

**Examining Professionalism in Physician Assistant Education: Bridging the Gap  
Between Theory and Practice**

by

**Christine Elizabeth Rodgers**

Bachelor of Science, Saint Francis University, 2008

Master of Physician Assistant Studies, Saint Francis University, 2009

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the School of Education in partial fulfillment  
of the requirements for the degree of  
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SCHOOL OF EDUCATION

This dissertation was presented  
by

**Christine Elizabeth Rodgers**

It was defended on

April 19, 2024

and approved by

Maximilian T. Schuster, Associate Professor and Associate Chair, Department of Educational  
Foundations, Organizations, and Policy

L. Carlos Gutiérrez, Associate Professor, Department of Physician Assistant Studies

Dissertation Director: Jill A. Perry, Professor, Department of Educational Foundations,  
Organizations, and Policy

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# **Examining Professionalism in Physician Assistant Education: Bridging the Gap Between Theory and Practice**

Christine Elizabeth Rodgers, EdD

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This dissertation in practice addresses a practical issue: the failure of Physician Assistant (PA) students at The University of Pittsburgh Department of PA Studies fail to meet the program benchmarks of professionalism. The proposed change aims to impact the PAS Hybrid Program and will involve both students and preceptors. Assessment will employ qualitative methods to gauge the effectiveness of the intervention. The results will enhance comprehension of the intervention implications, thereby facilitating subsequent adjustments and broader implementation in the case of a successful intervention.

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## **1.0 Naming and Framing the Problem of Practice**

### **1.1 Broader Problem Area**

According to the U.S. Census Bureau in 2019 approximately 28% of people had attained a bachelor's degree, but only 10% had attained a master's degree. This number is low potentially because a master's degree is generally only required for approximately 2% of jobs in the United States (Irwin, 2021). The healthcare sector, however, is different. A master's degree or doctorate is often necessary, specifically for physician assistants/associates (PA). The PA profession was born in 1967 and created at a time when the United States faced a shortage of primary care physicians. This shortage prompted innovative thinking in healthcare delivery, leading to the creation of the role. The role was first introduced to train individuals with a strong foundation in the sciences to perform many of the tasks traditionally handled by physicians. Early PA educational requirements were a bachelor's degree. This educational model aimed to produce highly skilled healthcare providers who could work alongside physicians in various medical specialties, addressing the pressing need for accessible healthcare providers (History of AAPA & the PA Profession, n.d.). In 1988, the PA profession made a pivotal transition by requiring PAs to hold a master's degree as their terminal educational credential. This change was driven by several factors including the evolving healthcare landscape, patient safety, quality of care, increased professional responsibilities, recognition, and professionalism. This shift to requiring a master's degree elevated the status of the PA profession and reflected a commitment to higher standards of education and professionalism, aligning with the broader healthcare communities' expectations (History of AAPA & the PA Profession, n.d.).

The word professionalism is derived from the Latin word *professio* which means public declaration (Mueller, 2015). The word *profession*, in turn, is defined as a calling that requires specialized knowledge and often includes long, intensive preparation with instruction in skills and methods as well as an understanding of the historical, scholarly, and scientific principles of those skills and methods (Mueller, 2015). A profession commits its members to continued study and a kind of work with a primary purpose to serve the public. Thus, the word professionalism is defined as goals, attributes, and behaviors of a profession with common attributes such as communication, empathy, integrity, compassion, responsibility, respect, altruism, self-regulation, ability to understand limitations and eagerness to improve skills and knowledge (Kanyaloor Mallikarjuna & Suvaranjanu, 2016).

Until recently, the implementation of professionalism training in the healthcare field was not well-defined nor clearly taught within the curriculum. That is, it was thought that the professors and clinicians who taught professionalism to healthcare students did so by modeling it in the classroom and in the healthcare setting. The idea was that students would witness professors treating patients with dignity, arriving to work on time, demonstrating accountability and commitment to the profession, being ethical and having morals, respecting patient wishes, navigating the financial aspects of healthcare with the best interest of the patient in mind, and various other examples of what was traditionally thought of as professional behavior. However, in the last fifty years or so, the word professionalism in the healthcare field has evolved, and with it has come the push for a more transparent and assessment-based curriculum in the higher education setting (Kanyaloor Mallikarjuna & Suvaranjanu, 2016).

Professionalism has a tortuous history and has undergone many revisions regarding its definition in the field of healthcare. As recently as the 1970s and 1980s, professionalism related mostly to the balance between altruism and self-interest. During this period many professions, including healthcare, were seen as self-interested and powerful monopolies for which the

general public was fearful and distrustful. By the 1990s, it was clear that healthcare needed to redefine and instill confidence in the public and professionalism became an important part of patient care. In 1992, the American Board of Internal Medicine (ABIM) founded the Professionalism Project, which published recommendations in 1994 suggesting all physicians seeking board certification must demonstrate the acquisition of skills associated with professionalism (Medical Professionalism Project, 2002). By the early 2000s, various medical organizations had attempted to create an all-encompassing definition of professionalism that could be adopted by most or all healthcare professionals (Medical Professionalism Project, 2002). Unfortunately, however, professionalism across various fields has been incredibly difficult to define. In general, most healthcare professionals have agreed upon four main domains of professionalism including behaviors toward the patient, toward other professionals, toward society, and toward oneself (Tromp et al., 2010).

Professionalism in healthcare graduate training needs to be both taught and modeled for students. Alexis et al. (2020) argued that professionalism is an important unifying principle in medicine, noting that it has been historically described as “the basis of medicine’s contract with society.”(p. 2) Over the last decade or so, graduate healthcare training has been moving away from curriculums that focus primarily on knowledge-based acquisition, which often occurs at a rapid pace with correlating high stakes assessments, to competency-based education that promotes acquisition of specific skills over the course of the training program and associated clinical clerkships. In medical school, for example, most programs have adopted specific competencies to assess students and residents as they move through their educational experience and professionalism is one of the key competencies (Alexis et al., 2020)

The Accreditation Review Commission on Education for the Physician Assistant (ARC-PA) has also proposed moving PA education from acquisition of knowledge to competency-based assessment model. Similar to the medical profession, professionalism is one

of the key competencies which ARC-PA defines as, “The expression of positive values and ideals as care is delivered” (Physician Assistant Education Association [PAEA], 2018, p. 3). To further engage with this definition, ARC-PA expanded on the description and provided a bulleted list of competencies that illustrate how a PA, both as a student, and as a clinician, is expected to adhere to professionalism expectations throughout their training and career. Competencies include a) understanding one’s own scope of practice and limitations, b) not practicing while impaired, c) demonstrating a sense of accountability, d) showing a commitment to education, e) demonstrating continued excellence, and f) applying the principles of ethics.

