Accreditation and implications of clinical postgraduate PA training programs

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American Academy of Physician Assistants’ Task Force on Accreditation of Postgraduate PA Training Programs

ABSTRACT
No consensus definition exists for postgraduate physician assistant (PA) training. This report from the AAPA Task Force on Accreditation of Postgraduate PA Training Programs describes the types of clinical training programs and their effects on hiring and compensation of PAs. Although completing a postgraduate program appears to have no effect on compensation, PAs who complete these programs may be favored in the hiring process and frequently report greater confidence in their skills. More research is needed and program accreditation is key to monitoring the effectiveness of these programs.

Keywords: postgraduate training, physician assistant, PA, clinical, accreditation, professional flexibility

WHAT IS CLINICAL POSTGRADUATE PA TRAINING?
In 1971, Montefiore Medical Center established the postgraduate surgical physician assistant (PA) program, which was the first recognized clinical postgraduate PA program.1 Other programs followed, and in 1988 a group of postgraduate PA directors met during the national meeting of the American Academy of Physician Assistants (AAPA) to establish a national organization for postgraduate PA training programs. Today, the resultant Association of Postgraduate Physician Assistant Programs (APPAP) reports 58 member postgraduate training PA programs across many clinical specialties in the United States.2 Although similarities exist between these structured experiences for advanced training in the clinical setting, postgraduate training has no consensus definition. A variety of terms, including postgraduate training, fellowship, residency, and clinical education programs have been used. In 2007, Polansky and colleagues attempted to define postgraduate clinical programs involving PAs, specifying programs that lasted at least 6 months, met defined learning objectives through didactic education and supervised clinical instruction, and involved graduates of accredited PA programs.3

Clinical postgraduate training has become standardized and regulated in several other healthcare education fields. The Accreditation Council for Graduate Medical Education (ACGME) was established in 1981 to review and accredit graduate medical education programs, including physician residency and fellowship programs.3 Similarly, the Commission on Collegiate Nursing Education (CCNE) and the American Society of Health Systems Pharmacists serve accrediting roles in ensuring the quality of residency programs in nursing and pharmacy, respectively. Mirroring this model, the Accreditation Review Commission on Education for the Physician Assistant (ARC-PA) created a voluntary accreditation model in 2007 for clinical postgraduate PA programs. Numerous PA clinical training programs began the voluntary accreditation process as an

Acknowledgment: The authors would like to thank Sonia Crandall, PhD, for her assistance with this manuscript.

DOI: 10.1097/01.JAA.0000482298.17821.fb
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external validation and assessment of quality; however, in 2014, the process was held in abeyance in order to reassess the requirements, standards, and alternative methods of recognition of educational quality. Eight clinical postgraduate PA programs are accredited by the ARC-PA in the United States.\textsuperscript{5}

**AAPA Task Force on Accreditation of Postgraduate PA Training Programs**

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**METHODOLOGIES FOR DATA COLLECTION AND ANALYSIS**

To inform formulation of task force recommendations, a literature review and stakeholder engagement process were undertaken. All task force activities occurred from November 2015 to February 2016. To frame discussions and ensure broad perspectives were considered, the task force developed and applied these guiding topical pillars: leadership, evidence, quality, effect on the PA profession, adoption, and adaptation.

The literature review searched the published literature over the past 15 years using these search terms: postgraduate education, postgraduate training program, residency, fellowship, PA, and physician assistant. Searches in Medline, a search engine for the *Journal of Physician Assistant Education*, and an Internet search engine were used. The AAPA and APPAP also provided copies of archived documents and correspondence to the task force for review. Thirty publications were identified and 16 were deemed relevant and specific to clinical PA postgraduate training. Each was critically appraised and discussed by the task force.

Due to the limited quantity and generalizability of published works identified, further investigation of key stakeholders was undertaken. A heuristic approach was integrated with principles of constructivism to conduct a phenomenologic analysis.\textsuperscript{7} The task force performed an analysis to understand the reality and experiences of stakeholders in the fields of medical education, training, and practice (inclusive of PAs and physicians). Qualitative data collection was not designed to be all-inclusive or exhaustive, although sampling intentionally included stakeholder groups that were diverse geographically and by clinical specialty. Task force members also leveraged convenience samples for purposes of data gathering. Stakeholders engaged were practicing and retired PAs (including those with clinical administrative roles), current or recent participants in clinical postgraduate PA training programs, PA educators (in entry-level and postgraduate programs), PA students, patients and families cared for by PAs, physicians and physician executives across multiple primary care and specialty areas within academic health centers or teaching hospitals, hiring managers of large healthcare employers, and executive leaders of national PA organizations.

