

PA Education and Practice in Maryland: Current Status, Opportunities & Challenges

A Report from
The Physician Assistant Leadership and Learning Academy



Message from the Executive Director


The PA profession is experiencing phenomenal growth across the United States and is spreading rapidly across the world. The number of PA programs has more than doubled in the past two decades, growing from 135 accredited programs in 2004 to 306 in 2024. This growth is projected to continue as the demand currently outweighs the supply of PAs in most U.S. states.

In Maryland, the profession has blossomed from a single PA program at CCBC-Essex in early 1970s to now six programs, four in public universities and two in private institutions. Maryland PA programs enjoy a strong demand of qualified applicants, far more than can be admitted to current available slots. This demand is likely to continue for some time.

With growth, comes challenges. PA programs across the country are experiencing several bottlenecks that threaten the future quality of education. In Maryland, there are challenges related to clinical site and preceptor shortages, accreditation, student outcomes, faculty turnover, and leadership instability. If we are to maintain a flourishing profession, clearly these issues need to be examined in detail, and the time is now.

At PALLA, we are very excited to launch our inaugural State of the Profession Report for Maryland. We conducted a series of semi-structured interviews with Maryland PA stakeholders and analyzed secondary data from various state and national agencies. Using a SWOT analysis framework, we report on the opportunities and challenges within the profession's milieu, and we identify potential interventions that can advance the profession. The future looks very bright, I am optimistic that this report will ignite transformative changes and that if we all work together, we can make PA education in Maryland a model in the country.

Sincerely,



Gerald Kayingo, PhD, MBA, PA-C, DFAAPA
Assistant Dean, Executive Director and Professor
Physician Assistant Leadership and Learning Academy



Executive Summary

Physician assistants/associates have become a well-established component of the US health care work force. In Maryland, the PA profession is flourishing with more than 3600 PAs in active clinical practice and 5 operational PA education programs. A growth rate of approximately 40% has been projected between 2018-2028. The Physician Assistant Leadership and Learning Academy (PALLA), based at the University of Maryland, Baltimore with funding from the state, was created in 2019 to advance PA education, research, policy, and practice in the state. Consistent with this mission, PALLA regularly conducts an environmental scan to ascertain current opportunities and challenges facing the PA profession in the state. In fall of 2023, PALLA undertook an examination of the status of the profession and the state's PA educational programs. For this report, PALLA conducted a series of semi-structured interviews with Maryland PA program faculty, program leaders, and deans. PALLA also analyzed secondary data from both local and national agencies. Several themes consistently arose from this analysis; among them were a strong demand among applicants, PA graduates staying local, concerns regarding program leadership and faculty stability, challenges in the development of effective student remediation processes, and the issue of clinical site and preceptor shortages. Additional areas of concern identified by Maryland PA program leadership and faculty were issues related to accreditation, levels of institutional support, faculty turnover and workload, sufficiency of support, and lack of diversity among faculty and students. There was a desire among interviewees for increased collaboration between PA programs and other health professions. At a practice level, PAs are making a strong impact in various clinical settings and the demand currently outweighs the supply in Maryland. However, scope of practice regulations remains a major barrier in maximizing PA value in Maryland. Based on current opportunities and challenges identified, we present a series of specific and detailed recommendations that we hope will stimulate discussion among various stakeholders while advancing the quality of PA education, policy, and practice in Maryland.

About PALLA

The Physician Assistant Leadership and Learning Academy (PALLA) is a Maryland state-wide PA workforce innovation initiative. Based at the University of Maryland, Baltimore, PALLA was founded in 2019, with a mission to advance PA education, research, policy, and practice in Maryland and beyond. We support and enhance PA programs, particularly in the areas of faculty and preceptor development, clinical site recruitment, student success, accreditation, and ongoing programmatic quality improvement.

PALLA is a collaborative that seeks to strengthen and promote the Maryland PA workforce by increasing faculty capacity to educate the next generation of PA program graduates. Our vision is to create an inclusive learning community dedicated to excellence in education and professional development. As an aspiring think tank and policy institute, PALLA performs research and advocacy on crucial topics in health professions education, health services and systems science. Leveraging both virtual and face-to-face teaching, PALLA offers a PA faculty pipeline fellowship, and preceptor academy that addresses some of the critical barriers in the development of the PA workforce in Maryland and beyond.