The University of Pittsburgh’s Department of PA Studies currently faces many challenges to preparing students in professionalism competencies which may stem from the inconsistencies of how professionalism is defined and taught. However, despite medical professionalism being implemented as a core competency for undergraduate medical education and graduate medical education to teach students how to conduct themselves with patients or each other, the medical field continues to lack a concise, unifying, and operational definition of professionalism. Therefore, professionalism has remained a fluid and contextual phenomenon that is often misused or overused (Alexis et al., 2020).

Programs in the Department of PA Studies do not clearly define, assess, or teach professionalism to PA students. For example, the residential program does not have a unified curricular definition of professionalism nor do assessments link back to clear learning outcomes and objectives about professionalism, especially in the didactic year. Students who act unprofessionally do not understand the importance of professionalism in terms of meeting academic expectations and in preparing for their upcoming career expectations. Seehusen (2020) found that failure to understand professional expectations is a common cause of unprofessional behaviors as identified by educators of medical residents. In the Department of

PA Studies, it also seems that some students do not understand expectations for graduate healthcare programs which leads to unprofessional behaviors. For example, some students lack self-awareness when discussing professionalism concerns with their instructors. Instructors are asked to discuss professionalism expectations with students, but students often state they were unaware of the expectations or students feel they did not exhibit an unprofessional behavior. As a result of these inconsistencies in the Department of PA Studies, my specific problem of practice is that Physician Assistant (PA) students in the Department of PA Studies fail to meet defined benchmarks of professionalism.

## **1.2 Organizational System**

The University of Pittsburgh Department of PA Studies has two Masters of Science in Physician Assistant Studies programs—the PA Studies Program (residential program) and the PAS Hybrid Program. Each program is 24 months long and consist of one year of didactic (classroom) instruction and one year of clinical instruction. Clinical instruction occurs in a variety of settings and specialties. Each student rotates through these specialties every 4–5 weeks. The PA Studies Program has a traditional lecture-based pedagogy with a cohort size of approximately sixty students. These students attend class in person. The PAS Hybrid Program follows a flipped classroom pedagogy and is conducted primarily online with the exception of three five-day on-campus immersion experiences. These experiences require students to travel to Pittsburgh for hands-on experiential learning and assessments. The PAS Hybrid Program cohort size is approximately 100 students. In both programs, professionalism is an important competency for which students routinely receive assessments.

Each year the residential PA program receives some professionalism complaints from faculty, instructional faculty/preceptors, guest lecturers, employers, and students regarding

student behavior. Based on empathy interviews, some faculty members felt student behavior was a generational issue and failed to review the program to identify potential shortcomings that might have been feeding into the poor professional conduct of students. Over the last decade, as a result of unprofessional behavior, the Department of PA Studies has lost valuable community partners in the form of preceptors (clinicians who supervise practice experiences) who did not want to continue to take students for fear the problem was systemic. When conducting empathy interviews with a select number of preceptors from the Department of PA Studies, they confirmed that unprofessional behaviors make preceptors less likely to continue participating in supervised clinical practice experiences.

With both the residential and hybrid PA programs running, increased faculty and resources has allowed the Department of PA Studies to complete programmatic assessments which have led to curricula changes beginning with the 2023 cohorts. The addition of the PAS Hybrid Program in 2023 provided the Department of PA Studies the ability to devote effort toward improving the professionalism curricula in hopes of making a positive impact on students and their willingness to demonstrate professionalism behaviors in the program and in their careers upon graduation. When there was only the PA Studies Program, the lack of human resources made this task difficult. For example, faculty did not always have the bandwidth to assess the problem areas leading to students failing to meet professionalism standards. Additionally, the PA Studies Program does not currently have the same professionalism curriculum that the PAS Hybrid Program due to these same staffing issues. The PAS Hybrid Program created a formalized professionalism series that is offered every semester of the didactic year. This series allows the hybrid students to have meetings with faculty to discuss key professionalism topics related to the program and their future roles as healthcare providers.

As the Program Director of the PAS Hybrid Program, I have begun to engage faculty and staff in understanding the importance of creating a curriculum that clearly defines and

teaches professionalism in multiple different ways and using the same definition. The PA Studies Program curriculum does not always clearly state professionalism learning outcomes nor instructional objectives for assessment in the didactic year. New preceptors are not provided training on professionalism expectations during the clinical year either. Further, different faculty in the didactic and clinical years assess student professionalism behaviors which does not allow the faculty to fully participate in and provide feedback on student professionalism growth over their two-year tenure. Additionally, having different faculty may lead to confusion or disparity in professionalism assessment which can impact the perception of professionalism importance among students.

The learning environment in the Department of PA Studies can also be incredibly high stakes where students feel they need to lie or cheat to maintain their seat. Programs such as those in the Department of PA Studies that have a high workload, strong competition with peers, an honor code, and access to the internet are more likely exhibit unprofessional behaviors. (Desalegn & Berhan, 2014). Competitive learning environments, like those that can be experienced in either PA program, can lead to students cheating to maintain grades similar to their peers. When the learning environment is punitive or failure focused, students feel uncomfortable in the space. This may decrease student engagement with faculty and staff to report unprofessional peer or faculty behaviors. When unprofessional behaviors continue without correction, professionalism can become non-performative in the eyes of the cohort.

Both PA programs have a Policy and Procedure Manual that students are oriented to during their first semester. The policies and procedures outlined are expected to be followed by all students, faculty, and staff, where applicable. The PAS Hybrid Program and PA Studies Program do not have the same policy and procedure manual. The difference in manuals may cause confusion among the cohorts which could lead to professionalism infractions. Any policies or procedures directly or indirectly related to professionalism that are poorly worded



can be difficult for students to understand and comply. Inconsistent enforcement of the policies and procedures among faculty and staff in both programs can also lead to students feeling professionalism is non-performative. All of these systems can lead to professionalism concerns or behaviors that require discussions, interventions, or may even lead to program dismissal.

### **1.3 Users/Concerned Parties**

I have currently identified three users/concerned parties involved in, impacted by, or overlooked by my problem of practice including students, faculty, and patients. Each of these concerned parties is impacted in different ways by the programs' professionalism requirements.

