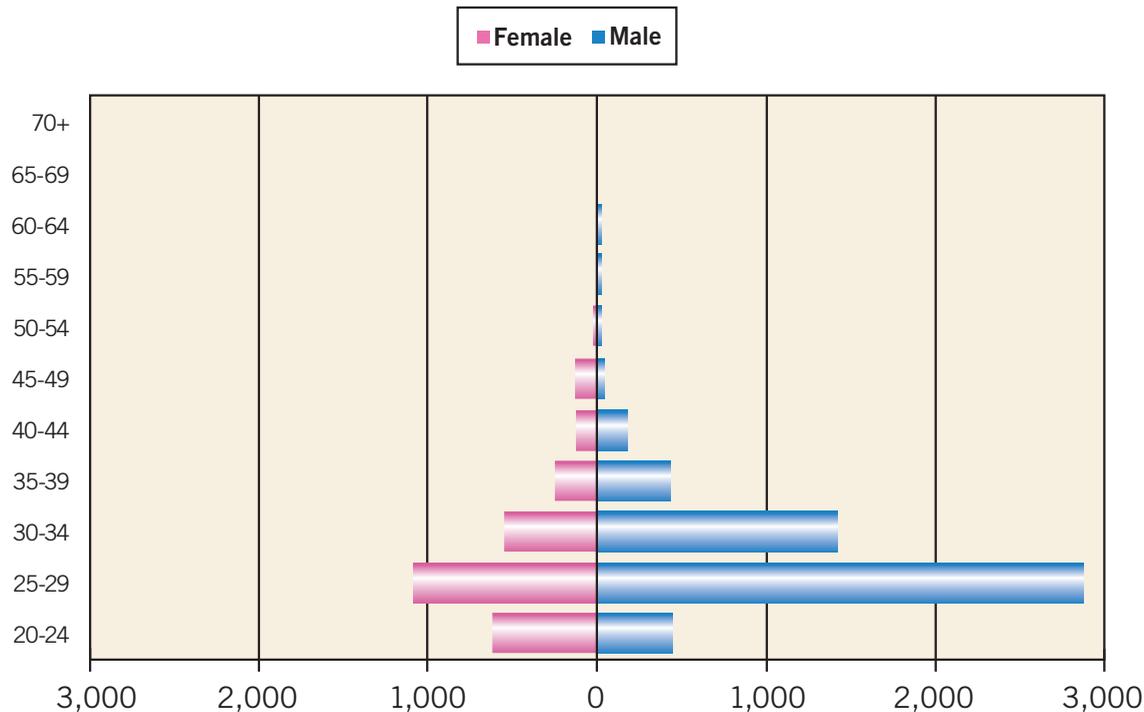
Five decades of PA development were selected as unique time periods of change. This change by decade approach is consistent with a PA history time line put forth by the authors and the PA History Society.<sup>14,15</sup>

### THE 1960S

The transition from technician and assistant to the 21st-century PA occurred over a few decades. Some of this is documented, but other defining reasons are not well known. Since 1954, and preceding the first formal general medical care PA programs, technicians in various specialties were formally taught to assist the doctor (for example, allergy PA, diabetes PA, gastroenterology PA, orthopedic PA). The call for a PA-like worker in 1961 and the White House Conference on Health in 1965 echoing the same served as a preamble of what was to come.<sup>16,17</sup> The university-based, formally trained generalist PA who is delegated to take over many of the routine tasks of a physician is where the contemporary PA story begins.

In 1967, three men were awarded the first PA certificate by Duke University. At the end of the decade there were

## 1970-79: PAs entering workforce gender / age distribution



**FIGURE 2.** By the end of the 1970s, about 4,500 PAs were clinically active. The median age was 33 (range: 24-64), male to female ratio was 2:1, and 66% were in primary care (general internal medicine, family medicine, general pediatrics).

29 graduates, all male veterans, and the average age was 29 years (Figure 1). Seminal events occurring during this era were the enactment of the civil rights act and the establishment of the Medicaid and Medicare programs. In 1967, the first nurse practitioners, all women, graduated from the University of Colorado.<sup>18,19</sup> In 1969, the Medex movement began at the University of Washington with former military veterans (all men) graduating in 1970.