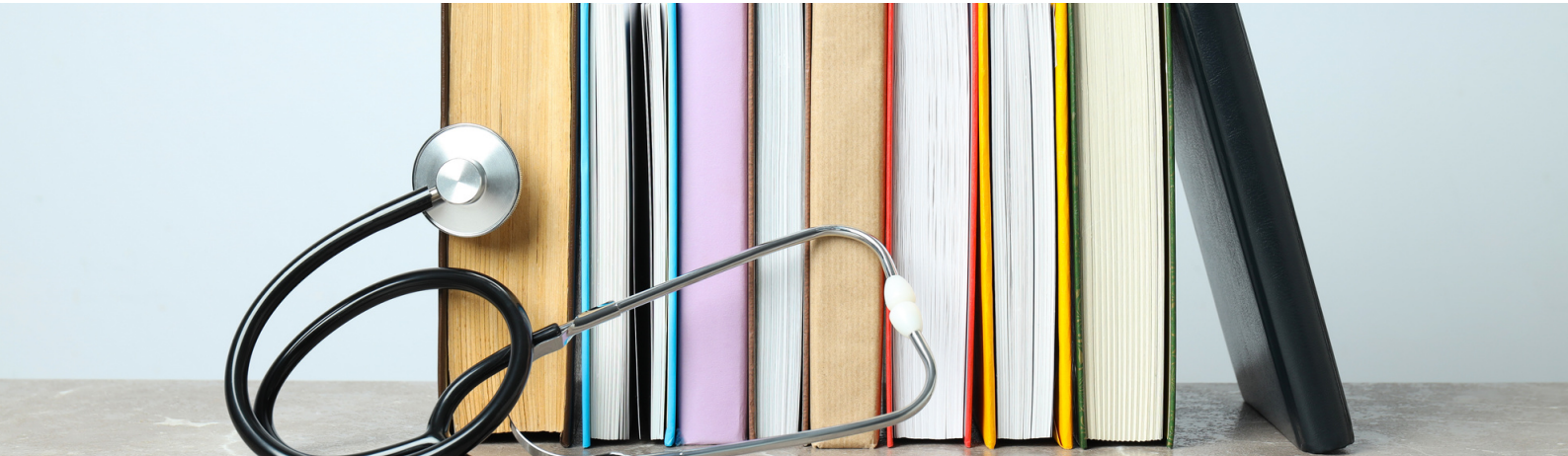


Introduction

Physician assistants/associates (PAs) are health professionals contributing substantially to health care delivery in the US and the state of Maryland. PAs are academically and clinically prepared to practice medicine in collaboration with a licensed Doctor of Medicine or Osteopathy. Physicians created the idea of the PA in the 1960s as a workforce policy response to the shortage and uneven distribution of generalist doctors. The intention was to increase the public's access to health care. What followed was the establishment of a health profession that clearly has been a workforce policy success and soon became fully integrated into American medical practice (1). The physician-PA team relationship is fundamental to the PA profession and enhances the delivery of high-quality health care. As of 2023, there were about 170,000 certified PAs in clinical practice across the US and more than 3,600 in Maryland, registering 19% growth between 2018 and 2022 (2).

The educational sector of the PA profession also has grown quickly and has been institutionalized into US higher education. There are now 306 PA educational programs in the US that hold accredited status from the Accreditation Review Commission for the Physician Assistant (ARC-PA). Five of these programs are in Maryland with one more program is under development (3). The Physician Assistant Leadership and Learning Academy (PALLA), based in the University of Maryland, Baltimore was created to advance PA education, research, policy, and practice in the state. Consistent with this mission, PALLA regularly conducts an environmental scan to ascertain current opportunities and challenges facing the profession in the State.

Current Trends in PA Education & Practice



Education

Nationally, PA education is at the master's level and the average PA program length is 27 months (range 24-36). Programs operate year-round, and usually consist of one year of classroom and laboratory instruction in the basic and clinical sciences and a second year of clinical practice experiences in hospitals and clinics (Figure 1). Two-thirds of matriculants are female and the median age at graduation is 29 years (range: 23-55 years), 80% are white. The curriculum is modeled after American medical education with clinical rotations following basic sciences courses. Students complete an average of 109 academic credit hours with more than 2000 hours of supervised clinical practice. There are about 12,000 graduates annually. About a quarter (27%) of PA programs in the US are set within an academic health center. About 70 are sponsored by schools of medicine. Typically, PA programs are departments in schools of medicine or schools of health professions. The average start-up cost of a PA program is approximately \$2.5 million spread over the first 5 years (direct cost in 2010 US\$). The average cost of PA education was \$75,000 (2018 US\$; 28 months). In 2019, most recent PA program graduates (56%), had debt attributable to their PA education ranging from \$74,999 to \$174,999. Typically, the overall program-wide administrative leadership is performed by a program director (PD), supported by the academic coordinator, clinical coordinator, and a medical director. The average number of full-time faculty in a PA program was about 9 in 2020 (4). One developing trend has been the establishment of hybrid and distance PA education programs delivering most didactic content through a combination of online teaching (synchronous/virtual and asynchronous/self-guided) and face-to-face, hands-on immersion experience (5).

As of 2023, there were 2 ARC-PA-accredited hybrid programs and 2 programs had applied for provisional status. Another growing trend in PA education is postgraduate training and doctoral education. As of 2023, about 5% of all American PAs had completed a PA postgraduate training programs in form of PA residencies or fellowships and there were over a dozen PA specific doctoral programs (6). In Maryland, the first PA doctoral program was launched at the University of Maryland Baltimore, Graduate School and matriculated its first cohort in Fall of 2023.

Figure 1: Overview of PA Education, Certification & Continuing Education

Pre-PA	PA Program			Certification & Continuing Education
Bachelor's Degree	Master's Degree			NCCPA Certification Examination
	3 Academic Years			
	~ 80 Graduate-Level Academic Credits			100 CME Credits Every 2 Years
~ 2,800 Hours of Direct Patient Care	>3,000 Hours of Education			
	100 Hours Pharmacology	>1,300 Hours Medical, Clinical, Behavioral Sciences	~ 2,000 Hours Clinical Practice Experience	NCCPA Recertification Examination Every 10 Years

Data in the table represents national averages and individual experience may vary.



Practice

At a practice level, about 80% of PAs are less than 55 years old, making this among the more youthful health professions. The majority are female (73%), with a median age of 38 years (range: 23-74 years). About 51 PAs per 100,000 population were estimated in the U.S. in 2022, compared to 40 per 100,000 in 2018 (2). The top three specialties with the largest number of PAs are surgical, family medicine/general practice and emergency medicine. About 23% of all PAs work in primary care, a decline from 26% in 2018. According to the NCCPA survey, the top three states with the highest employment of PAs by 2022 were New York (15,449), California (13,068), and Florida (11,011). Overall, the demand for PA graduates remains strong across various health care settings and is predicted by the US Bureau of Labor Statistics (BLS) to increase by over 30% between 2018-2028 (7). The US mean annual salary for PAs is about \$120,000 and the median is about \$115,000. A majority (>85%) of all PAs indicated are satisfied with their career as a PA (2).

The National Commission on Certification of Physician Assistants (NCCPA) estimates that there are over 3,600 PAs employed in the state of Maryland and a 40% growth rate is projected between 2018-2028 (2). About 16% of PAs employed in Maryland worked in primary care by 2022 (2). Roughly 17% of patients seen by PAs in Maryland were in rural areas. The median annual salary for PAs in Maryland is \$118,170. Currently, the annual replacement job openings exceed the current annual production of about 140 graduates from Maryland PA programs. The regulatory body for PAs in the state is the Maryland Board of Physicians. This board awards licensure to qualified PAs, approves their practice activities (including prescribing authority), and conducts disciplinary review.