#### **1.3.1 Students**

Students who are enrolled in the Department of PA Studies at the University of Pittsburgh are the first concerned party to consider. All students enrolled in either program have a minimum of a bachelor's degree, have taken the required prerequisite courses to apply to the program, and have a minimum of 500 patient care hours. Patient care hours consist of direct, hands-on patient care. The Department of PA Studies accepts students who are U.S. citizens, have documentation of permanent residency, or have dual citizenship status. Those in the PA Studies Program, due to the in-person nature of the program, may also have F-1 Academic Student Visas. As such, the Department of PA Studies attracts students from various ethnic, racial, socioeconomic, and cultural backgrounds with different lived experiences. Students of all ages may be admitted to either program if they meet the requirements. With such variance in the student body comes a variety of exposure to and understanding of professionalism behaviors and expectations. Some have worked in healthcare, or completed

medical school, and some have the minimum number of patient care hours and bring with them their knowledge and skills they learned in undergraduate school. This disparity of experiences creates a cohort with significantly different understanding of professionalism expectations and behaviors. Students who are still newer to honing their professional behaviors may not understand what is expected of them and may be more likely to exhibit or participate in unprofessional behaviors due to ignorance or to misunderstanding of what is expected of them. When students enter the program, they may be struggling with professionalism and professional identity. They may not have the knowledge or confidence to execute professionalism and professional behaviors. Additionally, students often come from different cultures and belief systems where professionalism may be defined differently, even in the healthcare field. The definition of professionalism is not universal so expecting students to come into the Department of PA Studies with the same definitions and beliefs regarding professionalism is nearly impossible. The lack of a uniform definition of professionalism impacts how students communicate and interact with other concerned parties in the system, especially faculty and patients.

### **1.3.2 Faculty**

The Department of PA Studies have full-time faculty who are mostly physician assistants or work in the healthcare sector such as pharmacists and physical therapists. All faculty hold a master's or doctorate degree and have worked in their respective fields prior to entering into education. As such, faculty have been healthcare providers first and educators second. When conducting empathy interviews, many faculty members felt student professionalism was declining. Some felt the impact of the COVID-19 global pandemic was to blame due to online learning in home environments where professionalism expectations can be different from in-person learning environments. Some faculty felt students were often not being

taught professionalism in undergraduate school, and therefore lack the skills needed to adhere to the Department of PA Studies expectations of professionalism. Lastly, some faculty felt students cared more about obtaining a terminal degree than about learning the skills taught by the program that are necessary in their future careers. Some faculty felt they can knowingly or unknowingly project or teach their own values and/or beliefs about professionalism, which may not always be a positive experience. If students see faculty being unprofessional in the classroom or supervised clinical practice experience space, they may feel that professionalism is not valued or there is a double standard for faculty/student professionalism expectations. This kind of experience may not serve students well, especially if the faculty spend time espousing that professionalism is only related to appearance, punctuality, etc. while leaving out key points like shared decision-making, ethics, and the environment.

Based on focus group discussions, many faculty members in the Department felt professionalism was something that students should already know coming into a graduate program. I have also heard feedback from faculty that since the breadth and depth of PA education in a short amount of time (24 months) is already past capacity, they do not have “time” to teach professionalism to students. This thinking can lead faculty to neglecting the importance of professionalism in and outside the learning environment.

### **1.3.3 Patients**

The concept of professionalism in healthcare is a crucial aspect of patient care. Patients, as significant users of the system, both influence and are affected by the professionalism displayed by healthcare providers, including physician assistants (PAs). Empathy interviews with patients provide valuable insights into how bias relates to professionalism when caring for patients. Patients often have their own perceptions of professionalism, which may be influenced by their generational beliefs and expectations regarding the behavior of healthcare

providers. Patients interviewed admitted they may form initial impressions of healthcare providers based on their outward experiences. These impressions can be influenced by factors such as attire, body language, and communication style. Patients may associate professionalism with a provider's ability to convey confidence, empathy, and competence. Age-related biases can play a significant role in patients' judgments of professionalism. Older generations of patients admitted that they may harbor assumptions about younger healthcare providers, including PA students. They may question the competence and experience of younger professionals, potentially impacting the patient-provider relationship. Another important aspect of bias in patient care is the bias against accents, as discussed in my empathy interviews. Patients may find it challenging to understand healthcare providers with accents different from their own, leading to perceptions of incompetence or unprofessional behaviors.

Research conducted by Haelle (2017) shed light on the prevalence of bias experienced by healthcare providers from patients. According to a survey conducted by Medscape and WebMD in partnership with STAT, 59% of physicians reported experiencing some form of bias from patients. Nearly half (47%) of the surveyed physicians had encountered patients requesting a different clinician based on the provider's personal characteristics. However, only 24% of these incidents were documented in the patient's chart, and a mere 10% were reported to administrative authorities. Disturbingly, 24% of respondents noted that their healthcare organizations lacked formal processes for addressing patient discrimination against providers, while 60% were unsure if their institutions had such processes. Furthermore, 49% of physicians reported that their organizations did not offer training for managing patient bias (Haelle, 2017).

PA students in the Department of PA Studies, like other healthcare students, have also reported experiencing bias, which they have communicated to appropriate faculty and leadership. Such experiences are increasingly considered unacceptable for most students. However, the persistence of these beliefs among some patients and providers/preceptors can

perpetuate a system that resists change and fails to adapt to the evolving needs of newer generations of healthcare providers. Students may find themselves in challenging situations where they must navigate these biases while upholding professionalism in patient care.

Bias in patient care significantly affects professionalism. Addressing this issue is crucial for creating a more inclusive and equitable healthcare system. Empathy interviews with patients reveal that bias can be based on outward experiences, age-related assumptions, and accents. The findings from these interviews align with the data presented by Haelle (2017), demonstrating the prevalence of bias experienced by healthcare providers from patients. To promote professionalism and mitigate the impact of bias, healthcare organizations must develop formal processes for addressing patient discrimination and provide training for managing patient bias. PA students, as future healthcare providers, should be equipped with the skills and knowledge to navigate these challenges and contribute to a healthcare system that values diversity and promotes patient-centered care.