All interviews and surveys were conducted by task force members and results were collated in a shared digital file to facilitate content analysis and discussion. Feedback from PAs, PA managers, and clinical administrators was primarily gathered via large closed discussion groups limited to AAPA members using open-ended questions. The task force also used these discussion groups to facilitate data saturation and allow for extreme or discrepant opinions. An electronic survey via SurveyMonkey with...
WHAT DO WE KNOW?

**Literature review**

PAs who have completed clinical postgraduate training programs generally report substantial gains in clinical knowledge and skills. In a nonexperimental, descriptive study, Asprey and Helms characterized PA postgraduate training from the perspective of trainees. Respondents (n=46, 59% response rate) described clinical activities in which they perceived an increase in knowledge. The activities in which most trainees felt their knowledge was increased or greatly increased clinical knowledge were these: establishing a diagnosis (98%), ability to recognize disease and pathology (96%), critical thinking skills (96%), and ability to develop a differential diagnosis (96%). The clinical activities most commonly described by trainees with no change in their knowledge were these: research skills (54%), history-taking and interviewing skills (22%), and physical examination skills (20%).

Applying the same study design, Asprey and Helms also described various program characteristics and activities from the perspective of directors in postgraduate PA programs. Respondents (n=16, 94% response rate) offered a number of insights into motivations for developing their programs. A need for additional training for PAs in a specialty was described by half of directors, and a need to replace physician resident or house officer services was reported by 25% of directors. Provider recruitment was identified as a motivating factor by 19% of directors. Programs frequently were affiliated with a physician residency program (47%) and all programs’ curricula included structured didactic and supervised clinical activities. These studies were the first to describe PA postgraduate training in the United States using national data in aggregate.

- **Critical care.** Few studies have focused on clinical postgraduate PA training in critical care. Joffe and colleagues conducted a cross-sectional national survey questionnaire to program directors of 331 adult ACGME-approved critical care physician fellowship programs in US academic medical centers. Study objectives were to determine the use of PAs and NPs in ICUs and to assess fellowship directors’ perceptions about any effect of PAs and NPs on physician fellowship training. Respondents (n=124, 37.5% response rate) were geographically diverse. About 80% of fellowship directors felt that PAs and NPs saved time during rounds and in evaluating new patients as well as helped maintain continuity of care and communication with the care team and patients’ family members. Most respondents felt that PAs and NPs had a positive effect on patient care. About two-thirds of respondents felt that PAs and NPs improved physician fellowship training.

- **Neonatology.** In 2007, Reynolds and Bricker described postgraduate training for PAs in neonatology at the University of Kentucky. The program sought to address workforce shortages in the university’s neonatal ICUs caused by physician resident work hour restrictions, increased demands on physicians’ time, and growing patient volumes. The program had structured didactic and supervised clinical training experiences with a curricular duration of about 1 year. The program developers envisioned alignment of PAs and NPs with advanced training in neonatal intensive care working collaboratively to help meet a 24/7 NICU coverage model. Physician residents were surveyed and the majority reported a favorable overall impression of the PA residents and felt that the PA residents were valuable teaching resources.

A single longitudinal descriptive report described a 5-year experience with a PA-physician resident staffing model compared with traditional resident-only coverage in a 6-bed pediatric ICU (PICU) at a tertiary care center in New York. Results of physician resident surveys demonstrated several benefits in the PA-staffed PICU, including increased time for education; reduced work-associated stress, work hours, and workload; ease of patient stabilization, test ordering, and performance of procedures; and improved continuity of care. Several authors have described the role of PAs in the rapidly growing field of hospital internal medicine. In 2011, the Society of Hospital Medicine reported a 30-fold increase in hospitalist providers in North America since the field began in 1997. In a cross-sectional survey based on the Core Competencies in Hospital Medicine, Torok and colleagues conducted a needs assessment for PA hospitalists. Respondents (n=69, 67% response rate) provided demographic information, described experiences with 19 core clinical conditions before beginning their PA hospitalist careers, and identified content areas that they believed would enhance their effectiveness in hospital medicine practice. About half of respondents became PA hospitalists immediately after entry-level PA training, and most felt that additional clinical training in inpatient settings would have been helpful preparation.

