

Physician Assistant Education: An Abbreviated History

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Physician assistant educational programs began as part of a larger movement in the creation of new health professions. The educational organizations of the PA profession were fashioned by physician leaders in medical education. In developing PA programs, progressive physicians and others created innovative approaches to medical education that included decentralized education, emphasis on psychosocial components, and creative deployment approaches. The competency-based PA model employed ideas and elements that were ahead of their time in health professions education. PA education moved to a degree-based system in the 1990s. PA education was based on non-traditional models of medical education that have proved to be successful in training effective generalist clinicians.

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INTRODUCTION

Physician assistant (PA) educational programs began in the 1960s in the United States to prepare clinicians for roles that would expand medical care services. PA programs have evolved into well-recognized and successful medical education programs. PA education has contributed substantially to advances in health care delivery over the past four decades in that they have produced highly skilled clinicians who provide services in a wide variety of areas of need. In this review, I highlight some of the major trends and leaders that have been part of PA education over the past 40 years.

PA programs began as initiatives of organized medicine and the federal government. They sprang from the large number of innovative educational efforts begun in the 1960s that sought to train new types of health care practitioners. Medical education had developed a reputation as a rigid, dogmatic, and narrowly focused enterprise, one that was failing society and often ignored key training components, for instance, the social and behavioral sciences, public health, and prevention.¹ The PA con-

cept presented an opportunity to redesign medical educational curricula. Eugene Stead Jr, MD, one of the founding fathers of PA education, had long been interested in new approaches in medical education. Despite Stead's apparent failure to develop a program to train nurses for expanded/medical roles,² he still saw the concept of the PA as an opportunity to design a more progressive and efficient medical educational plan. Along with Stead, Richard Smith, MD, Hu Myers, MD, and Henry Silver, MD, were physicians who were dissatisfied with the existing systems of medical education in the 1960s and took it upon themselves to institute and implement new educational models to prepare health care professionals.

PA programs began first in an academic medical center setting and evolved with sponsorship from a wide range of educational institutions as well as clinical organizations. The Duke University program offered the initial educational model for PA training, but soon others, including the MEDEX program at the University of Washington, the 4-year program at Alderson-Broaddus



Association of Physician Assistant Programs leadership, circa 1979 (left to right): Harriet Gayles, Mercy College of Detroit; Archie Golden, Johns Hopkins Health Associate Program; Frances Horvath, St. Louis University; and Karl Katterjohn, George Washington University.

College, and the Child Health Associate Program at the University of Colorado, were established and provided alternative and effective models. PA programs thereafter emerged in academic institutions that included medical schools, universities, four-year colleges, community colleges, and technical and vocational schools, as well as in teaching hospitals, correctional systems, and federal health care systems.³ The military PA programs in the Air Force and the Navy were among the first group of academic health center-model programs, which began in 1971 at George Washington University (GW).

Diversity in sponsoring institutions was enhanced by the fact that PA education was not founded on an entry-level academic degree but was based instead on a competency model.

PA programs were designed to be educationally efficient, with a shorter period of education than standard medical programs. PA programs began as shorter versions of medical school and typically were then and

largely remain about 2 years in length. The diversity in sponsoring institutions resulted in a great variety of curriculum models, incorporating philosophies and approaches that were innovative and considered to be on the forefront of medical education.⁴ Often, these models were based on the recruitment of individuals with extensive health care experience and intended to meet specific national, state, and community needs; for example, MEDEX programs were designed to meet the need for clinicians in rural and underserved communities.

LEADERS

The pioneering ideas developed by Stead, Smith, Myers, and Silver were major components of the larger movement to produce new types of health care providers. The “new health practitioner” movement — which included PAs as well as other new health professions — gained strength as dozens of training programs developed during the late

1960s and early 1970s. In 1970, according to one survey, there were 36 programs listed by the US Bureau of Health Manpower Education; 10 of these programs trained personnel such as clinical technicians and emergency medical technicians, 10 were apprenticeship programs rather than formal educational experiences, and 16 were formal educational programs training PAs or nurse practitioners (NPs).⁵ Often, these programs were considered experimental and were begun primarily because federal grant support was available to support such efforts.