PA Education in Maryland

PA education in Maryland dates back to 1972 when the CCBC-Essex Program was founded in a partnership with Johns Hopkins University. As of 2024, there are five accredited programs in Maryland with one more program under development. The oldest program, formerly at CCBC-Essex is now under the sole sponsorship of Towson University and graduates approximately 36 students annually. The University of Maryland, Baltimore (UMB) PA Program was founded in 1997 at Anne Arundel Community College and graduates approximately 40 students annually. The Frostburg State University PA program began in 2018. The University of Maryland Eastern Shore (UMES) holds provisional accreditation status and is the only Historically Black College or University (HBCU) in the state that sponsors a PA program. A recent entry to Maryland PA education is the program sponsored by Notre Dame University of Maryland which recently earned provisional accreditation through the ARC-PA and expects to graduate its inaugural cohort in December 2025. A new program is under development at Mount St Mary's University in Emmitsburg, Maryland. It was approved by the Maryland Higher Education Commission (MHEC) in 2022 and has applied for Accreditation-Provisional from ARC-PA) and anticipates matriculating its first class in January 2025. Reports from program directors indicate that majority of PAs graduating from Maryland PA program stay and work in Maryland after graduation. Some programs have over 50% of graduates working in medically underserved areas.

Table 2 and 3 summarize the characteristics of PA programs in Maryland.

Opportunities and Challenges

There has been a very strong enrollment demand in the past two decades and this trend is most likely to continue nationally. On average, an individual PA program currently receives over 1000 applicants for a class of about 40 students. PA graduates tend to stay local after graduation thus boosting the workforce in communities where PA programs are located. In Maryland, PALLA offers a unique platform for programs to collaborate and collectively develop solutions rather than competing. Despite substantial growth and expanding opportunities, Maryland PA programs are currently facing significant challenges including accreditation, faculty retention, and student outcomes (Figure 2). All four PA programs in the University System of Maryland have undergone a leadership transition in the past two years.

Consistent with PALLA's mission, we conducted an environmental scan to obtain a deeper understanding of potential root causes for the challenges facing the PA programs in Maryland, to explore what solutions have so far been implemented, what is working, and which areas need further improvement.

We applied the SWOT analysis framework to evaluate critical areas for intervention. In the Fall of 2023, a series of semi-structured interviews were conducted with Maryland PA program faculty, program leaders, and deans from schools that are sponsoring PA programs. Participants were recruited by email. The interviews included senior administrative officers such as chairs and deans of PA program sponsoring institutions. PALLA also analyzed secondary data from both local and national agencies for benchmarking.

This environmental scan has three major objectives. The first is to develop clarity about critical issues existing in each individual Maryland PA program. Objective number two is to identify priority areas for potential intervention. The third objective is to investigate the expectations and desires from program leaders on how the PALLA collaborative can best support PA programs, develop short and long-term priorities as well as recommendations for PALLA's support of PA education in Maryland.

The following themes consistently arose in the interviews highlighting the concerns expressed by the program faculty and staff (Table 4).

	<p>Program Leadership and Faculty Stability: High program director and faculty turnover observed</p>
	<p>Student Success and Remediation: Poor PANCE scores, attrition, and student progression concerns</p>
	<p>Clinical Site Shortage/Preceptor Shortage: Increasing competition and expectancy for payment</p>
	<p>Faculty Workload, Shortage, and Development: Faculty are spread too thin to be effective</p>
	<p>Programmatic Accreditation and Self-evaluation Process: Major source of stress to program staff and leadership. Two programs are on probational accreditation.</p>
	<p>Institutional Involvement in Programs: Lack of understanding of PA education by senior leadership</p>

PROGRAM LEADERSHIP AND FACULTY STABILITY

One issue of concern among Maryland PA programs has been frequent program director and faculty turnover. One program has had over 3 program directors during its 5-year provisional accreditation period. Several programs have reported high rates of faculty attrition and turnover. Such turnover adversely affects program effectiveness and often leads to accreditation citations.

STUDENT SUCCESS AND REMEDIATION

Interviewed directors and faculty consistently identified challenges in student progression through a rigorous and demanding medical curriculum. The curricula are typically lockstep and use frequent written examinations. Students frequently struggle with the volume and intensity of the material presented. Multiple interviewees expressed concerns related to student remediation and bridging the skills gaps that students face as they navigate the programs. There were concerns about students' lack of efficiency, effective study skills, and a lack of critical thinking. One program faculty member stated that there is a gap between what the students need and what they (students) think they are lacking in terms of skills and abilities. These concerns were expressed most notably in relation to the clinical year of the program as it is more difficult to identify at-risk students and begin early intervention and remediation during this time. A desire for standardized methods of remediation and data driven models were expressed, along with a desire for preceptors trained in remediation who can identify problem areas before they become major issues for at-risk students.

CLINICAL SITE/PRECEPTOR SHORTAGE

Clinical site shortages continue to be a common concern across all Maryland PA programs. Most severely impacted specialties are women's health, general surgery, pediatrics, and psychiatry. One factor highlighted along with this theme was that clinical sites within Maryland are being offered to out of state programs by health care systems, thus increasing the burden on Maryland-based clinical coordinators to find rotations for their students. There is an ongoing debate within the PA educational community as to whether programs should pay clinical sites to take their students for rotations. At a national level, about 52% of PA programs pay for some or all clinical rotations. One faculty member stated that a major concern in their program was the recruitment of clinical faculty as a barrier to success in the clinical phase of their program. With 4 of the 6 Maryland PA programs housed within the University System of Maryland (USM), hope was expressed by the dean of one program that collaboration between the programs, at least within USM, could help alleviate the issue of clinical site shortages for everyone.

FACULTY WORKLOAD, SHORTAGE, AND DEVELOPMENT

Another universal theme in the PA educational landscape is the idea of faculty workload. This theme occurred in several ways during our interviews. Responses on the subject ranged from individuals stating outright that faculty are spread too thin to be effective in all areas of their responsibilities (e.g., teaching, accreditation, scholarship, professional development), to discussion of the increasing student-faculty ratios, and increasing burden of advising duties. At present, the typical accredited PA program nationally has an average faculty FTE of about 8 faculty for an average class size of 40 students (4). Most Maryland PA programs are operating at a lower faculty capacity of mostly junior faculty with little teaching experience. One program's Dean mentioned that faculty engagement in the non-teaching work (service, scholarship etc.) is a key resource that every program needs but is not being given enough time and attention. At universities such as those in Maryland, the professoriate is responsible for teaching, research, and service within their respective fields and is expected to maintain a high level of expertise and are subject to rigorous standards of evaluation and promotion. PA faculty are spread so thin to engage in other crucial roles outside teaching. Interviewees raised concerns about the increasing number of faculty who are nearing retirement age that are seasoned and experienced in the running of PA programs who will need to be replaced by new faculty members who do not have the same experience in programmatic operations. Interviewees desired more targeted faculty development to focus on preparing new faculty for the rigors of programmatic operation as well as to give faculty members in specific roles—such as medical directors or clinical coordinators—targeted development sessions for their role.