Using a hospital administrative database, Singh and colleagues conducted a retrospective cohort study of 9,681 general medical hospitalizations between January 2005 and December 2006. Multivariable mixed models were used to compare outcomes of 2,171 hospitalizations with hospitalist-PA teams with those of
7,510 hospitalizations with physician resident teams. Inpatient care provided by hospitalist physician-PA teams was associated with a 6.73% longer length of stay (P=0.005) with the increase dependent on the time of patient admission. The risk of readmission at 7, 14, and 30 days and inpatient mortality were similar to resident-based teams.15

• Rheumatology. In a longitudinal administrative study, Hooker described clinical postgraduate PA training in rheumatology at the University of Texas Southwestern Medical Center.16 During a 12-month training program, PAs were assigned to the same role and schedule as first-year rheumatology medical officer fellows. Each year, a team of three medical officer fellows and one PA postgraduate trainee shared inpatient and outpatient consultation responsibilities. The curriculum had structured didactic training and supervised clinical experiences. From 2004 to 2008, the PA trainees served as principal clinician for 534 rheumatology patients (58 inpatients and 476 outpatients). All PA trainees secured a clinical position in rheumatology, reported competitive employment offers before completing their training, and endorsed the value of postgraduate training.16

In 2003, Anick and colleagues surveyed 517 PAs who completed postgraduate training with a tool adapted from the 2000 AAPA Census survey questionnaire.17 Respondents (n=199, 38% response rate) were similar to the national sample by specialty regarding average hours worked per week, number of clinical positions held, highest degree earned, and annual base pay. Minor differences included that PAs with postgraduate training were more likely to supervise other PAs (32.1% versus 19.4%) and perform quality assurance activities (35.7% versus 21.9%).17

In a nonexperimental descriptive study, Brenneman and colleagues surveyed PAs who had completed a surgical postgraduate training program about their perspectives on their program choice, training, and return on investment.18 Respondents (n=78, 52% response rate) were compared with surgical PAs reported in the 2005 AAPA Census survey. On average, the salaries of PAs who had completed postgraduate programs were 15% higher than the salaries of surgical PAs overall; however, the PAs who had completed postgraduate programs reported working 16% more hours than the surgical PAs in the census.18 When adjusted for hours worked, the annual salaries were similar and employer-provided benefits were not statistically different between the two groups. In commentary on the report, Hooker remarked that “After 35 years of existence, postgraduate PA programs have been attended by less than 1% of all clinically active PAs and have remained largely unstudied.”18

In 2008, Wiemiller and colleagues identified 55 postgraduate PA training programs in the United States and noted that two had been granted accreditation by ARC-PA.19 Today, 58 postgraduate PA programs are recognized by APPAP and eight are accredited. The APPAP list is the most comprehensive that could be identified but additional programs exist based on literature review and anecdotal reports.

In the most contemporary descriptive report to date, Will and colleagues explored graduate perceptions of the efficacy and perceived utility of clinical postgraduate training.20 Electronic surveys were sent to 149 PAs who had completed a postgraduate training program between 2008 and 2013. Respondents (n=113, 75% response rate) completed postgraduate training in one of seven surgical specialties or five medical specialties. Most respondents trained in a surgical specialty (69%). Most graduates felt their training made them more competitive in the job market (97%), reported orientation time was reduced at their job after postgraduate training (75%), felt training contributed to increased confidence in their current job (97%), and felt the training provided them with the skills to become a leader within their organization or specialty (90%).20

Phenomenologic analysis Clinical postgraduate PA training programs prepare a very small percentage of clinically active PAs and small minority of the more than 6,000 students who are graduated from entry-level PA programs each year.21 The clinical specialties that we identified within clinical postgraduate PA programs were acute care medicine, cardiology, cardiothoracic surgery, critical care and trauma, emergency medicine, family medicine, general surgery, hematology and oncology, internal medicine and hospital medicine, neonatology, obstetrics and gynecology, orthopedic surgery, otolaryngology, pediatrics, psychiatry, urgent care, and urology. Aside from APPAP registry data, no readily accessible source was identified with aggregate data to describe curricula, trainee demographics, or practice patterns of graduates.

Although completing postgraduate training is unlikely to affect total compensation, most PAs felt it improved the hiring process and improved their confidence levels. PA professional organizations and their leaders generally support clinical postgraduate PA training as an option for structured advanced training in the clinical setting, specifically for PAs who have an interest in postgraduate training at any stage in their careers. The vast majority of PAs who completed a clinical postgraduate PA training program would recommend it to others.