### THE 1970S

The first female PA, Joyce Nichols, graduated in 1970.<sup>20,21</sup> The Vietnam war was winding down and returning veterans were looking for educational opportunities. Women were also entering the workforce following a series of social changes initiated early in the 20th century and culminating in the 1960s (Figure 2). As women began to assert themselves in the workforce, laws were enacted to protect their integration. At the same time, the number of PA programs started to grow due largely to federal support from Title VII of the Public Health Service Act, encouraging recruitment of diverse populations, deployment in underserved areas, and a focus on primary care practice.<sup>22</sup> Federal funding was also a source for the initial organization and administration of a national accreditation system for PA programs, specifically those designed to prepare PAs to be primary care practitioners.<sup>23,24</sup>

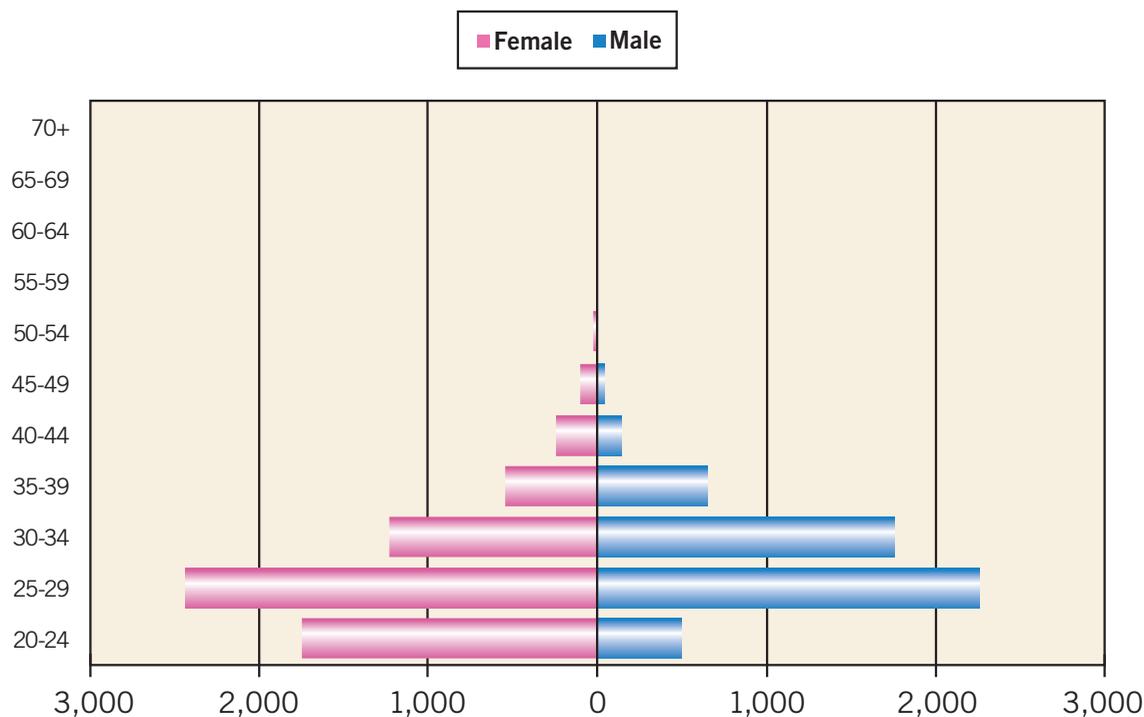
In 1972, the Health Professions Act, Title VII (Section 747) was enacted, which intended to increase the general supply

of allied health providers and physicians. Successive reauthorization helped to grow the PA profession as well as to support the new physician specialty of family medicine. Title VII remains a bulwark to addressing geographic maldistribution of providers and promoting primary care. Although weakened over time by budget cuts, it remains key in providing support for primary care and the development of PA education and family medicine residency training.<sup>22</sup>

The Health Professions Educational Assistance Act of 1976 (PL 94-484) extended health manpower training authorities and was designed primarily to produce more primary care practitioners and improve health services in areas with shortages. This act provided support for the training of health professionals in several ways, including health professions special projects, student assistance, allied health programs, public health and health administration programs, authority delegation, and shared residency positions. Each was uniquely relevant and directly affected PA education by stimulating education program development.