Typically, these training programs were one to two years in length (sometimes shorter), practically oriented, and designed to deploy providers quickly to alleviate what was considered then to be a physician shortage. Most of these training programs involved the creation of clinicians who had extensive nursing and/or military medical backgrounds. They went by many different names: health assistant, health associate, Primex, Medex, physician assistant, physician associate, nurse practitioner, surgeon assistant, syniatrist, child health associate, clinical associate, and many others. Somehow, from all of this experimentation with new provider education, two lasting models emerged: the physician assistant and the nurse practitioner.

The four physicians generally given credit for founding the first PA educational programs are familiar to most in the profession. They were clearly leaders of the early new health practitioner and PA movements. An underappreciated group of individuals were the cadre of progressive-thinking physician educators who were assuming leadership positions in medical education and carrying the PA concept into other institutions in the 1970s. These physicians not only founded PA educational

programs — most of them at medical schools — but were also champions of the PA concept to medical and regulatory organizations as well.

Prime among them was Thomas Piemme, MD, who became chairman of the Department of Health Care Sciences at GW in 1972. Piemme was a leader on multiple levels within the emerging PA concept, and worked to define the profession's educational standards and practice qualifications. Piemme founded the PA program at GW in 1972, became president of the Association of Physician Assistant Programs (APAP) in 1974, and was the founding president of the National Commission on Certification of Physician Assistants (NCCPA). He was also long associated with the National Board of Medical Examiners and was central in the development of the PA national certifying examination. Jack Cole, MD, professor of surgery at Yale University, and Alfred Sadler, MD, founded the Yale Physician Associate Program, which emerged from the Yale Trauma Research Program. Sadler was the first president of APAP (1972) and with his twin brother Blair, a lawyer, and Ann Bliss, a nurse, co-authored *The Physician's Assistant: Today and Tomorrow*, the first book on the PA profession.⁶

Inheriting the creation of Henry Silver, John E. Ott, MD, directed the Child Health Associate (CHA) Program at the University of Colorado and performed many of the early health services research studies on CHA performance. Ott succeeded Piemme as chair of the Department of Health Care Sciences at GW and served as the medical director of the GW PA Program for many years.

At Johns Hopkins University in 1972, Malcolm Peterson, who became the first chairman of the Joint Review Committee, the first accrediting body for PA programs, was appointed dean

of a new School of Health Services that sponsored the Health Assistant Program, in collaboration with Essex Community College and the Health Associate Program. Archie Golden, MD, MPH, who had experience in designing training programs for community health workers in South America while working for Project Hope, became the director of the Health Associate Program, which closed in 1979. This program's curriculum was designed to be distinctly different from the traditional medical model, so well established in the adjacent Hopkins School of Medicine. This curriculum was described in *The Art of Teaching Primary Care*, authored by the faculty of the School of Health Services.⁷

J. Rhodes Haverty, MD, was dean of allied health at Georgia State University and a driving force in the establishment of the NCCPA. Thomas Gallagher, MD, and Jesse Edwards, MS, were the founders of the PA program at the University of Nebraska; Hal Wilson, MD, founded the PA program at the University of Kentucky and later went to Wake Forest University; and Richard Rosen, MD, chairman of surgery at Montefiore Medical Center in the 1970s, first utilized PAs in inpatient surgical units and founded the first PA postgraduate program. Frances Horvath, MD, a physician at the St. Louis University, founded the PA program at that institution and was a leader in the development of the Joint Review Committee and the PA program accreditation system. Joseph Hamburg, MD, was a dean of allied health at the University of Kentucky during the 1970s and was responsible for instituting its PA program. Other physician leaders included Harvey Estes, Robert Howard, and Michael Hamilton at Duke University; Ashutosh Roy of the University of Southern California; David Lawrence

and Robert Harmon at the University of Washington; and Katherine Anderson at Wake Forest University.