Employers and hiring managers observed greater confidence as a key benefit of clinical postgraduate PA training. Hiring managers felt that well-designed, structured onboarding, ongoing professional practice evaluation, and focused professional practice evaluation processes were equally effective as a formal postgraduate training program to ensure clinical competency, efficiency, and effective team practice. Numerous PA hiring managers conveyed concern about steps that would increase
specialization requirements for practice entry. Some responsible for blended workforces of PAs and advanced practice registered nurses (APRNs) cited difficulties with staffing if APRNs were not qualified to manage certain types of patients common to their service lines or other coverage areas. Most PA hiring managers felt that the current supply of PAs from postgraduate programs was so small it would never meet workforce needs. Most felt that a year of clinical experience in a particular specialty was equivalent to completion of a clinical postgraduate PA training program. Numerous PA hiring managers cited a lack of evidence for measurable outcomes of postgraduate training (such as medical error rates, efficiency, patient engagement, clinical quality, unnecessary costs related to practice patterns, or utilization) that would compel their organizations to alter current hiring practices. A few PA hiring managers (all represented institutions employing more than 150 PAs) preferred hiring new graduates from entry-level PA programs, citing ease in assimilating them into their institutions’ cultures and practice standards. Several hiring managers and practicing PAs reported concern over online-only programs available to APRNs that were described as clinical fellowships or residencies, noting the main benefits of postgraduate training came from hands-on training. Several hiring managers also involved in recruiting pharmacists in teaching hospitals stated that pharmacists without a pharmacy practice residency (and/or specialty residency) were rarely considered for employment opportunities within their institutions.

Clinical postgraduate PA program directors overwhelmingly felt that the former accreditation process was cumbersome and poorly aligned with their workplace-based training models. Program directors who sought accreditation or seriously considered applying acknowledged accreditation was an important step to gain institutional support. Program directors who had not sought or seriously considered accreditation most commonly reported the process was too onerous, accreditation was not important to their institution, or staff support was insufficient to complete the application process.

Interest in postgraduate training among clinical-year PA students who were interviewed varied widely across three sites examined (one each in the Southeast, Northeast, and Midwest) from 5% in one class, to 20% in another class, to 50% in another class. Many students were unsure what completing clinical postgraduate PA training would mean for their careers in the long term. These three student groups represented convenience samples and were not constructed to be representative of all matriculated PA students.

Feedback was gathered from physician clinical leaders in academic medical centers and in the following specialties: dermatology, emergency medicine, family medicine, hospital medicine, internal medicine with and without intensive care, oncology, otolaryngology with head and neck surgery, and surgery. Content analysis of the feedback demonstrated these themes:

- Experience gained through a clinical postgraduate PA training program was valued by physician leaders in some but not all specialties.
- Physicians in some specialty areas (dermatology, intensive care, and emergency medicine with trauma) who were interviewed preferred to orient and train their own PAs because of the highly variable care models used in their teams.
- Several physician leaders commented that clinical postgraduate PA training was unnecessary and unlikely to affect a large segment of PA practice because of high market demand for PAs and satisfaction among employers of new graduates.
- Physician leaders identified key skills or behaviors that were ideal or observed favorably in PAs who had completed clinical postgraduate PA training: better understanding of systems-based practice, experience with clinical research and administrative skills, greater appreciation for interdisciplinary practice and multidisciplinary care, greater assimilation into the institution’s overall culture, improved leadership competencies, better understanding of the care continuum across settings and points of care transition, and more recognition of the importance of continuity of care.
- The vast majority of physician leaders did not believe clinical postgraduate PA training programs would create practice barriers (such as recruitment issues, credentialing or licensure barriers, employer mandates, or expectations from physician specialty organizations) for PAs not trained in postgraduate programs.
- A small number of physician leaders described potential advantages for employment opportunities in some specialties for PAs who complete clinical postgraduate training programs if ongoing growth in the number of entry-level PA programs continues and pushes supply over demand.
- The most common desirable factors described by physician executives related to hiring PAs were high level of motivation, strong desire to excel, willingness to learn, ability to receive and proactively gather feedback, flexibility, interest in pursuing scholarly or administrative opportunities, and professional experience before entry-level PA training; completion of clinical postgraduate PA training was not listed.
- The vast majority of physician leaders reported that a national process for recognizing, certifying, or accrediting clinical postgraduate PA training programs was very important.