The 1977 Rural Health Clinics Act was intended to encourage the provision of outpatient primary care in rural areas through “cost-based reimbursement provided by physicians, nurse practitioners, physician assistants, and certified nurse midwives.”<sup>25</sup> The bill was successful in promoting PA, NP, and certified nurse midwife employment in rural health clinics and established reimbursement mechanisms for their services through Medicare and

### 1980-89: PAs entering workforce gender / age distribution



**FIGURE 3.** By the end of the 1980s, about 12,000 PAs were clinically active. The median age was 32 (range: 24-60), male to female ratio approached 1:1, and about 60% worked in primary care.

Medicaid.<sup>26,27</sup> The PA movement was just over a decade old and the inclusion of PAs in these legal measures served to improve their stature in American medicine.

#### THE 1980S

The 1980s mark the shift in characteristics of the PA profession, as the number of younger women began overtaking older men in the profession (Figure 3). Moreover, the ratio of female PA graduates to males was increasing each year. AAPA census data revealed that at least a third of PA matriculates reported a nursing background (both men and women) as their former health occupation experience.<sup>14</sup> This development was hardly unique to the PA profession; women were entering medicine, law, the clergy, dentistry, veterinarian science, and other professions at higher percentages than ever before.

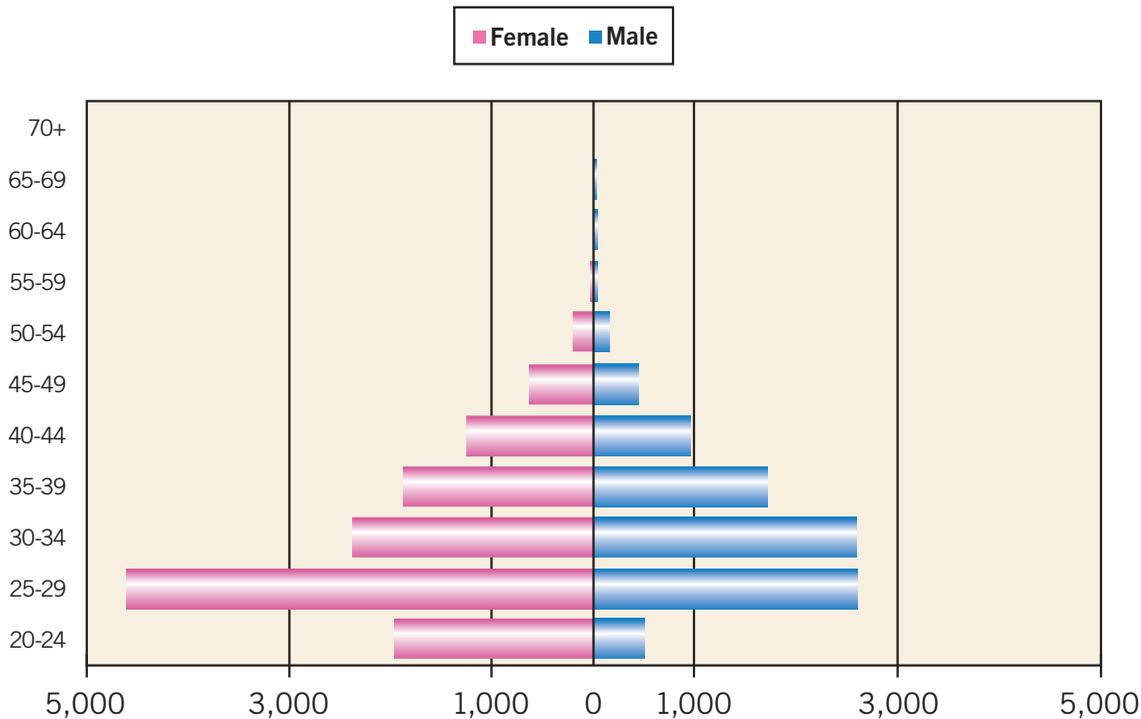
During the third decade of PA development, the federal government emerged as a major employer of PAs.<sup>28</sup> Not only was the cadre of PAs in uniform growing, but the Department of Veterans Affairs was undergoing revitalization and change, and PAs were actively recruited for staffing the Veterans Health Administration medical centers and outpatient clinics.<sup>29,30</sup> In 1986, the US Office of Technology Assessment summarized the existing evidence and determined that PAs, NPs, and certified nurse midwives had been shown to be “safe and efficacious health practitioners.”<sup>25</sup> This government assessment reinforced what had by then become