PROGRAMMATIC ACCREDITATION & SELF-EVALUATION PROCESS

Our investigation identified these processes as a major source of stress to program staff and leadership. Two out of four Maryland programs are on probational accreditation. Faculty members of most programs expressed that the accreditation process was something that they had not been prepared for. The programs expressed interest in workshops or best practice guides for faculty inclusion in the ongoing self-study process related to accreditation.

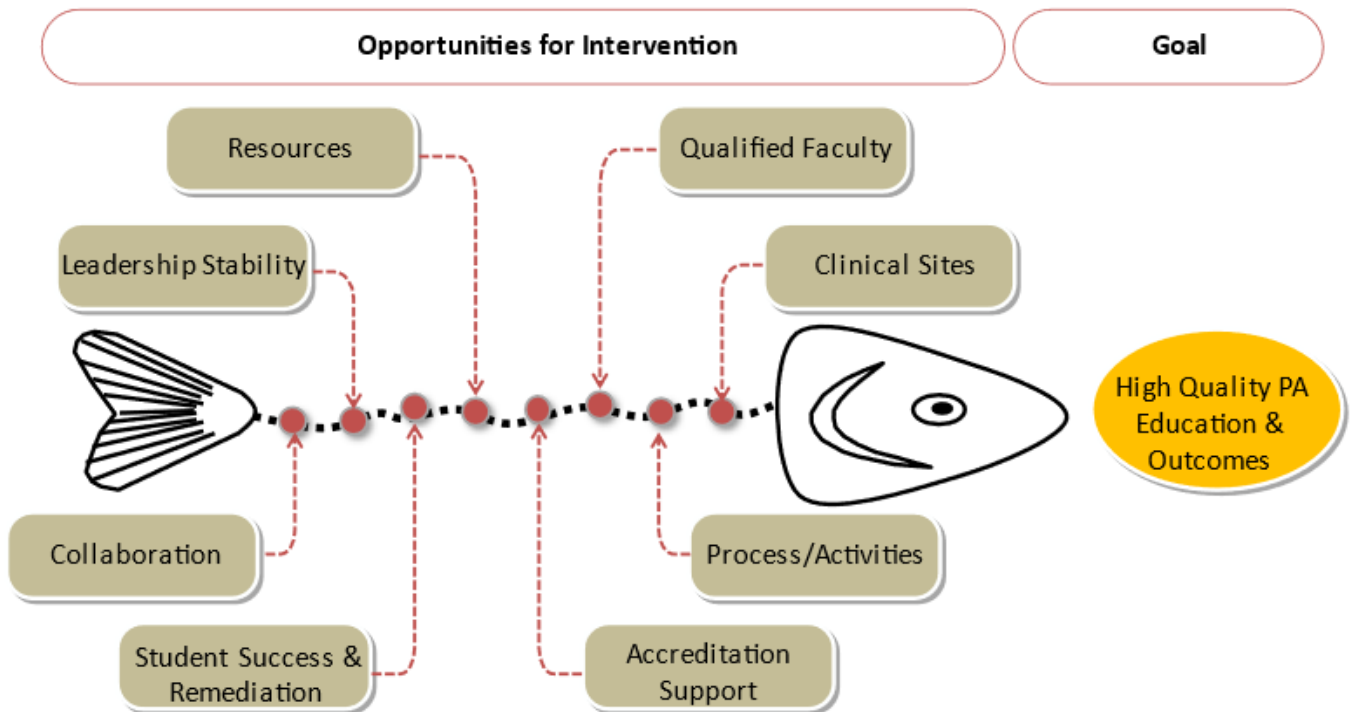
INSTITUTIONAL INVOLVEMENT IN PROGRAMS

One senior faculty expressed a lack of Dean-level involvement in PA education in the state. Survey participants pointed out that senior leadership at universities that house PA programs only have a superficial understanding of the day-to-day operations and true issues of PA programs, and that often these senior leaders are not fully aware of the needs and struggles of PA education in the state. A major step in the right direction to ensure a more effective PA education landscape would be more open dialogue at the Deans level within universities to ensure programs are receiving the highest level of institutional support possible.

The following initiatives are being implemented across Maryland PA programs with varying levels of success and effectiveness and impact (Table 5).

	<p>New program directors have been hired at Frostburg and Towson to stabilize program leadership</p>
	<p>With PALLA support, contracted medical education firm to help students with PANCE preparation</p>
	<p>A state-wide preceptor academy has been launched to support preceptor development</p>
	<p>A state-wide faculty pipeline fellowship was launched in 2019, graduating 6-10 fellows annually and up to 70% of graduates have assumed teaching roles in the various PA programs in Maryland</p>
	<p>Programs have hired accreditation consultants and participate in annual accreditation symposium</p>
	<p>A state-wide collaborative (PALLA) convening periodic meetings to share ideas and solutions</p>
	<p>Applying for state and federal grants to support clinical site and preceptor development</p>
	<p>Conducting research and disseminating best practices in PA education, practice, and policy</p>
	<p>Liaising with national and state level PA organizations in amplifying the voice of PAs</p>
	<p>Commitment to equity, diversity, and inclusion- students, faculty, staff, and curriculum</p>