These early leaders were truly pioneers in medical education. Their focus differed from those whose values were in traditional medical education, which stressed biomedical research and mechanistic approaches. PA education emerged with a philosophy of educating practitioners to meet specific societal needs — increasing the supply and distribution of primary health care providers. Thus, there was a strong community orientation and service focus in these leaders and the programs they created. They were strong and creative individuals who urged traditional institutions to start PA educational programs and to participate in the grand experiment with new types of health care providers.

Often, they developed curricula from scratch or with minimal resources. Their work was mission-driven and practically focused. Moreover, they would be called upon frequently to describe and justify the role of the PA to legislators, health regulators, and/or oftentimes skeptical medical groups. The job could be summarized as one in which an educator needed to be both an internal and an external ambassador for the PA concept, in addition to being a teacher in the classroom and clinic, an administrator, a counselor and advisor, a curriculum designer and educational researcher, and community service provider.

In addition to these prominent physician leaders, there were numerous nonphysicians who made important contributions. These include Suzanne Greenberg, who founded the PA program at Northeastern University in 1970 and later became president of APAP; Harriet Gayles, who founded the program at what was then Mercy College of Detroit; David

Lewis, who founded the PA program at the University of Florida; Don Fisher, who founded the now-defunct program at the University of Mississippi and became the first executive director of the American Academy of Physician Assistants (AAPA); and David Glazer, who began his career as faculty at the Emory University PA Program and went on to head the NCCPA for many years.

A key figure who deserves special mention in the annals of pioneering PA educators was Denis Oliver, PhD, at the University of Iowa. A biochemist by training, Oliver was among those who developed the Iowa PA program and instituted a number of health services research studies demonstrating the effective deployment of Iowa graduates in rural and medically underserved counties in that state. Oliver was also responsible for initiating the annual survey of PA education in the United States. Beginning in 1985, Oliver constructed a survey template that has been administered annually, with only minor changes, by the Physician Assistant Education Association (PAEA), formerly APAP. The standardized questionnaire has allowed for the tracking of longitudinal trends within PA education. Now in its 22nd edition, the *Annual Report on Physician Assistant Educational Programs in the United States* is regarded as the primary source of information on PA educational programs. After Oliver conducted the survey and compiled the data for many years, PAEA transferred the responsibility for the Annual Report to Albert Simon, DHSc, PA-C, then of St. Francis University.⁸

COMPETENCY-BASED EDUCATION

The traditional educational philosophy of PA education in the United States has been based on a model of

competency. PA education has historically been designed around a series of competency statements that have been derived from a variety of sources, such as role delineation studies, which were, in turn, used in curricular development in sponsoring institutions, accreditation standards, practice statutes, and blueprints for the certification examination. The educational standards of the Accreditation Review Commission on Education for the Physician Assistant (ARC-PA) and its prior entities have provided a framework for curricular content in PA education. Until the past decade, PA education has tended to rely on the philosophy that student and graduate performance is structured on the demonstration of a standard level of clinical competency and to avoid assignment of a specific academic degree for entry-level PA educational preparation.

The competency-based PA educational philosophy holds that proficiency in the clinical skills identified as being necessary for future competence in primary care/generalist practice would be the “gold standard” of PA educational preparation. The competency-based educational model, originating from military utilization of health providers, thus prepared PAs to enter clinical practice based on their training and certification status. State PA practice laws and regulations were fashioned largely upon that model. PA practice acts typically did not, and still in most cases do not, refer in any way to academic degrees with regard to qualification for practice. The fact that the PA clinical role was inherently tied to the physicians’ practice made the need for early graduates to possess an academic degree less critical.⁹

Allowing for variability among PA programs regarding the degree and/or certificate awarded was an important element of PA education during its formative years and has proven to be

an effective approach in preparing PAs to assume a wide range of roles in clinical practice settings and specialties. It is also widely believed that this approach has promoted the recruitment into PA programs of individuals from diverse ethnic, cultural, and educational backgrounds, although there is little empirical evidence that demonstrates this assertion.¹⁰