readily apparent: The use of PAs was sound policy. In the uniformed services, PA recognition changed; from the enlistment ranks, they were given a warrant commission in the Army, Navy, and Coast Guard and a full commission in the Air Force.<sup>31</sup> The AAPA was successful at advocating for the inclusion of language in the Omnibus Budget Reconciliation Act of 1986 that provided for Medicare reimbursement of PA services to employing practices.

Improved state laws and regulatory policies accelerated the employment of PAs, defined their scope of practice, and provided for prescribing authority. By the end of the 1980s, many states and the District of Columbia had enacted favorable legislation that permitted PAs to work and be more effective in patient care. Managed care organizations were early adopters of PAs during this time.<sup>32</sup>

The academic stature of PAs also advanced in the 1980s, with some programs awarding the master’s degree for entry-level education. The AAPA grew and opened a new national headquarters in 1987. After a lull, PA educational programs expanded and increased the supply of PAs, while women surpassed men as a percentage of graduates. The mean age of clinically active PAs was declining as younger graduates entered the workforce. Increasingly, the profession was viewed as an occupation that could provide a path to a lifetime career in medicine and serve as an alternative to those disinterested in traditional medical and nursing school education. For men and women desiring a family, the PA profession embodied

## 1990-99: PAs entering workforce gender / age distribution



**FIGURE 4.** By the middle of the 1990s, about 25,000 PAs were clinically active. The median age was 30 (range: 24-66), male to female ratio was 5:7, about 40% worked in primary care, and 25% had been in uniform.

a potentially higher-paying professional career that required less upfront time and monetary investment in regard to training and a perceived work schedule with greater flexibility.

### THE 1990S

By the midpoint of the 1990s, the PA profession had grown in stature, numbers, and use in the health workforce. Older men who made up the first generation were beginning to retire and be replaced by younger women with longer career spans (Figure 4).<sup>33</sup> Research on the profession had shown PA clinical effectiveness and productivity; PAs were providing a substantial amount of medical care services at a level at or near that of physicians in the primary care setting. One estimate of PA productivity showed that they could safely perform over 80% of the medical tasks performed by primary care physicians.<sup>34</sup> “Physician assistant” had become a name familiar to the majority of Americans.

During the 1990s, PAs expanded into the hospital-based settings of medical and surgical specialties, and became embedded in hospital bylaws and credentialing systems.<sup>35</sup> The age distribution showed a broader set of age bands; women continued to bring down the average age more than men.

Most states and some territories had established PA practice acts, with most authorizing PA prescribing, including of federally controlled substances. In the military services, full commissioning of PAs had occurred with officers