## **1.4 Review of Supporting Knowledge**

### **1.4.1 Introduction**

In the context of addressing the discord between what is accepted as the societal norm for medical professionalism and its ongoing evolution concerning professionalism and identity, professional accountability becomes pivotal. According to Sharda et al. (2021), examining how we define and teach professionalism serves as a critical starting point for committing to a more just, equitable, and representative approach to improving healthcare for an entire society. In the United States, the prevailing definition of medical professionalism has historically been shaped by White, cisgender, heteronormative, apolitical males who do not live with visible

disabilities (Sharda et al., 2021). This entrenched “medical professional” norm is deeply rooted in a healthcare system that perpetuates the belief in the superiority of Whiteness and Westernness over all other identities (Gray, 2019). However, this outdated understanding of professionalism no longer aligns with the stated values of the medical profession and falls short in meeting the diverse needs of contemporary students, who encompass varied lived experiences and possess multiple social identities. To prepare strong medical professionals capable of treating and being treated with professionalism, it is imperative for the medical profession and its educators to proactively challenge and redefine what constitutes professionalism and professional behaviors.

This literature review investigated how the definition and standards of professionalism defined by white supremacy culture have impacted how professionalism components have been taught in healthcare education. To do this, I explored the evolving meaning of professionalism, and its role in healthcare education, over the last almost fifty years. From there, I considered how professionalism is currently defined and how it is a key competency of PA and medical education competencies. The next section of the review investigated the role of competency-based education in PA studies. Here, I outlined the professional and legal aspects of healthcare and ongoing professional development that are two of the core competencies for new PA graduates. Next, I discussed the PA programs requirement to teach professionalism in their curriculum and how competency-based education might fulfill such requirement. Lastly, the final component of this literature review involved traversing Generation Z higher education and workplace expectations. To begin, I reviewed Generation Z educational experiences and preferences. I then outlined how higher education expectations influence their workforce expectations. I reviewed how Generation Z might best embrace learning about and becoming competent in professionalism behaviors with the use of competency-based education. I identified these three themes as important if higher education healthcare programs seek to

continue to maintain compliance with accrediting bodies in terms of professionalism while also better educating future healthcare providers.

### **1.4.2 Background**

Physician Assistant (PA) students at the University of Pittsburgh Department of Physician Assistant Studies fail to meet the program benchmarks for professionalism. Professionalism is an important unifying principle in medicine, noting that it has been historically described as “the basis of medicine’s contract with society (Alexis et al., 2020, p. 2).” Over the last two decades, graduate healthcare has been moving away from curricula that focuses primarily on knowledge-based acquisition to competency-based education (American Academy of Physician Assistants [AAPA], 2021). In 2005, PA competencies were developed in response to the growing demand for accountability and assessment in clinical practice and reflected similar efforts conducted by other healthcare professions, such as physicians (AAPA, 2021). The first produced competencies, known as Competencies for the Physician Assistant Profession, were a collaborative effort among four national PA organizations: the National Commission on Certification of Physician Assistants (NCCPA), the Accreditation Review Commission on Education for the Physician Assistant (ARC-PA), the American Academy of Physician Assistants (AAPA), and the Physician Assistant Education Association (PAEA) (AAPA, 2021).

For over a decade, PA programs relied on the Competencies for the Physician Assistant Profession to develop and map curriculum and assess graduates’ readiness to enter clinical practice. However, these professional competencies were not designed specifically with new graduates in mind. In 2016, PAEA created a Core Competencies Task Force to catalog a set of competencies that all new PA graduates should be accountable for demonstrating by the end of their formal PA education (Physician Assistant Education Association [PAEA], 2018). After

an extensive literature review of other similar healthcare professions, the task force decided upon six pre-existing domains including: patient-centered practice knowledge, society and population health, health literacy and communication, interprofessional collaborative practice and leadership, professional and legal aspects of health care, and health care finance and systems (PAEA, 2018). In addition to these six domains, the task force defined two additional cross-cutting competency domains were also essential which include “cultural humility” and “self-assessment and ongoing professional development” (PAEA, 2018). The core competencies “professional and legal aspects of healthcare” and “self-assessment and ongoing professional development” are the two key competency domains that are tied to professionalism training.

Many confounding factors ensure the professionalism competencies are properly incorporated into the PA curriculum over the course of six semesters. Some of these factors involve the ongoing evolution over the last 1–2 decades of the meaning of professionalism in healthcare/medicine, the expectation that professionalism training is incorporated in PA competency-based education, and the redefining of the term professionalism to ensure younger generations, especially Generation Z, can align their understanding of workplace norms with evolving industry standards of professionalism (Schrager, 2021).

### **1.4.3 Historical Tracing of Professionalism in Medicine**

The understanding of professionalism in medical education has a chequered history, comprised of multiple definitions and meanings. Professionalism has even been discredited in the past though recently has re-emerged as an important element in all health professional education. As noted in the introduction, in the 1970s and 1980s, professionalism related mostly to the balance between altruism and self-interest. During this period many professions including healthcare, were seen as self-interested and powerful monopolies, causing the general



public to both fear and distrust healthcare professionals (McNair, 2005). In the 1990s, the imperative emerged for the healthcare sector to reconfigure itself and re-establish public trust in the vital role of professionalism in patient care. As a response to this need, the Medical Professionalism Project was established in 1999 by the American Board of Internal Medicine (ABIM) Foundation, the American College of Physicians Foundation, and the European Federation of Internal Medicine (Irwin, 2008).

During this time, physicians had diverse views and delivery methods when it came to professionalism. To come to a common understanding, physicians engaged multiple organizations to develop a plan to unify professionalism in medicine including the Medical Professionalism Project (MPP) which sought to renew and instill the importance of professionalism into medicine. Members of the MPP developed a charter that encompassed a set of principles to which all medical professionals should aspire. The charter helped support physicians' efforts to ensure the healthcare system was committed not only to patient welfare, but also to the basic tenets of social justice. The charter was also intended to be applicable in different cultures and political systems after recognizing the previous expectations of professionalism for physicians and healthcare providers was rooted in Western norms (Medical Professionalism Project, 2002). The MPP recognized the industry was confronted by new barriers in meeting their responsibilities to patients and society as a whole. Some of these barriers include the rapid changing and expanding use of technology, dynamic market forces, problems in healthcare delivery, and the globalization of healthcare. The profession was also being confronted with complex political and legal forces which resulted in variations in medical delivery and practice. The professionalism charter, published in 2002, defined three fundamental principles of professionalism: the primacy of patient welfare, patient autonomy, and social justice (Kirk, 2007).