The competency-based orientation of PA education has proven to be effective in preparing health care professionals to qualify for the national certifying examination and to meet state licensing board requirements. The generalist philosophy of PA education produces graduates who have assumed clinical practice roles in a wide range of health care settings and specialties. The competency basis of PA education began to lose relevance in the 1980s, however, as increasing numbers of programs began to award graduate degrees for PA training. In 2005, the AAPA, APAP, ARC-PA, and NCCPA approved a jointly developed document, *Competencies for the Physician Assistant Profession*, which includes the kind of analysis, integration, evaluation, and information management skills that have traditionally been considered “graduate level.” This document provides an overview of the competencies expected of PAs and is the first to be endorsed by all of the entities representing the PA profession at a national level.⁹

ACADEMIC DEGREES

Alderson Broaddus College was the first PA educational program to award an academic degree, in 1970. This small liberal arts college started its PA program using a 4-year model in which the curriculum consisted of 2 years of general college work followed by a 2-year professional phase; this became known as the 2 + 2 model. Some of the early graduates of the Duke University PA Program,

which at that time did not offer an academic degree, obtained their bachelor's degrees from Alderson Broaddus. Later, other PA programs, including the Duke program as well as a number of others, began to award the bachelor's degree.¹²

Educators and researchers in many health professions disciplines have long wrestled with the issue of the appropriate entry-level credential. These "degree debates," while a natural progression in the maturation of professions, are often discomforting and require many years to resolve. For example, as early as 1958, the field of occupational therapy debated the degree that was best suited for the profession. Nearly 30 years later, the American Occupational Therapy Association endorsed a gradual shift to the master's degree as the entry-level degree for its profession.¹³ Similarly, the physical therapy (PT) profession began a transition to an entry-level master's degree in 1979, which met with continued debate.¹⁴ The American Physical Therapy Association's (APTA) 1997 guidelines standardized the PT entry-level degree at the master's level. (In 2000, the APTA endorsed a vision statement that would make the doctor of physical therapy degree the standard entry-level credential by 2020.) In nursing, nurse practitioners (NPs) have determined that NP education should award the MSN degree, and now are making plans for the doctorate of nursing practice (DNP) to be awarded to all advanced practice nurses upon graduation.¹⁵

A similar pattern of evolution is being observed in the PA profession. When the first educational program was founded, the mandate for programs was to produce safe and competent clinicians and to get them into the field as soon as possible. Often, a certificate of completion was the only

credential awarded. As PA educational programs evolved, sponsoring institutions began to award academic degrees along with the certificate of program completion. In most cases, the bachelor's degree was the initial academic degree awarded.

It was not long before programs began to consider the master's degree as the appropriate credential for the profession. The reasons included the fact that most applicants already held bachelor's degrees and were seeking a master's degree and a belief that the level of academic rigor in PA programs was clearly well beyond bachelor's-level work.

The first PA program to award the master's degree for entry-level training was the Child Health Associate/PA Program sponsored by the University of Colorado, in 1973. This program was among the first of the specialty-focus PA programs. Recruits to this program tended to be individuals who did not possess a great deal of previous health care experience but instead were high-achieving undergraduates, heralding a trend seen among applicants to PA educational programs many years later.¹⁶