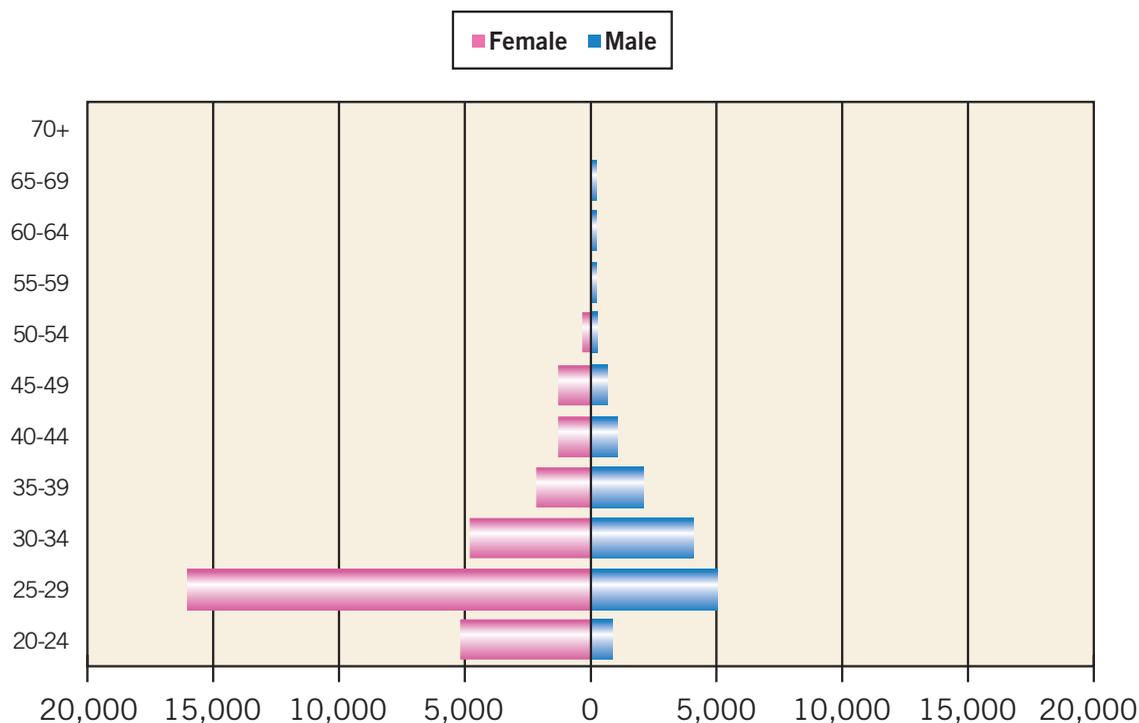
promoted to senior ranks. Reimbursement for PA services was nearly universal among healthcare payers. About one-fifth of all PAs had worn a uniform at one time (men and women, active duty, reserves, and National Guard).

### THE 2000S

By the turn of the century, the number of PA programs had doubled compared to the previous decade, and the number of clinically active PAs had increased substantially (Figure 5). By the end of the decade, PA education had grown to more than 150 programs and produced more than 60,000 clinically active PAs with the master’s degree as the educational standard.<sup>14,36</sup> They had achieved flag rank in the U.S. Public Health Service, and 4,500 were employed by the federal government, spread over eight departments and many agencies.<sup>28,30</sup> Female PAs were occupying leadership roles in education, organizations, and research; one had been elected to Congress. PAs were largely satisfied with their career choice and attrition was low.<sup>37,38</sup> The prediction that women would leave the profession to raise families remained without evidence.

Health workforce discussions, almost exclusively physician-based up to this point, now included PAs and NPs. PA educators were advancing their careers within institutions by occupying department chairs and deanships. A typical PA program was 27 months in length and averaged 44 graduates. The mean age of PAs was 41 years,

## 2000-09: PAs entering workforce gender / age distribution



**FIGURE 5.** By the end of the 2000s, about 60,000 PAs were clinically active. The median age was 41 (range: 24-60), male to female ratio was 1:2, and one-third were in primary care (mostly family medicine).

and women were entering PA programs at twice the rate of men. PAs, primarily of the Baby Boomer era (born 1946 to 1964), were retiring; the median length of a PA career was 29 years.<sup>3</sup> The profession remained young, with two-thirds of the profession under the age of 48.<sup>39</sup> Globally, the PA movement began to take hold in other countries.<sup>40</sup>

By the middle of the fifth decade, PAs had become an integral component of healthcare reform and, into the next decade, they were growing substantially as new programs came on line. As a means to spur primary care development, the American Recovery and Reinvestment Act of 2009 created an infusion of funds for training additional PAs and other professionals.<sup>41</sup> PAs, along with NPs, were included in the Patient Protection and Affordable Care Act (ACA) of 2010, because most staffing estimates portrayed them as important providers of access to care.<sup>42,43</sup>