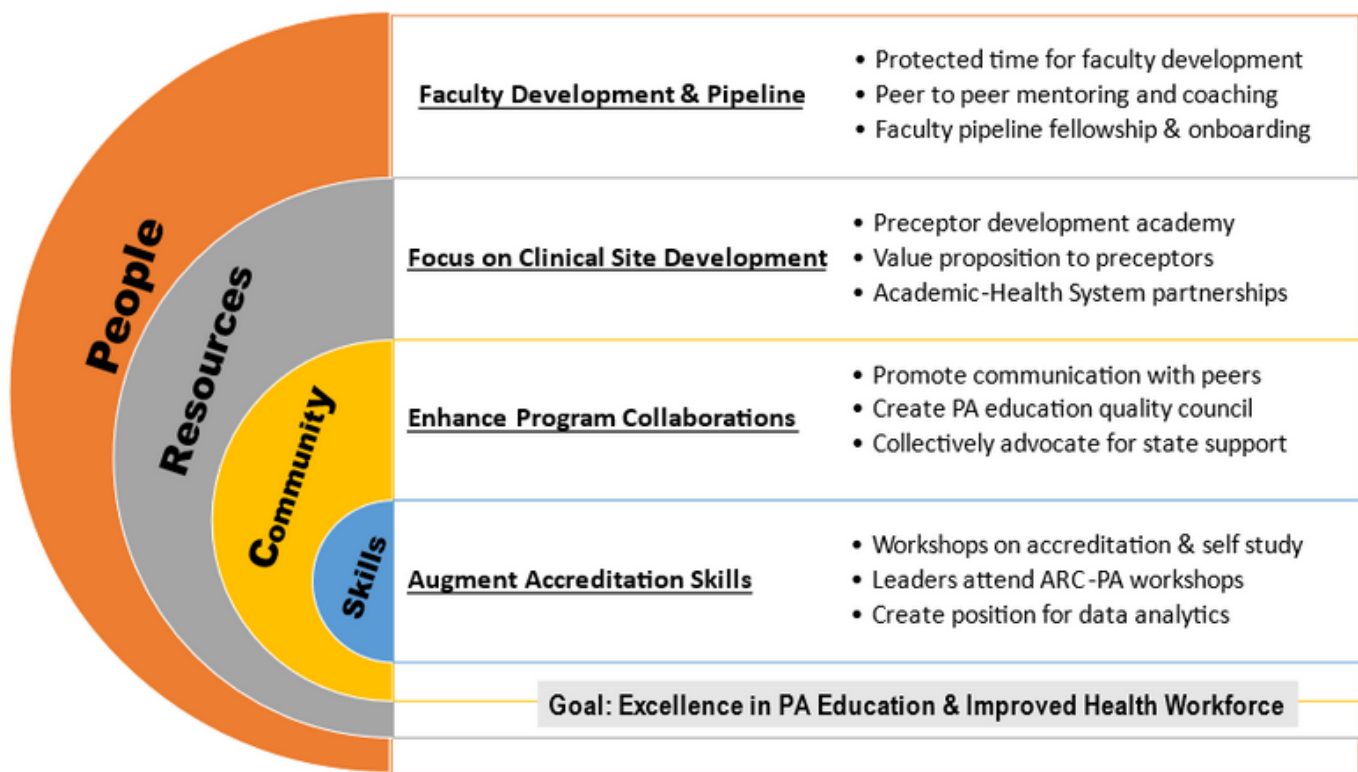
Figure 2. Opportunities for Intervention



Recommendations

PALLA believes that there are several ways that sponsoring institutions of PA programs in Maryland can enhance their effectiveness and outcomes. PALLA also believes that working together as a collaborative and leveraging the unique strengths of each program across the state could be the most effective way to minimize some of the current bottlenecks to PA education and practice. A series of recommendations that address the most stated issues and concerns among reporting PA faculty are outlined below.

Figure 3 below summarizes the proposed recommendations and PALLA’s framework for PA program quality improvement.



Strengthen Faculty Development and Program Leadership Capacity

It is vital for Maryland PA programs to devote resources and commitment to continued faculty development. Substantial numbers of Maryland program faculty are individuals with recent clinical experience but little in the way of teaching experience. They often are unfamiliar with the range of skills and experiences required in the academic setting and usually are not in tenure track positions. This can lead to faculty burnout and higher rates of faculty attrition.

Institutions should create reliable programs for new faculty development that include release time for PA faculty to attend national peer conferences sponsored, for example, by the Physician Assistant Education Association (PAEA) and PALLA, to further their formal education (i.e., doctoral education), and to participate in internal and external mentoring relationships.

- a. Program leadership should provide academic resources and protected time for PA faculty to undertake faculty development initiatives, particularly in their first year of employment. Program leadership should be encouraged to offer more intentionality around resources and protected time for faculty.
- b. Ongoing educator development and leadership development initiatives for established faculty.
- c. Faculty should have the opportunity for longitudinal peer to peer mentoring and coaching.
- d. Recognition and incentivization of faculty development. Cultivate a culture of appreciating ongoing faculty development (let faculty development activities count in merit advancement, promotions, bonuses, and tenure considerations that value teaching, and service in addition to research and scholarship).
- e. Encourage institutional membership with organizations such as National Council Faculty Development and Diversity (NCFDD) for their on-demand access to mentoring, tools, and support of the faculty at all stages you need to be successful in the Academy. For this to be successful it may need to be included in the faculty protected time.
- f. Educate program leadership and provide faculty development resources about issues of bias, discrimination, and microaggressions for maintaining an inclusive faculty.
- g. Deans and institutional leadership should consider faculty appointments for PAs on clinical and non-traditional tracks.

Focus on Clinical Site Development

Among the most challenges responsibilities of PA educational programs is the recruitment, vetting, and maintenance of clinical training sites and experiences. Institutions must operate in a highly competitive environment. PALLA advocates for policies at the institutional and regional levels that support the expansion of clinical sites for PA programs. PA programs should collectively

work with healthcare organizations to influence policies that encourage their participation in PA education.