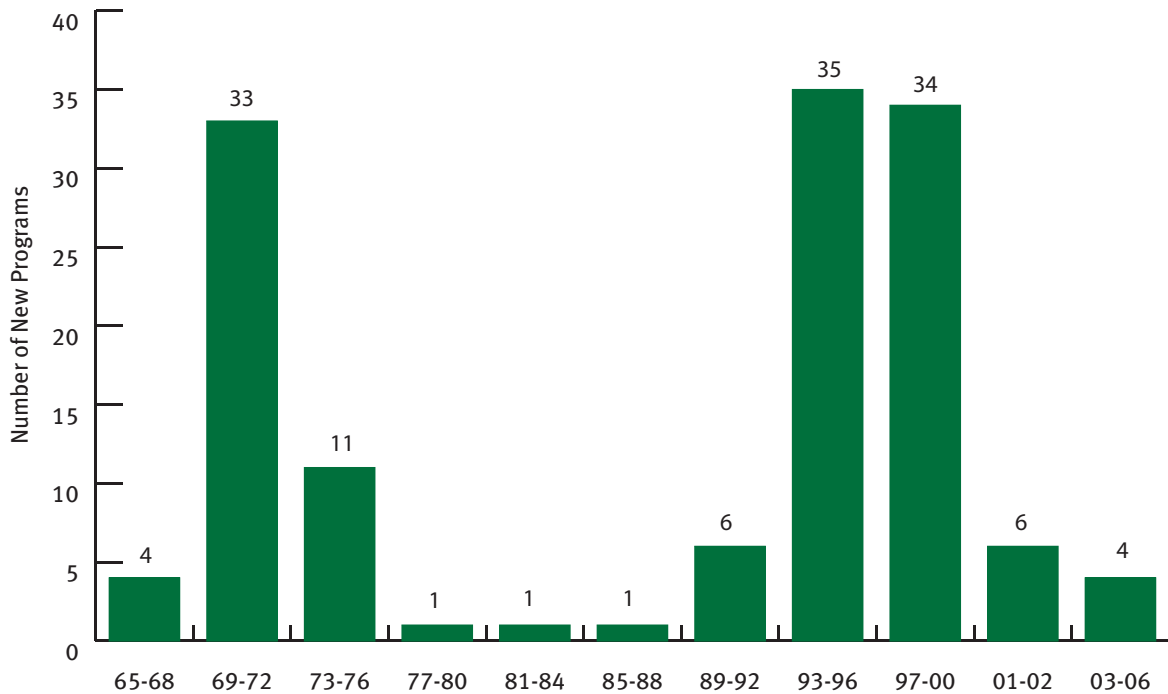
Until recently, the ARC-PA Standards had not addressed the degree issue. In the 2nd edition of the Standards, released in 2001, the operative language was as follows: "This version of the *Standards* reflects the realization that a commonality in the core curriculum of programs has become not only desirable, but also necessary in order to offer curricula of sufficient depth and breadth to prepare PA graduates for practice in a dynamic and competitive health care arena." Additionally, the Standards indicated that PA education "reflect[ed] a graduate level of curricular intensity."¹⁷ In 2005, the ARC-PA modified the Standards to indicate that the establishment of new PA

programs may occur only at institutions that can award a bachelor's degree or higher.¹⁸ Yet, the Standards do not delineate any curricular content relative to the credential awarded. In 1990, only three programs (6% of all programs) awarded a master's degree. By 2002 this percentage had grown to half of all programs, and in 2007 the vast majority of programs now award the master's degree. Unlike other health professions, there is not a single type of master's degree awarded for PA education but instead a wide variety of master's degrees are granted by sponsoring institutions. Most common is the master of physician assistant studies (MPAS); others include the master of health science (MHS), the master of medical science (MMS), and the master of science (MS).

SATELLITE PROGRAMS

As PA programs matured and extended their missions to improve health care access, several programs, with federal grant support, instituted what have been termed "satellite programs." These ventures are essentially outreach segments of existing programs designed to reach and serve a particular region or population, or to take advantage of particular resources in an area separate from the sponsoring program. Examples of such satellite programs are the Yakima and Spokane branches of the MEDEX Northwest Program at the University of Washington in Seattle; the University of Texas Pan American PA Program in Edinburg, Texas, which began as an extension of the PA program of the University of Texas Medical Branch in Galveston and is now a separate freestanding program; and the Clearfield branch of the Lock Haven University PA Program in Lock Haven, Pennsylvania. The quality of curriculum of satellite programs has been shown to be equiva-

Figure 1. Numbers of PA Educational Programs Established, 1965-2006



Source: Annual Report on Physician Assistant Educational Programs in the United States.

lent to the education given in the base program.¹⁹

SIGNIFICANT TRENDS

The history of PA education, as defined by the creation of new PA programs, may be divided into three phases. The first was the phase of rapid initial expansion that took place in the early 1970s and which was fueled by the availability of federal funding. This resulted in the emergence of more than 35 programs from 1972 through 1975 (see Figure 1). The second phase was one in which the number of PA programs declined (due to the Graduate Medical Education National Advisory Committee Report’s prediction of a looming surplus of physicians by the 1990s) resulting in a decrease in the output of graduates and a depression in the applicant pool. The third was another period of significant expansion of the number of PA programs;

this took place in the mid- and late 1990s. In this phase, the number of programs virtually doubled between 1994 and 2001. Of interest, this expansion was brought about not by the availability of federal subsidies, but by expansion taking place in the private higher education system, likely due to the rising popularity and health sector acceptance of the PA profession.