### THE 2010S

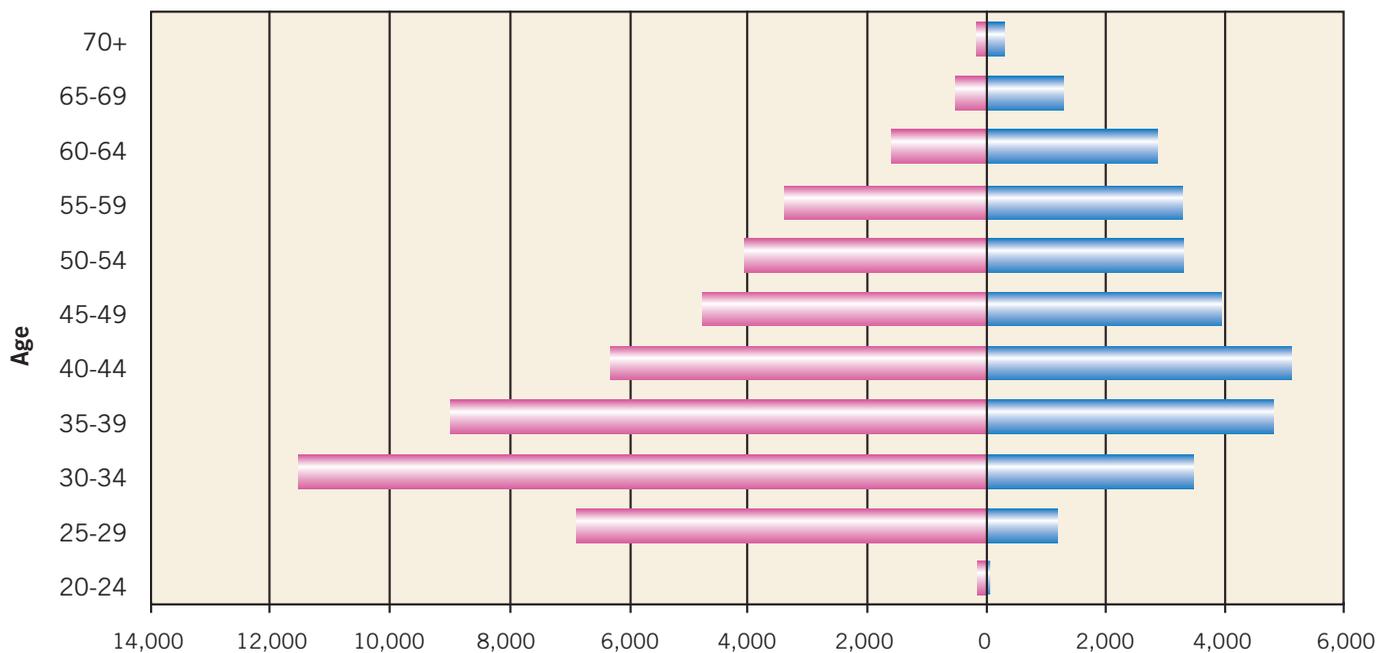
As the profession enters its sixth decade, the NCCPA reports that 100,000 PAs have ever registered for examination.<sup>39</sup> PAs are licensed in all 50 states and 4 jurisdictions (including Washington, DC) and number over 80,000 in active practice (Figure 6). In 2013, the United States had more than 175 accredited PA programs, with estimates of 60 more in the pipeline and 100,000 clinically active PAs by 2016.

### DISCUSSION

The PA movement was inaugurated almost simultaneously and independently from three separate and distinct philosophical as well as geographic positions in the United States.<sup>18</sup> Two of the founding universities, Duke University and University of Washington, began their movements with male veterans and the third, the University of Colorado, began with both men and women from other health professions (not necessarily veterans). This was followed by a larger set of programs throughout the 1970s and substantial investments in PA education from the federal government. That surge of educational development and novel PA employment helped set the foundation for a movement.