- a. Enhance a statewide preceptor development academy and a Maryland Clinical Coordinator Consortium (grow our own preceptors).
- b. Establish a formalized bridge program. Provide a service to new grads and in exchange for becoming preceptors in year two.
- c. Rethink and reimagine the value proposition to preceptors and clinical sites (help preceptors obtain CME and tax credits, involve preceptors in scholarship projects, etc.).
- d. Streamline, demystify, and simplify the administrative processes related to clinical faculty appointments.
- e. Invest in awareness campaigns for preceptor incentives such as tax credits, AAPA preceptor certificate, and DMSc tuition reimbursement.
- f. Collaborate to produce a brochure that highlights all the opportunities that are available for being a preceptor besides cash payments.
- g. Conducting assessments of and gathering feedback from clinical sites and preceptors to continuously improve the clinical education experience.
- h. Advocate for policies at the institutional and regional levels that support the expansion of clinical sites for PA programs.
- i. Work with healthcare organizations to influence policies that encourage their participation in PA education.
- j. Establish and strengthen Academic-Community Health System partnerships between programs and the hospital systems. An example could be to model the relationships between the emerging Morgan State University Medical School partnership with Ascension St. Agnes to establish community-based clinical practice experiences for students.
- k. Programs pay Centralized Clinical Liaisons or regional clinical coordinators within various health systems. This can be a clinician or a non-clinical staff member. A model that has been tried successfully is one instituted at LifeBridge Health-Northwest Hospital in Randallstown, Maryland. This model is based on a clinical teaching approach used in nursing and pharmacy programs. In this model, the PA program would contribute a salary or FTE towards a clinician or a staff member in exchange for their services in coordinating student experiences on site. Sometimes, these faculty hold the title of Hospital Education Coordinator.

- k. Programs pay Centralized Clinical Liaisons or regional clinical coordinators within various health systems. This can be a clinician or a non-clinical staff member. A model that has been tried successfully is one instituted at LifeBridge Health-Northwest Hospital in Randallstown, Maryland. This model is based on a clinical teaching approach used in nursing and pharmacy programs. In this model, the PA program would contribute a salary or FTE towards a clinician or a staff member in exchange for their services in coordinating student experiences on site. Sometimes, these faculty hold the title of Hospital Education Coordinator.
- l. Maryland PA programs should work together to create standardized affiliation agreements to streamline student placements in the various health systems. If program to program affiliation agreements are not possible, there should be campus wide affiliation agreements whereby the school of medicine affiliated sites are available to the rest of the programs in the university and vice-versa. Establish one MOU per university for clinical sites.
- m. Reduce the burden on preceptor student evaluations by creating a generic form that captures the desired learning outcomes across programs.
- n. Diversify clinical sites, preceptors and populations. Leverage federal funding (such as HRSA grants) to expand clinical training opportunities for students.
- o. Leverage emerging technologies such as integrating simulation and AI.

Augment Skills and Knowledge of Accreditation

PA program faculty, particularly the PA program director, are required by the ARC-PA to be familiar with the accreditation Standards. The sponsoring institution have multiple obligations to ensure that students and faculty of PA programs are in compliance with all accreditation standards. Standard A1.11, requires sponsoring institutions to bear the responsibility to ensure diversity and inclusion through goal setting, recruitment and retention strategies, and resource allocation. We recommend the following specific actions:

- a. Working with PALLA and external consultants, have frequent statewide offerings/workshops on accreditation and ongoing self-assessment. This should be mandatory for every faculty and should be part of the onboarding process.
- b. Allocate resources for the program directors, faculty, staff, and institutional leadership to attend ARC-PA sponsored workshops.
- c. Open dialogue between programs and the ARC-PA to gather early feedback and clarification on standards as they relate to programmatic challenges.

Improve Diversity Equity and Inclusion (DEI)

Efforts to improve diversity in educational institutions in general, and PA educational programs in particular, are vital to progress in attaining a better-balanced health care workforce. A diverse health workforce is essential in increasing access to quality medical care. In the PA profession, despite initiatives to promote diversity in the American health workforce, shortages of underrepresented groups continue to widen among the health professions. A recent study found that Black, Hispanic, and Native American individuals remain underrepresented in 10 healthcare professions, with some racial demographics, such as Black/African Americans, showing a declining trend (8) (9). Recent estimates for the physician assistant (PA) profession indicate that over 80% of all certified PAs are White, and only 3.3% are Black/African American and this percentage has been declining over time (4).

- a. Working with PALLA and external consultants, have frequent statewide offerings/workshops on accreditation and ongoing self-assessment. This should be mandatory for every faculty and should be part of the onboarding process.
- b. Take steps to assure that all Maryland PA programs are in compliance with ARC-PA accreditation Standard A1.11 which states that sponsoring institutions must, in a manner consistent with its own mission and applicable laws, demonstrate its commitment to student, faculty and staff diversity and inclusion by: a) supporting the program in the program in having documented action plans for diversity, equity and inclusion, b) supporting the program in implementing recruitment strategies, c) supporting the program in implementing retention strategies, and d) making available, resources which promote diversity and inclusion.
- c. Actively recruit and retain faculty and staff from diverse backgrounds
- d. Create mentorship programs to support underrepresented faculty and staff members
- e. Collaborate with community organizations and undergraduate institutions with diverse student populations.
- f. Recommend a standardized onboarding process for new program faculty to bring them up to speed on what it means to be a faculty member.
- g. Perform on going climate assessment regarding DEI initiatives.
- h. Establish formal partnerships with Maryland and surrounding HBCUs.
- i. Consider holistic admissions best practices.

Assure Institutional Support

It is critical for institutions sponsoring PA educational programs to not only provide adequate budgetary resources sufficient to permit their PA program to attain its stated mission, but also for the institution to remain involved in supporting vital components of the program's operation. Activities such as the recruitment of clinical training sites, providing robust faculty development processes, and involvement in the self-evaluation effort are several examples where senior administrators can and should contribute.

- a. Investment in faculty and staff that perform functions related to program operation and management. For example, director of assessment and student success, remediation officer, accreditation officer.
- b. Institutional leadership involvement in committees related to the program's ongoing self-assessment and evaluation.
- c. Institutional leadership becomes familiar in the rigors related to the accreditation process not only on faculty and staff but as it relates to institutional involvement.
- d. Ensure direct involvement of senior leadership in program oversight.
- e. Strengthening advisory boards to PA programs (preferably advisory boards consisting of experienced PA educators who have been program directors before)
- f. Developing strategic plan for the PA program.

Build Faculty Capacity

In our observations of Maryland PA programs, we noted issues related to faculty attrition, which in turn is often based on excessive faculty workloads, and inadequate institutional support. The majority of PA programs in Maryland have faculty FTE levels that are below the national mean of about 8 FTE despite near-average student enrollment per cohort.