With these factors in mind, the MPP and the Accreditation Council for Graduate Medical Education (ACGME) recognized the need to create a set of competencies rooted in the common themes and fundamental principles of medicine that defined and outlined professional responsibilities for all physicians (Medical Professionalism Project, 2002). The competencies were ingrained into residency and fellowship training. One of these six core competencies is professionalism which noted medical residents must demonstrate a commitment to carrying out professional responsibilities which include adherence to ethical principles and sensitivity to a diverse patient population (Kirk, 2007). ACGME defined professionalism as the demonstration of respect, responsiveness, accountability, a commitment to excellence, the pursuit of continuous professional development, a commitment to ethical principles, an upholding of confidentiality, the obtainment of informed consent, and the demonstration of sensitivity to patients of various cultures, ages, genders, and abilities (Kirk, 2007). Since the adoption of the ACGME competencies, various medical organizations have attempted to create an all-encompassing definition of professionalism that could be adopted by most or all healthcare professionals. However, they discovered professionalism is incredibly difficult to define. In 2008, ACGME updated their definition of professionalism by broadening named diverse populations to include race, religion, and sexual orientation (Irwin, 2008, p. 1). Currently, the ACGME and PAEA continue to re-examine the competencies most suited for medical and PA education. Since the inception of these competencies, professionalism continues to be a core competency for both healthcare professions. Though the medical and PA competencies have been well-aligned, teaching professionalism as a core competency has proven to be challenging in both curriculums because of various factors such as the lack a single, clear definition and measurable outcomes of professionalism behaviors.

#### **1.4.4 The Development of Competency-Based Education in Physician Assistant**

##### **Curricula**

Competency-based curriculum has been utilized in healthcare education since the 1970s (Siddanagoudra et al., 2022). A competency has been defined as an observable ability of a learner that includes multiple components such as knowledge, skills, communication, and attitude values. Competency-based medical education (CBME) is an outcome-based model (knowledge application) of education that has support from key stakeholders in the medical and healthcare education community (Siddanagoudra et al., 2022) with the physician assistant community being one of the primary adopters of this new curriculum. As a rule, all healthcare providers must achieve competence in all pre-designated areas prior to practicing clinically; however, identifying how to measure and assess competency has historically been challenging. In 2016, the PAEA Core Competencies Task Force developed a set of new graduate competencies, but failed to establish and validate a means of assessing these competencies.

To universally define competency-based education (CBE), Frank et al. (2010) conducted a systematic review of medical and education literature. Their analysis resulted in four major themes surrounding CBE: an organizing framework, a rationale, the contrast with time, and the implementation of competency-based education. Additionally, six additional sub-themes were identified: defined outcomes, competencies curriculum, demonstrability of competencies, assessment of demonstration, learner-centered teaching, and societal needs. The major themes and sub-themes helped Frank et al. (2010) to provide a more universal definition of competency-based medical education which placed emphasis on preparing physicians for practice which is fundamentally oriented towards graduate abilities and is organized around competencies derived from an analysis of societal and patient needs (Frank et al., 2010).

Themes of this definition can be seen in the Core Competencies for New Physician Assistant Graduates developed by the PAEA.

The Core Competencies for New Physician Assistant Graduates were developed to identify what new PA graduates should know and be able to do upon their first day of clinical practice. The Core Competencies Task Force conversed with stakeholders in PA education, higher education, health professions education, and many other diverse fields to develop the core competencies list. The task force also conducted an extensive review of the available literature on competency-based medical education that was compiled and underwent a review by an expert panel of interprofessional leaders. These efforts led to the development of robust, patient-centered competency domains and competencies (PAEA, 2018). The six domains the task force developed highlight the role society has in determining individual and population health, the importance of communication, a focus on team-based care, and a delineation of the larger systems that impact patient and societal health and well-being. Specifically, the six domains are: a) patient-centered practice knowledge, b) society and population health, c) health literacy and communication, d) interprofessional collaborative practice and leadership, e) professional and legal aspects of health care, and f) health care finance and systems. In addition to these six competencies, PAEA added the cross-cutting domains of cultural humility and self-assessment and ongoing professional development (PAEA, 2018).

While the core competencies for New Physician Assistant Graduates outlined what should be included in PA curriculum, discussion have been ongoing about how to create a competency-based curriculum and a set of assessments that are linked to desired student outcomes. When considering the standard evaluative tools and strategies utilized in competency-based assessment, it is helpful first to consider the domains of competency. This review focused on the two specific domains of the Core Competencies for New Physician

Assistants: a) professional and legal aspects of health care and b) self-assessment and ongoing professional development, as they most closely related to professionalism.

#### **1.4.5 Professional and Legal Aspects of Health Care**

Physician assistants are expected to understand the laws governing their practice and to behave accordingly both legally and morally. Legal requirements and ethical expectations have not always aligned, however. Generally speaking, the law has described minimum standards of acceptable behavior, whereas ethical principles have often described the highest moral standards of behavior (Hall, 2017) It is of the utmost importance that all physician assistants, especially new graduates, understand their professional and legal obligations to the patients they serve (PAEA, 2018). The professional and legal aspects of healthcare competency domain incorporated the importance of practicing medicine in ethically and legally appropriate ways. Additionally, this domain emphasized the need for new physician assistant graduates to demonstrate professional maturity and accountability for delivering safe and quality care to patients and populations (PAEA, 2018)). Once competent in this domain, PA graduates should be able to articulate and adhere to standards of patient care while possessing knowledge of the laws and regulations that govern the delivery of health care in the United States (PAEA, 2018). This domain also addressed the need for new PA graduates to develop their professional maturity by teaching them to attend to patients' needs over their own self-interest and by admitting to their mistakes when they arise. Competency in this domain required graduates to use self-assessment and metacognitive skills while exercising humility and compassion to provide patient-centered care regardless of the situation. To acquire competence in this area, students had to demonstrate a level of maturity and professional identity that is consistent even in high-stress, ambiguous, and uncomfortable situations (PAEA, 2018).

#### **1.4.6 Self-Assessment and Ongoing Professional Development**

Within each of the six core domains, competent graduates must demonstrate an awareness of their personal and professional limitations as a part of ongoing professional development. New graduate PAs must learn to develop plans and interventions for addressing professional and personal knowledge gaps. Being competent in this domain required self-reflection, continuous quality improvement, and recognition of the PA's potential impact for improving the health of individual patients, populations, and society at large (PAEA, 2018). This ongoing process required discipline and self-control. Graduates had to possess the ability to self-evaluate and make a commitment to refining their knowledge throughout their career as both a PA student and a practitioner (PAEA, 2018). As they enter practice, physician assistants were expected to engage in critical analysis of their own experiences in practice and the most up-to-date medical literature for the purpose of self-improvement (Journal of the American Academy of Physician Assistants (Journal of the American Academy of Physician Assistants [JAAPA], 2012). Professionalism requires physician assistants to prioritize the interests of their patients above one's own self. To do so, PAs must distinguish between personal and professional limitations. For example, when caring for patients, physician assistants have been expected to demonstrate high levels of ethical practice, sensitivity to diverse patient populations, responsibility, and adherence to legal and regulatory measures (JAAPA, 2012).