Among the most significant trends in the PA profession has been the gender distribution of the profession. Moreover, the characteristics of PA students, not only in terms of gender but also in age, previous health care experience, and academic backgrounds have also substantially changed over the decades. The gender shift, characterized by gradually increasing numbers of women entering the profession, has been underway since 1984, and in recent years more than two-thirds of all PA stu-

dents have been women. PA students are also entering training with less health care experience. A related trend is the admission of younger students. From 1995 to 2005, the proportion of students younger than 24 years increased from 19% to 35%, the proportion of students aged 24 to 29 years increased from 34% to 40%, and the proportion of students older than 29 years decreased from 47% to 25%. Graduates of the last decade — predominately women — are increasingly younger than earlier cohorts.

The average program length has increased from 24 months in 1987 to 26 months in 2007 (range 15-36 months). The length of the didactic curriculum has increased from 1004.5 hours in 1991 to 1154.9 hours in 2000. The increases in didactic curriculum and in total program length are more than likely related to the higher degrees granted by contemporary programs.

The effectiveness of PA education was affirmed as graduates entered practice and were shown to be clinicians that were accepted by patients and physicians, and were safe, competent, and cost-effective practitioners. By the mid-1980s, it was firmly established that PAs were competent and economically productive providers of primary care health services.²³ The large amount of health services research performed during the 1970s clearly demonstrated that PAs were capable of managing the majority of patient problems encountered in primary care.²⁰⁻²² Research had also demonstrated that the quality of care provided by PAs was comparable to care given by physicians. The precise term used in one study was that the quality of PA care was “indistinguishable” from that of physician care.²³

FEDERAL ROLE

During the 1970s, PA education and deployment focused on solving the major perceived health workforce need of the time — a shortage of primary care providers. Some medical educators viewed the PA as a quick and effective way of improving access to primary care. Although this conceptualization of the PA as a primary care provider departed from Stead’s original views, the political momentum for primary care, as well as the widespread acceptance of the concept by organized medicine and the federal government, created the climate for PAs to emerge as primary care providers and for the federal government to begin formally subsidizing PA education.

The federal government’s involvement in the support of PA training began with student stipends in the National Institutes of Health grant that Duke University received in 1964, which served to attract and support students through 1968. Also

there was the institution of several federally sponsored PA educational programs, the first at the US Public Health Service Hospital in Staten Island, New York, in 1966 and later, the Federal Bureau of Prisons program at Springfield, Missouri. In 1967, the National Advisory Commission on Health Manpower recommended that the federal government give high priority to the training of new categories of health practitioners and the following year, the National Center for Health Services Research was established and charged to produce a national protocol for evaluation of health workforce innovations.²⁴

The Comprehensive Health Manpower Act of 1971 (Public Law 92-157) provided the first large federal provision for PA training programs.²⁵ Later, in 1977, the Health Professions Educational Assistance Act of 1976 (Public Law 94-484) provided for grants and contracts for PA and nonphysician training programs (Title VII, Section 747 of the Public Health Act). By 1981, by the reckoning of the now defunct Congressional Office of Technology Assessment, the federal government had spent about \$65 million to train nonphysician providers, from \$1 million in fiscal year 1969 to \$21 million in fiscal year 1979.²⁶ (A review of the history of Title VII funding for PA education has recently been published.)²⁷ By 2005, it was estimated that \$180 million of federal money has been spent in support of PA education.²⁸ (P. Reynolds, former chief, Primary Care Branch, Bureau of Health Professions, Health Resources and Services Administration, personal communication, July 8, 2006.)