- a. Conform to national programmatic norms as it relates to faculty FTE and student-faculty ratios.
- b. Invest in faculty pipeline programs that recruit and prepare future educators who represent the populations that they are serving for the rigors of a faculty role. There has been notable success with the PALLA

- Faculty Fellowship, with its longitudinal mentoring design leveraging both virtual and face-to-face encounters.
- c. Investigate in strategic plans to reduce faculty attrition: This could start right at time of onboarding one strategy that could be used is the institution of better career advancement system within institutions such as tenure tracks and/or longer-term appointments.
 - d. Develop models for faculty workload and effort.
 - e. Develop and implement an onboarding process for faculty and staff.
 - f. Leverage the Doctor of Medical Science (DMSc) and PhD in Health Professions Education (HPE) at UMB to develop doctoral prepared PA faculty.

Re-envisioning the PA Program Organizational Structure

- a. PA programs should consider establishing a position for Director of Student Success (outcomes and remediation).
- b. PA programs should consider establishing a position for a Director of Assessment and compliance. Such a position would ensure the program's compliance with accreditation standards by maintaining accurate and comprehensive data and facilitating ongoing assessment efforts. This position will help in coordinating various stakeholders to ensure continuous improvement initiatives, data collection, analysis and management. The individual in this position will perform quantitative and qualitative data administration, collection, aggregation and analysis for the program and provide data-related reports to support ongoing self-assessment and accreditation.
- c. Strengthen or establish a position of associate program director as well as succession planning for the program. Encourage sponsoring institutions to develop processes of succession planning.
- d. Leverage the position of medical directors as liaisons with medical systems/centers for preceptors and clinical sites as well as ensuring that curriculum meets medical quality standards.
- e. Interdisciplinary collaborations should be encouraged to reduce faculty burden in research and teaching.

Promote Communication with Peer Programs

We believe that the Maryland PA educational community would be enhanced through better and more frequent communication. PALLA supports the notion of a PA program network whereby PA faculty could share ideas and learn from each other on a peer-to-peer basis. Programs would have the opportunity to share information regarding clinical training sites and preceptors. Programs could also provide their peers with experiences and innovations regarding such topics as curricula, admissions, or self-evaluation. Since the USM houses several Maryland PA programs, USM could be a convener of such a proposed network.

- a. Programs should produce shared resources on curriculum planning, OSCE cases, accreditation processes, remediation templates, etc. and meet to discuss these areas of program operation in a neutral forum aimed to promote programmatic success and PA educational improvement in the state. The programs can utilize an online central repository as a resource hub for their resources. The hub would host documents, templates, guides, etc.

Consider the Creation of a Maryland PA Education Quality Council

The quality of PA education in Maryland, whether real or perceived, has a potential to affect the Maryland PA Modernization Act, which is currently being considered by the Maryland General Assembly. This Act is designed to allow improved access to care. A body of aligned Maryland PA Programs, perhaps labeled the Maryland PA Education Quality Council, could help advocate to various stakeholders, politicians, and legislators. It will be difficult for the PA community in Maryland to achieve the modernization act that they are trying to advocate for. There is no single organization that provides the opportunity for quality improvement within programs. The quality council will convene programs to share their self-studies and help each other to achieve success in their program and accreditation outcomes. Programs should invest in a system (software) for data collection, analysis, and interpretation; and preferably pool resources and hire an individual who coordinates these activities.

- a. Establish efficient and effective committee structures that focus on ongoing self-assessment, data collection, analysis, and interpretation.
- b. Sponsor workshops that can help programs develop and implement program-specific remediations.
- c. Faculty development around student success, advising, and remediation.

- d. Work through physicians or hospital administrators to secure more clinical site placements and/or set up a consortium of the administrators who run the medical education offices.
- e. Consider monetary and non-monetary incentives for preceptors and clinical sites.
- f. Recommend a standardized onboarding process for new program faculty to bring them up to speed on what it means to be a faculty member.

Conclusion

The educational ecosystem is rapidly changing and is increasingly becoming more complex than ever before. The student demographics and preparation prior to PA schools have drastically changed over the past decades. Accreditation mandates, workload expectations on faculty, turnover and sometimes lack of adequate institutional support have become significant barriers in maximizing the opportunities the PA profession brings to health professions education and practice. These challenges are not specific to Maryland, they are ubiquitous to PA programs nationwide. Since its inception, PALLA has collaborated with PA programs to enhance educational quality in Maryland and is committed to advancing this mission. PALLA holds the sincere hope that this Report and its series of recommendations will stimulate discussion among PA educational leaders and PA program faculty, ignite transformative changes and advance the PA profession in Maryland. The future looks bright.

The following are selected services currently offered by PALLA to Maryland PA Programs (Table 6)

	Professional development of existing faculty through workshops and on-site presentations
	Faculty pipeline of clinical PAs transitioning to academia (of which 70% have assumed teaching roles)
	Clinical site and preceptor recruitment across urban and rural settings
	Supporting remediation efforts of PA programs
	Implementing a leadership development program for faculty and PDs

	Conducting workshops on accreditation and self-study best practices
	Hiring an accreditation expert available for all MD PA programs
	Ongoing mentoring and individualized coaching related to professional development
	Sponsoring PANCE review courses for graduating students since 2020
	Offering teaching and learning grand rounds
	Advocacy and legislative support in collaboration with the Maryland Academy of PAs
	Faculty development on scholarship and data analysis including grant writing and publication
	Hosting simulation training events for faculty since the COVID era
	Convening statewide meetings and fostering program collaboration across Maryland
	Leadership and faculty development along the domain of JEDI
	Sponsoring telehealth and telemedicine training for PAs and students across the state
	Coordinates behavioral health training through federal grants in collaboration with health professions schools at the University of Maryland-Baltimore

About the Survey Process

PALLA conducted a series of semi-structured interviews with Maryland PA program faculty, program leaders, and deans between September and October, 2023. Participants were recruited by email. The interviews included senior administrative officers such as chairs and deans of schools where PA programs are housed. PALLA conducted interviews with the Maryland PA program faculty and leadership to gain first-hand knowledge and perspectives on the state of PA education in Maryland as well as the specific challenges that each program is facing: All the deans responsible for Maryland PA programs, all the program directors, at least two faculty members from each program and one staff member were interviewed. Semi-structured faculty interviews were conducted by members of PALLA, either in-person or via Zoom. The interview guide consisted of about five open ended questions. Field notes were collected that were discussed by PALLA members to identify overarching themes.