The Accreditation Review Commission on Education for the Physician Assistant (ARC-PA) requires all PA programs to include professionalism training in their curriculum to be following their standards. One example is accreditation standard B2.17 which states a PA program must include instruction about the laws and regulations regarding professional practice and conduct. Standard B2.18 requires the curriculum to include instruction in the principles and practice of medical ethics. The last standard, B2.19, states the program must

include instruction in intellectual honesty, academic integrity, and professional conduct (Accreditation Standards for Physician Assistant Education [ARC-PA], 2020). Professionalism is a domain-independent competency as it is ingrained in all six of the Core Competencies for New Physician Assistant Graduate domains and the two cross-cutting domains. Professionalism is not confined to a specific field or profession but is a universal competency that applies across various domains and competencies in the “Core Competencies for New Physician Assistant Graduates” (PAEA, 2018). Professionalism is not a skill or behavior that can be isolated from other competencies or taught separately for a brief period. It is a complex and integral part of a PA’s role and responsibilities. Professionalism cannot be learned in isolation. It is interwoven with various aspects of a PA’s work, including clinical knowledge, communication skills, ethical conduct, and interpersonal relationships. Mastery of professionalism cannot be proven through a single examination or assessment. Professionalism is an ongoing commitment and practice that extends throughout a PA’s career. It involves consistently demonstrating appropriate behaviors, attitudes, and ethical standards in all interactions with patients, colleagues, and the healthcare system. As such, professionalism involves a complex skill set that needs longitudinal development, nurturing, and monitoring (van der Vleuten, 2015). Having a set of competencies can serve as the tools, the language, and the leverage needed to discuss and develop curriculum and assessment content (van der Vleuten, 2015).

#### **1.4.7 Generational Learning Preferences**

Sociologists and researchers have studied generational trends set by Baby Boomers, Generation X, Millennials, and Generation Z for over sixty years (Are Generational Categories Meaningful Distinctions for Workforce Management?, 2020, Chapter 3). Students from each generation possessed specific and unique characteristics often attributed to the circumstances

in which they grew up. These characteristics affected their perception of formal learning and higher education. For instance, Baby Boomers enjoyed a democratic learning environment but also liked being given the independence to learn new skills whereas Generation X learners tended to be more independent, self-directed, tech-savvy, and comfortable with authority. Currently, Millennials form the bulk of students in higher education making them the most educated generation in history (Shorey et al., 2021). The latest generation entering higher education is known as Generation Z (Gen Z). The learning and communication style of Gen Z has been more technically dependent than the Millennials. Since grade school, Gen Z have learned from web-based tools and learning management systems (LMS) such as Canvas and Blackboard, as well as simulations and other online methods. Their learning style has been critical for teachers and employers to understand (Nicholas, 2020).

Generation Z has always had immediate access to answers and expect rapid response times. They care more about rapid knowledge acquisition of any needed information over learning and prefer YouTube and TikTok as favorite methods of learning (Nicholas, 2020). Gen Z students have preferred to have exact directions to guide their work and are not overly interested in creative assignments. Many Gen Z students attended high schools where the budget for sports and the arts were cut. Therefore, if creativity was not practiced in high school, students do not favor it in higher education (Nicholas, 2020). It is anticipated this group will continue to prefer independent, problem-seeking work in advance of a discussion given they like to work independently rather than in teams and to collaborate with such tools as Google Docs. Their predisposition has meant students expect active learning classrooms and more interactive pedagogy. Generation Z students have preferred hands-on learning versus the traditional classroom lecture approach (Rickes, 2016). This generation also preferred websites with study materials in the classroom, smartboards/digital textbooks, online videos, and learning websites in comparison to more traditional methods of whiteboards, textbooks, and



PowerPoints. Gen Z students also preferred learning methods such as practical experiences including projects and internship where teachers act as facilitators rather than lecturers (Nicholas, 2020).

Providing a vibrant learning environment for Gen Z will be required to keep students engaged in their educational experience. Programs will have to create approaches that combine social interactions, technology, and assignments that simulate real-life work situations in order to meet student demands. New technology platforms and faculty development to learn methods for teaching Gen Z will likely be required to incorporate more technical approaches in the classroom and beyond (Nicholas, 2020). Understanding this generations' learning preferences may help educators to meet students' expectations and preferences, which may lead to an overall better learning environment and experience.

#### **1.4.8 Generation Z Workplace Expectations**

Some Gen Z generational learning preferences may translate into the workplace setting. For example, Gen Z members have valued employers who provide equal opportunity for pay, promotion opportunities, and professional development. They have expected their future employers to treat people with respect, ethical behavior, and fair compensation. From their leadership they have required open and transparent communication and wise business decision-making. Gen Z has tended to be independent, resilient, and hardworking. They have sought a better work-life balance than previous generations have. Members of Generation Z have not appreciated teamwork in the classroom or in the workforce which has been problematic as the ability to work in a team is often the most sought skill by healthcare employers (Magano et al., 2020). When considering how to increase their capabilities and desire to work both professionally and interprofessionally, competency-based education may help Gen Z members

to hone the required skill sets by progressing through competencies individually but also together in their preferred hands-on learning environments.

Higher education institutions that consider pedagogical methods such as hands-on projects, problem-based learning approaches, computer simulations, and role-playing may improve Gen Z members' soft skills which fit healthcare needs, such as communication and teamwork abilities. Adapting educational and training methods, both in higher education and in industry, has been necessary to meet the expectations of Gen Z and to create a better connection with them while also providing the competencies needed for projects and their employers (Magano et al., 2020).

### **1.5 Statement of the Problem of Practice**

My problem of practice (PoP) is Physician Assistant (PA) students at the University of Pittsburgh Department of Physician Assistant Studies fail to meet the program benchmarks for professionalism. This is a multifaceted issue that not only impacts the students but also has wider implications for the program, patient care, and the reputation of the PA profession. Addressing this problem requires a comprehensive approach, including a thorough examination of the underlying causes and the development of targeted interventions to enhance professionalism among PA students in the Department of PA Studies.