FACULTY EVOLUTION

The directors and faculty of early PA programs were often physicians. As programs have evolved, more PAs, as well as a wide variety of professional

educators and other health care professionals, have been employed in PA educational programs.

The role of the PA program director has expanded dramatically in scope and necessary qualifications. Program directors administer academic units with an annual budget averaging \$986,987, teach and evaluate an average of 40 students per class per year, and supervise an average of 4.5 faculty and 1.1 administrative staff.²⁸ Once a position open to and held by a variety of professionals, the PA program director position, per the 2001 ARC-PA Standards, must be held by someone licensed or certified as a PA or by a licensed and board-certified physician.

The role of the PA program medical director has also evolved over the years. Once a central member of the program faculty, medical directors now usually serve on a part-time (0.2 to 0.5 full-time equivalent) basis. According to the PAEA Annual Report, the average medical director devotes 30.1% of his or her time to program activities.²⁸

Over the years, PA programs have experienced difficulty in identifying, recruiting, and retaining qualified faculty members. Faculty attrition rates in PA programs have averaged roughly 11% per program per year over the last 10 years.²⁸ Reasons cited in various surveys relating to terminating academic employment include career advancement, return to clinical practice, geographic relocation, and job dissatisfaction.²²

Unfortunately, PA program faculty have not achieved senior academic status in their institutions in significant numbers. Among PA faculty in PA educational programs in 2005 for whom data was supplied for the 21st Annual Report (N = 535), only 24.8% were in tenure-track positions, and only 3.7% held tenure (down from 6.5% in 2000).²⁸ In terms of faculty in



At the New Health Practitioners conference in St. Louis, circa 1975 (left to right): Donald Fisher, executive director of both APAP and AAPA; L. M. (Mac) Detmer, secretary of the AMA Committee on Allied Health Education and Accreditation; Frances Horvath; and Carl Fasser.

the senior ranks, only 12.1% hold the rank of associate professor and 2.4% hold the rank of professor.²⁸

Faculty status and faculty development continue to be important issues for the PA education community. PAEA, founded as APAP in 1972, includes in its stated mission the fostering of faculty development and the facilitation of research and scholarly activity in PA programs. PAEA supports the Faculty Development Institute, which oversees the Association's faculty development initiatives; and the Research Institute, which promotes research activities, including a research grant program and the production of a peer-reviewed journal, the *Journal of Physician Assistant Education*. Published quarterly since 1990 (originally as a newsletter and now in journal format, and until 2006 known as *Perspective on Physician Assistant Education*), the journal publishes the scholarly work of PA educators.

ACCREDITATION

Establishment of formal accreditation standards for PA programs marked an important milestone for the PA pro-

fession. The precursor to the ARC-PA, now the independent national accrediting agency for PA education, was initially established by organizations sponsored by the American Medical Association (AMA) in 1971.

In that year, a subcommittee of the AMA's Council on Medical Education first wrote the standards for PA program accreditation. The Subcommittee of the AMA Council on Medical Education included representatives from the American Academy of Family Physicians, American Academy of Pediatrics, American College of Physicians, American Society of Internal Medicine, AMA, and Association of American Medical Colleges (AAMC). The document produced by the subcommittee, the *Essentials of an Accredited Educational Program for the Assistant to the Primary Care Physician*, was subsequently approved by those organizations, except for the AAMC. Later that year, the AMA House of Delegates, with the endorsements noted and on recommendation of the Council on Medical Education, adopted the

Essentials, clearing the way for the approval of educational programs that met or exceeded these requirements.