None of the patients or families interviewed had any knowledge if their PA provider had completed a postgraduate training program. A general theme among patients was if the provider was caring and addressed their needs, advanced training in the clinical setting was unimportant. Numerous individuals from various stakeholder groups...
felt that inconsistent terminology for describing these types of programs (postgraduate training program, residency, fellowship) was confusing or problematic.

**WHAT DO WE NOT KNOW BUT NEED TO FIND OUT?**
The task force identified several areas of knowledge gaps or topics with very limited data based on literature review. These areas were:
- outcome-based data from accredited clinical postgraduate PA training programs
- comparative efficacy data for PAs in the same specialty who were trained in a postgraduate training versus those without such training
- contemporary studies for potential salary or total compensation differences.

Additionally, the task force asked if characteristic demographic traits or predictive factors could describe PAs who choose to enter clinical postgraduate training programs. Although a few studies anecdotally report retention of PAs who complete postgraduate training within the institutions offering the training, no longitudinal studies track these PAs’ practice patterns. Limited study has revealed several process improvements and improved perceptions of care by members of the care team; however, the literature is lacking in published works that describe patient-oriented outcomes linked to clinical postgraduate PA trainees or graduates. In 2009, Jones and Cawley offered a model to increase the supply of specialty-trained PAs who could serve as permanent hospital-based providers.22 These PAs would let physician surgical residency training programs meet operative experience and educational needs through team-oriented and physician-supervised perioperative care. Although workforce shortages and challenges related to ACGME duty hour restrictions are well established, little has been published to describe how many academic medical centers have adopted this model or other related models.22

Finally, we know little about entry-level PA students’ knowledge of and interest in clinical postgraduate PA training.

**IMPLICATIONS AND CONCLUSIONS**

Postgraduate PA training programs provide opportunities for a limited number of PAs to expand upon their baseline knowledge and skills in specialized focus areas, usually a medical or surgical subspecialty but in a few instances primary care. Although completion of a postgraduate PA training program seems to have no effect on compensation compared with the general population of PAs, those who complete postgraduate training may be favored in the hiring process and frequently report an increased sense of confidence in their skills and abilities. Generally, professional organizations for PAs or APRNs encourage postgraduate training programs if participation is voluntary. In the current dynamic healthcare environment, postgraduate training programs prepare PAs to help meet critical workforce shortages in academic medical centers or other institutions affected by duty hour restrictions on physician residents and fellows.

Limited study made it difficult to produce any generalizations about accreditation of postgraduate PA training programs. The task force felt a national accreditation model was important to most stakeholders but the previously existing model appeared onerous and not well suited to the design or staffing levels of contemporary programs.

Accreditation for postgraduate programs in other health professions is consistently viewed as important and accepted for program evaluation and ongoing monitoring of quality and curricular effectiveness. The task force provided recommendations to its sponsoring commission about key elements and considerations for an optimal national model for accreditation of clinical postgraduate PA programs. The task force anticipates these recommendations will be a part of a revised policy paper to be considered by the AAPA House of Delegates in May 2016. The task force strongly felt that postgraduate PA training requires further study and would benefit from increased quantity of investigations, including multisite studies that involve patient-oriented outcomes. Investments in research infrastructures by national PA organizations, specialty organizations in medicine, and large employers will likely be required to significantly advance knowledge generation and facilitate dissemination of best practices that are critical to optimization of these voluntary, workplace-based educational innovations for PAs.

Clinical postgraduate PA training programs are one of many innovations created by the PA profession to support continuing professional development and lifelong learning, foster interprofessional and collaborative care, advance workforce development, and explore novel educational approaches to optimize healthcare delivery. Similar to the impetus of physician shortages that led to the birth of the PA profession nearly 50 years ago, many of the early clinical postgraduate PA training programs arose to address provider shortages that resulted from duty-hour restrictions of physician residents and fellows. Advanced training in the clinical setting is a core facet of professional identity formation and continuing professional development of every PA, and clinical postgraduate PA programs appear to be one of several structured ways to deliver and evaluate such training. Advanced training in the clinical setting and the generalist foundation of entry-level PA education position the PA profession as one of the most flexible and adaptable professions in modern healthcare. This flexibility and capacity to adopt and adapt to dynamic changes in healthcare delivery make PAs valuable assets within the US healthcare workforce. **JAAPA**

**REFERENCES**