The lack of clear and universally understood benchmarks or standards for professionalism within the Department of PA Studies may result in inconsistencies in how professionalism is perceived, taught, and evaluated among students, faculty, and staff. Failing to meet professionalism benchmarks can have far-reaching consequences for PA students. It might affect their educational experience, hinder their development as healthcare professionals, and impact their future careers. A lack of professionalism can also have implications for patient

care and safety. When PA students do not meet professionalism standards, it may have a direct impact on patient outcomes. Professionalism in healthcare is closely tied to patient satisfaction, trust, and the overall quality of care delivered. Thus, addressing this problem is not only essential for the students but also for the well-being of patients. The inability of PA students to meet professionalism benchmarks can harm the reputation of the University of Pittsburgh's Department of Physician Assistant Studies. Programs known for producing graduates with strong professionalism skills are more likely to be respected within the healthcare community and among potential employers. Failure to meet professionalism benchmarks among students may lead to lower retention rates and an increased number of students who do not complete the program. This could have financial implications for both the students and the university. Furthermore, a consistent failure to meet professionalism standards could reflect negatively on the PA profession as a whole. This may influence how PA professionals are perceived by colleagues, other healthcare providers, and the public.

## **2.0 Theory of Improvement & Implementation Plan**

### **2.1 Theory of Improvement and the Change**

My theory of improvement is designed to improve the quality of scores provided to PA students from preceptors during their supervised clinical practice experiences (SCPEs). My aim is by 2025, students in the University of Pittsburgh PA Hybrid Studies Program will receive a score of 3/5 or higher on all eight professionalism evaluations during their clinical year. I have identified two primary drivers that are important elements within the PAS Hybrid program that can influence my aim. The driver diagram for my theory of improvement is in Appendix A.

### **2.2 Primary Drivers**

Primary drivers are the areas that drive the change to impact the aim. The first primary driver I identified is professionalism knowledge. Professionalism knowledge influences two primary users of the system: the students and the preceptors. Since the aim is to have all PAS Hybrid students receive a score of 3/5 or higher on all eight professionalism evaluations during the clinical year, we need both the students (who are being graded) and the preceptors (conducting the grading) to have the same understanding and expectations of professionalism knowledge. If students and preceptors enter into a rotation block with the same knowledge base on professionalism, there is less of a chance for student-preceptor misunderstandings, violations, or miscommunications about professionalism expectations. To accomplish this

mutual understanding, professional knowledge needs to be delivered in a way that both groups will understand, such as an online training.

The second primary driver I identified is program expectations. Again, both students and preceptors need to understand what the program expects in terms of professionalism. Additionally, preceptors need to be trained and to understand how the program defines professionalism and students' expectations as well as how to fill out the professionalism evaluation form. While it may seem obvious to the faculty who teach in the program, preceptors may hold different understandings or beliefs about what the professionalism evaluation form is asking. A training on how to fill the evaluation form out for preceptors would be vital to change this driver. Training preceptors on how to complete the evaluation based on the program's expectations would lead to scores being reflective of what the program expects from students at a specific point in their educational journey, and not what preceptors expect of students based on their own bias or expectations.

To ensure clarity and alignment with programmatic expectations for professionalism, it is essential that students and preceptors have a clear understanding of what is expected from them during clinical rotations. Implementing a structured training program provided by the program for both parties can effectively address potential uncertainties regarding professionalism expectations (Breunig et al., 2020). The significance of addressing this driver lies in its direct impact on achieving the program's objectives. Without a deliberate effort to educate both students and preceptors about our established standards, it is unreasonable to assume that they will naturally adhere to these expectations. By focusing on this aspect, we can substantially increase the likelihood of successfully meeting our aim.

## 2.3 Secondary Drivers

Secondary drivers are places where change can occur. I have identified four secondary drivers which include students' value and knowledge of professionalism, preceptors' value and knowledge of professionalism, the preceptors' professionalism evaluation form, and program guidelines for professionalism. Students' value and knowledge of professionalism supports the primary driver of professionalism knowledge. The more students value professionalism as it pertains to them and the program, as well as increasing their knowledge about professionalism in the healthcare setting, the more students will have a professionalism knowledge base with which to think, act, and perform in the clinical setting. The changes I can make for this driver that will result in an improvement is to incorporate more professionalism lectures and critical thinking into the curricula. The way the program could make a change that would result in an improvement for preceptors would be creating a professionalism orientation/training on programmatic expectations of professionalism as it relates to both students and preceptors. This training would help mitigate bias and confusion on what preceptors should expect from students, and what preceptors should expect from the program.

The two other secondary drivers are preceptors' professionalism evaluation forms and program guidelines for professionalism support the primary driver of program expectations. Preceptors need to receive training on how to complete the professionalism evaluation form in order for them to truly understand the expectations and lens we need the preceptors to apply to all students who are on clinical rotations with them. Additionally, the program needs to define and set guidelines for both students and preceptors regarding professionalism. A way to make a change in this driver would be to create a program handbook for students, and a preceptor handbook, that clearly defines what professionalism is and states the program expects from both parties in this area.

## 2.4 Change Ideas

I have identified four change ideas: a) incorporating professionalism lectures and critical thinking sessions into the curricula, b) creating a professionalism orientation for students and preceptors, c) conducting a preceptor training on the professionalism evaluation form, and d) creating handbooks for both students and preceptors that defines professionalism in the program and outlines expectations and criteria that both parties are expected to meet to maintain a professional environment.

Students' understanding and regard for professionalism play a supporting role in the primary driver of professionalism knowledge. Strengthening students' appreciation of professionalism within the program, along with enhancing their knowledge of professionalism in healthcare settings, contributes to building a solid foundation of professionalism knowledge. To bring about improvement in this area, incorporating more professionalism lectures and critical thinking into the curriculum is one possible change. As Mueller, 2015 noted, various methods for teaching and assessing students' knowledge of professionalism and professional behaviors is best for learners. Web-based teaching modules with knowledge checks are preferred over traditional lectures as learners can watch them at their convenience, be disseminated to a large number of learners, and can be easily coupled with assessments to determine mastery of content (Mueller, 2015).

For preceptors, a positive change can be achieved by implementing a professionalism orientation or training program that clarifies programmatic expectations related to professionalism for both students and preceptors. This training aims to reduce bias and uncertainty by outlining what preceptors can anticipate from students and what preceptors should expect from the program. Hong & Yoon (2021) found that more experience as a

preceptor can improve preceptors' clinical teaching behaviors only if preceptor training is offered.

The remaining two secondary drivers, preceptors' professionalism evaluation forms and program guidelines for professionalism, are instrumental in reinforcing the primary driver of program expectations. To ensure preceptors accurately assess professionalism, they require training on how to complete the professionalism evaluation forms. Additionally, the program needs to establish clear guidelines for both students and preceptors in the realm of professionalism. To effect change in this area, creating program handbooks for students and preceptors that explicitly define professionalism and articulate the program's expectations for both parties can be a constructive step forward.