The Subcommittee of the AMA Council on Medical Education, which had been primarily an exploratory body, eventually morphed into the Joint Review Committee for Educational Programs for the Assistant to Primary Care Physician (JRC-PA), the first body that actively accredited PA programs. In December 1971, the first meeting of the JRC-PA, now numbering 12 members, was held. Malcolm L. Peterson, MD, the representative of the American College of Physicians and then dean of health services at Johns Hopkins, was elected the first chairman of the JRC-PA. At that meeting 22 programs were recommended to the AMA Council on Medical Education for final approval. Five programs were awarded full approval (accreditation): Alderson-Broadus College, Bowman Gray (Wake Forest) University, Duke University, Brooklyn Hospital, and USPHS Program at Staten Island; 10 programs gained preliminary approval: University of Alabama, Phoenix Indian Health Service, Charles Drew University, Emory University, Northeastern University, SUNY at Stony Brook, University of Oklahoma, Hahnemann University, the US Air Force program, and the University of Utah; seven programs were granted provisional approval: UC San Diego, George Washington University, Johns Hopkins-Essex Community College, Mercy College, Western Michigan University, University of Mississippi, and Albany Medical School/Hudson Valley.¹² By 1990, there were 55 accredited PA programs in the US; in 2007 there are 136.

A pivotal figure in the development of PA education was L. M.

(Mac) Detmer, MHA. In 1972, he joined the AMA, where he assumed responsibility for the accreditation of PA programs under the auspices of the AMA's Department of Allied Health Education. As principal staff for what later became known as the Committee on Allied Health Education and Accreditation, Detmer directed the initial phases of PA program accreditation. Working with the committee, his office developed the policies and processes by which programs were visited and evaluated. His influence in the philosophy and interpretation of the "Essentials" was pervasive. He used his staff role for the JRC to promote curriculum creativity and innovation in PA education, believing that medical education, particularly in traditional institutions, had become stodgy. He recognized that for PA programs to successfully develop in many settings, the accreditation standards needed to be flexible and possess sufficient latitude. His brother, Donald E. Detmer, MD, a surgeon trained at Duke, was also an influential figure in the PA profession, serving as the first editor of the *PA Journal* and later holding major administrative posts at the University of Utah and the University of Virginia.

Following a relatively long association with the Commission on Accreditation of Allied Health Education Programs, ARC-PA became a freestanding accrediting agency in 2001, reflecting the growth and increasing maturity of the profession. The long-time executive director of the commission, John McCarty, is a PA and a former PA educator at the now-defunct Marshfield Clinic PA Program.

CONCLUSION

The growth and acceptance of the PA concept and education domestically and globally in the last four decades

has been nothing short of amazing. PA programs have undergone a transition from a set of poorly structured, disparate, fledgling efforts at health professions education to well-established, progressive, and flourishing medical education programs. PA programs are now relatively homogenized in that they all meet the prescribed accreditation standards but in many instances retain their original values, innovations, and unique characteristics. PA programs have been shown to be socially responsive and to do a better job of meeting workforce demands than many other health profession programs.²⁹

Despite a large expansion of the output of PA educational programs during the past 10 years, jobs remain plentiful for new graduates and there is no visible PA unemployment or underutilization. Surveys of practicing PAs reveal that they are quite satisfied in their choice of career, with overwhelming numbers indicating that if they had it to do over again, they would choose the PA profession.³⁰ Applicants to PA programs are abundant relative to the number of seats available. PAs are now utilized in virtually every medical and surgical specialty and are credentialed providers in most delivery systems in this country. The concept is also spreading globally. Canada became the second country to recognize PAs in 2003, and there are now four PA programs operating in the Netherlands, and several are under way or planned in Great Britain and Australia. The professions' organizations are largely healthy with strong membership on both the national and state levels. Salaries continue to rise at a rate greater than inflation and payment and reimbursement matters appear to be resolved except in a few circumstances. The average PA salary is now over \$84,000 per year.³¹

The spectacular success of the

institution of the PA concept in the United States is due in large measure to the strong base provided by PA educational programs as well as the integrity of the accreditation system. A central challenge for PA education is to maintain and sustain the educational quality and standards for PAs. PA educators and their supporting organizations have created a series of flexible educational models that will continue to evolve and adapt to serve society's requirements. PA programs will likely continue to serve as agents of change in learning and practice, providing and promoting excellence in health care.³² PA education has built a strong track record of service to the medical profession and the public. As the profession enters its fifth decade, PA educators should bear in mind that the mission of PA education is to prepare PAs to meet the demands of the future health sector. We must also remind ourselves that ultimately it is serving the patient that is the goal of PA education.

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