Acknowledgements

We are grateful to all colleagues who participated in the survey, proofreading, and production of this report. PALLA would like to acknowledge the following team members for their contribution:

JAMES F. CAWLEY, MPH, PA-C, DHL (HON), Professor and Scholar-in-Residence

ANDREW STAKEM, BS, Program Eval, Data Analytics & Accreditation Specialist

ÁINE MCLAUGHLIN, MS, Senior Strategic Communications Specialist

SHANI FLEMING, MS, MPH, PA-C, Associate Professor, Chief Equity, Diversity and Inclusion Officer

CARA FELTER, PT, PHD, DPT, MPH, Chief Learning Officer

HYUN-JIN JUN, PHD, MSW, Assistant Professor

ROISIN DONEGAN, MS, Clinical Partnerships Coordinator

ELIZABETH HEALEY, BS, Academic Administrative Specialist

EMILIE LUDEMAN, MSLIS, Research, Education and Outreach Librarian

ERIN HAGAR, MA, MFA, Manager, Professional Development and Education

GERALD KAYINGO, PHD, MBA, PA-C, Executive Director, Assistant Dean and Professor

Please address questions, comments or your request for future reports to:
gkayingo@umaryland.edu

References

1. Hooker, R.S., Cawley, J.F., Physician Assistants After Six Decades. *AmJManagedCare* 2021; 27:498-504.
2. National Commission on Certification of Physician Assistants, Inc. (2023, April). 2022. Statistical Profile of Board Certified PAs, Annual Report, Retrieved on 1/1/2024 www.nccpa.net/resources/nccpa-research/
3. Accreditation Review Commission-Physician Assistant. Accreditation Standards for Physician Assistant Education, 5th Edition. Suwanee, GA; 2019.
4. Physician Assistant Education Association. By the Numbers: Program Report 35: Data from the 2019 Program Survey, Washington, DC: PAEA; 2020. doi: 10.17538/PR35.2020.
5. Gordes, K. L., Kulo, V., Cawley, J. F., & Kayingo, G. (2022). Characteristics of Hybrid Learning Among Health Professions Programs: A Mixed-Methods Study. *The Journal of Physician Assistant Education*, 10-1097.
6. Kayingo, G., Kibe, L., Venzon, A., Gordes, K. L., & Cawley, J. F. (2022). Assessing demand for doctoral-prepared PA faculty: a five-year longitudinal study. *BMC Medical Education*, 22(1), 1.
7. Bureau of Labor Statistics. Washington, D.C. (<https://www.bls.gov/ooh/healthcare/mobile/physician-assistants.htm>).
8. Bradley-Guidry C, Burwell N, Dorrough R, Bester V, Kayingo G, Suzuki S. An assessment of physician assistant student diversity in the United States: a snapshot for the healthcare workforce. *BMC Medical Education*. 2022;22(1):1-12.
9. Kayingo G, Bradley-Guidry C, Burwell N, Suzuki S, Dorrough R, Bester V. Assessing and benchmarking equity, diversity, and inclusion in healthcare professions. *JAAPA*. 2022;35(11):51-54.

TABLE 2

Table 2

Program Characteristics	Frostburg State University	UMES University of Maryland Eastern Shore	Towson University	UMB University of Maryland-Baltimore	Notre Dame Maryland University	Mount Saint Mary's University	National Average/Most Frequent
Private or Public	Public	Public	Public	Public	Private	Private	31.8% Public Programs
Location	Hagerstown	Princess Anne	Towson	Baltimore	Baltimore	Emmitsburg	Variable
Degree Awarded	Master of Medical Science in Physician Assistant Studies (MMS)	Master of Medical Science (MMS)	Master of Physician Assistant Studies (MPAS)	Master of Science in Health Science-Physician Assistant (MSHS)	Master of Sciences in Physician Assistant Studies (MSPAS)	Master of Medical Science (MMS)	Master of Physician Assistant Studies (MPAS)
Program Length in Months	24	28	26	25	26	24	26.7
Total Credit Hours	117	120	98	116	111	119	108.6 Semester Hours
Administrative Housing	College of Liberal Arts and Sciences	School of Pharmacy and Health Professions	College of Health Professions	Graduate School	College of Graduate and Professional Studies	Graduate School	School of Health Professions/Health Sciences
In State Tuition (per credit hour)	\$552	\$451	\$504**	\$764	\$694	\$739	Public-\$52,585# Private-\$95,085#
Regional Resident Tuition (per credit hour)	\$659	\$570	N/A	N/A	N/A	N/A	N/A
Out of State Tuition (per credit hour)	\$804	\$767	\$1,043**	\$996	\$694	\$739	\$93,313#

*Information is accurate as of 09/19/2023

**Tuition per credit hour quotient

#Listed in Total Tuition Cost

TABLE 3

Table 3

Program Characteristics	Frostburg State University	UMES University of Maryland Eastern Shore	Towson University	UMB University of Maryland-Baltimore	Notre Dame Maryland University	Mount Saint Mary's University	National Average
Accreditation Status	Accreditation-Probation	Accreditation-Provisional	Accreditation-Probation	Accreditation-Continued	Accreditation-Provisional	Pending	N/A
Maximum Class Size	25	25	36	60	35	Pending	48.3
2022 Graduating class size	25	16	32	39	N/A	N/A	44.3
Number of Principal Faculty Members (≥0.5 FTE Not including PD and MD)	6	5	8	9	3	5	8.5
5-Year PANCE Pass Rate Average 1st time test takers (2022)	77.50%	92.00%	90.40%	97.40%	N/A	N/A	94.2%
PANCE Pass Rate 2022 1st time takers	83.00%	92.00%	87.00%	97.00%	N/A	N/A	92%
PANCE candidates who ultimately passed (2022)	100%	100%	94.00%	97.00%	N/A	N/A	89%**

*Information is accurate as of 09/19/2023

**Number refers to total exams administered, not the number of candidates since some candidates may take the exam more than once.