For the most part, these early PAs were pioneers blazing a trail to their second or third career and choosing an unknown and untested new health occupation. Twenty-nine men represented 100% of all PAs in 1969; by the 1970s, the distribution was starting to shift; 10% were female. At Duke University in 1987, three-quarters of the entering PA class were women; a mirror image of itself from the previous decade.<sup>44</sup> By 2013, one-third of all clinically active PAs were male.<sup>45</sup>

Originally, a typical PA student was a hospital corpsman or medic draftee, who upon fulfilling his enlistment, left the military, worked as an emergency medical technician,



Source: Optum, Provider 360

**FIGURE 6.** PAs with active licenses

and then entered PA school. Upon graduation, he often took a position in general medicine. Four decades later, a typical PA student is a young woman who obtains an undergraduate degree with competitive grades, graduates from a PA education program with a master's degree, and starts her first career. More often than not, she enters a medical specialty instead of family medicine.<sup>46</sup>

In 1985, the number of female PA graduates equaled and began exceeding that of male PA graduates (Figure 7). Females entered the profession in the 1970s, with a significant number coming from the nursing field.<sup>47</sup> The increase in the female workforce was noted among all healthcare-related fields during the same period as women moved away from their previous traditional fields like education and local government. From 1993-2010, education and health services ranked as the fields with the highest concentration of female workers by a wide margin.<sup>48</sup> As of 2012, women account for 75% of most healthcare professionals, including pharmacists, physical therapists, and physician assistants.<sup>49</sup>

The gender shift in specialized labor has been a global phenomenon, the subject of much study, and not unique to the PA profession. Demographic data reveals a substantial movement of women into other fields formerly dominated by men such as medicine, law, engineering, science, and business.<sup>50</sup> Access to these professions depends on higher education. Compared to men, young women today are more likely to complete college, hold a bachelor's degree, and be enrolled in a graduate studies program.<sup>48</sup> Change in education

attainment, initiated in the 1960s, became widely apparent over time and manifested itself in the labor market. In 1970, 22% of women in the civilian workforce had attended college, compared with nearly 67% in 2010.<sup>48</sup>

By 2010, among those age 25, 30% of women and 22% of men had attained a bachelor's degree, according to a longitudinal study of youth conducted by the Bureau of Labor Statistics (BLS).<sup>51</sup> The BLS study also reported that more men than women were serving in the armed forces as this age, and more men than women were previously high school dropouts. These observations may contribute, in some part, to the low male application rate.

As women have increased their share of higher education, their numbers in various professional fields have likewise expanded. In 1970, women accounted for 9.7% of physicians. By 2010, that number had increased to 33%.<sup>45,52</sup> Workforce gains were similar in all professional-level fields over the same period of time.

Since the 1960s, the career aspirations of American women have undergone a sea change. Although discussion about gender roles and shifts over time is an intellectual pursuit fraught with generalizations and misperceptions, a number of social developments have accounted for this shift, including the introduction of widely available oral contraception, state and federal legislation discouraging gender-based discrimination, and expanded educational attainment.<sup>53</sup> Additionally, a notable delay of first marriage and childbearing, as well as an increased divorce rate, has led a majority of women to place economic independence

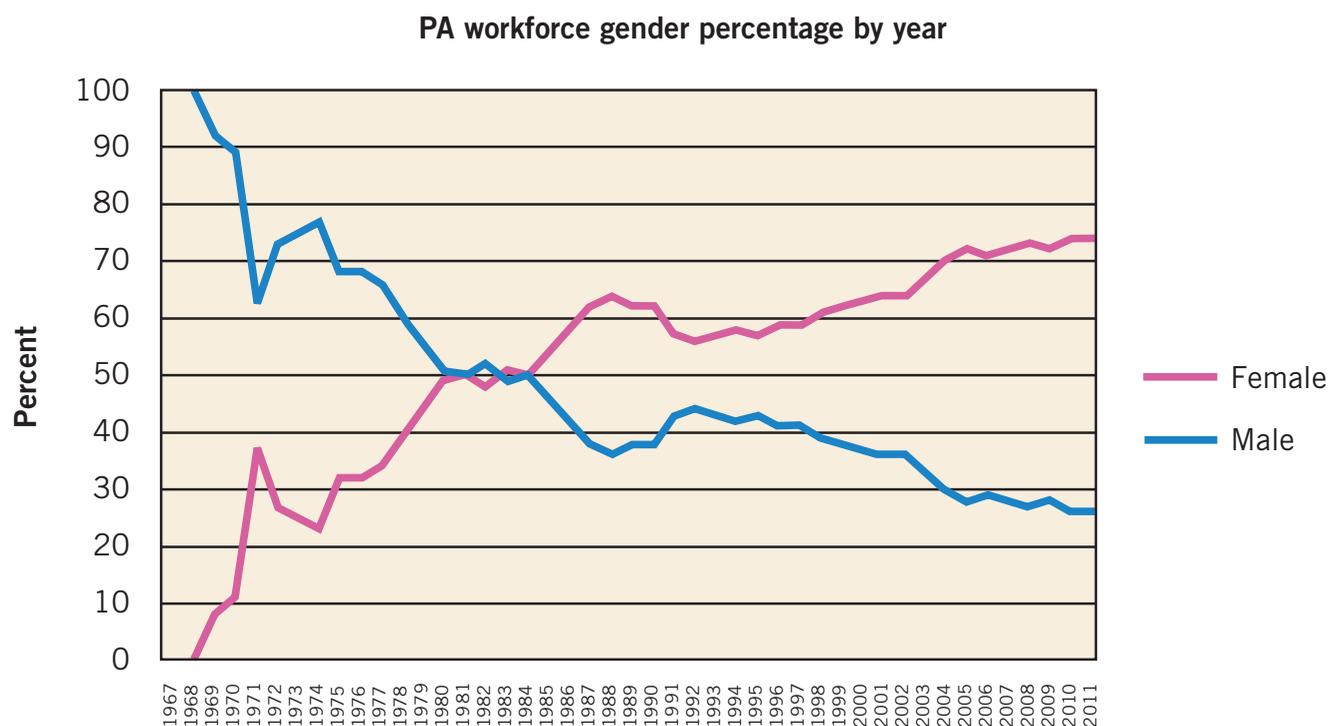


FIGURE 7.

at the forefront of their career planning. Women now pursue careers with challenge, opportunity, and leadership potential.<sup>53,54</sup> In the aggregate, this has led to an evolution in career planning for young women.<sup>50</sup> As such, the shifting gender pattern within the PA profession reflects that of the population as a whole.

Though PAs are part of a larger trend, the profession has several elements that may be attractive to women when compared to a comparable physician field. Female PAs have cited lower cost of training and a greater flexibility in work scheduling as being highly favorable.<sup>9</sup> This flexibility *may* explain why women chose PAs school versus medical school. Why it has not had a similar effect on male enrollment patterns for similar reasons is puzzling. Female physicians are noted to have the shortest no-work spells and time off for various activities, including childrearing, among all high-functioning professions.<sup>50</sup> They must also compete within a hierarchy that has traditionally been male and assumed to be held back by an unseen and unbreachable barrier that keeps women from rising to the upper rungs of the corporate or institutional ladder (the glass ceiling effect). This is in contrast to women who have expressed that the PA lifestyle is fulfilling and highly compatible with family life.<sup>9</sup>

Economic studies are only now emerging about career earnings of PAs. A study published in 2012 illustrated the attractiveness of the PA field for aspiring female healthcare providers by suggesting that, over a lifetime, the profession may be more economically advantageous to young women than becoming a primary care physician.<sup>55</sup> However, a

gender pay gap persists among clinically practicing PAs; women make \$14,685 less than male PAs for base pay in family medicine (2008 dollars). Statistically significant wage gaps between men and women PAs by specialty include a \$16,733 pay differential in orthopedic surgery after controlling for part-time work and years of experience.<sup>1</sup> The influence of debt on career selection has yet to be investigated.

## CONCLUSION

The PA movement did not burst onto the medical scene, but gradually formed over decades, fueled in part by a combination of sociological factors and historical events. The same can be said in terms of gender and age; the changes in the makeup of PAs has essentially been a study of the American education and labor movement—a story of women moving from a minority to a majority presence in higher education and professions. Within the PA movement, the change has been viewed as a phenomenon. A phenomenon, by definition, because it was a shift in the makeup of the profession that was unprecedented and unanticipated.

Initially, the profession was an avenue for male veterans to transition into the civilian workforce. Over time, it transformed into a highly competitive and accepted profession for young, predominantly female college graduates. Regardless of the causal factors, the profession as a whole has demonstrated itself to be an attractive and viable career path irrespective of gender. Clearly, the profession will continue to evolve as the demand for PA services continues to outpace supply.<sup>56,57</sup> **JAAPA**

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