## **2.5 PDSA Cycle Overview**

The PAS Hybrid Program consists of eight, five-week clinical year rotations. Each rotation is considered to be an individual course with pass/fail grades. The instructional faculty for rotations are preceptors. They evaluate the students halfway through the rotation and then again at the end based on a standardized preceptor evaluation form. The student and preceptor orientation to program professionalism took place prior to the start of the clinical rotations. The preceptor orientation was a recorded PowerPoint that preceptors accessed via a Learning Management System (LMS) that would be watched asynchronously. Preceptors were highly encouraged to take the professionalism training and those who did received continuing education (CE) credit for completing it. The preceptor PowerPoint discussed the PAS Hybrid Program definition of professionalism, informed preceptors of the professionalism orientation that the students received, reviewed, and discussed the preceptor evaluation of student professionalism questions (#17-20), oriented preceptors to midpoint evaluation of student, and



discussed expectations on professionalism from the preceptor. The PowerPoint was approximately 15 minutes in length.

The student orientation was an approximately eighty-minute recorded PowerPoint that all students were required to watch in December 2023. They accessed the orientation in their LMS. Their orientation discussed the PAS Hybrid Program definition of professionalism and then covered topics such as clinical etiquette, communication, patient-centered care, professional boundaries, conflict resolution, and reflective practice. The PowerPoint then moved on to discuss how preceptors evaluate professionalism in the clinical year, reviewing both the midpoint evaluation and the preceptor evaluation of student. Expectations on accepted professionalism behaviors for both students and preceptors were reviewed.

Both preceptors and students took pre-and-post quantitative surveys regarding the orientation. My PDSA cycles were designed to study the effectiveness of these orientations at promoting program professionalism literacy in both students and preceptors. The timeline for implementing the PDSA cycles is presented on the PDSA Template (see Appendix B). Beginning the orientation in fall 2023 afforded me the ability to collect data prior to rotations and then data collection will continue from all eight rotations before the end of 2024.

## **2.6 Plan**

Although PA students are expected to be evaluated by their preceptors on their professionalism skills, orienting both the students and the preceptors to the program's professionalism definitions, expectations, and evaluations did not previously occur. As a result, preceptors often could not accurately assess students on program expectations of professionalism. The change idea I pursued involved creating a professionalism orientation for both students and preceptors. Ideally, this change idea would help impact the secondary drivers

of students' and preceptors' value and knowledge of professionalism, which would then impact the primary driver of professionalism knowledge and thus help to accomplish the aim. The more students and preceptors that were oriented to what professionalism is, how the program expected it to be exhibited, why it was important for both parties, and how it would be assessed, the more understanding they would have around professionalism, which should help us accomplish the aim.

In implementing this PDSA cycle, I sought to answer several inquiry questions:

- 1) Do preceptors know our program's professionalism expectations of students?
- 2) Was a once per year orientation an effective method of teaching program professionalism expectations to both preceptors and students for the clinical year?
- 3) Did preceptors know how to effectively complete the professionalism section of the preceptor evaluation of students?
- 4) Did students know our program's professionalism expectations during the clinical year?

## **2.7 Do**

Before commencing clinical rotations, both students and preceptors underwent an orientation on program professionalism. Preceptors accessed a recorded PowerPoint, emphasizing the program's definition of professionalism, the student orientation content, and guidelines for evaluating student professionalism. Participation in this orientation was incentivized through the offer of continuing education (CE) credit. The preceptor orientation covered various aspects, including the definition of professionalism, student professionalism

orientation, review of evaluation questions, guidance on midpoint evaluation, and expectations regarding professionalism.

Similarly, students were required to view an approximately eighty-minute recorded PowerPoint session, accessible via the LMS. This session covered the program's definition of professionalism along with topics such as clinical etiquette, communication, patient-centered care, professional boundaries, conflict resolution, and reflective practice. The session also detailed how preceptors assess professionalism during the clinical year, including both midpoint and final evaluations, and set expectations for professional behavior for both students and preceptors.

## **2.8 Study**

The types of data that were gathered were quantitative pre-and post-orientation surveys for both students and preceptors. The pre-survey was given to students and preceptors just prior to completing the orientation and the post-survey was completed directly after the orientation. The goal of the surveys was to assess whether the orientation impacted their understanding of the program's expectations of professionalism related to their respective role. I created both the student and preceptor surveys and embedded them electronically in the orientation (see Appendix C). In addition, the preceptor evaluation of student scores on professionalism will be tracked for each student on an Excel sheet that will identify if students are falling below, meeting, or exceeding the set benchmark during each of their clinical rotations in 2024. I will keep a running tally for each category and each rotation to see if there was an improving trend, or not, as the year progresses. This data will then be used comparatively against PA Studies Program students, who were not completing this intervention, but who had the same preceptor evaluation forms and the same rotation schedule for their students (see Appendix D).

As shown in my PDSA Template (see Appendix B), my PDSA cycles did not overlap, but continued to provide updated data points both before the clinical year and throughout it. I had time to analyze both the student and the preceptor pre-and-post survey data before the end of 2023. In 2024, I will have 5 weeks between each rotation to collect the scores from the preceptor evaluation of student, collected at the end of each rotation, in both programs, before the next data set comes in. This will give me time to gather and analyze results from each rotation and create a comparative analysis. It should be noted that this data will not be available for this dissertation, as the completion of this dissertation will take place in the spring of 2024, while the students will not complete their clinical rotations until the end fall semester 2024. Of note, data collection will continue despite this, to get one year of comparative data.

In designing my pre-and-post surveys, my goal was to use questions that identified the utility of the orientation. I completed data analysis of the survey pre-and post-orientation questionnaire results to identify if there had been a change in both the students' and preceptors' understanding of program professionalism expectations. The data was analyzed to see if improvement was noted, and if so, the PA Studies Program could adopt the orientations for their 2025 cohort as well.

## **2.9 Act**

My primary goal was to improve understanding of the professionalism expectations of the PAS Hybrid Program in students and preceptors. The PDSA cycle might help to identify whether the orientations were effective in improving professionalism knowledge, and thus, overall professional behaviors in students and preceptors. If deemed successful, the orientations could be adopted by the PA Studies Program. Developing student professionalism and professional behaviors is not only important during their educational experience but for their

careers. Any opportunity to provide additional teaching and learning in professionalism that is effective should be adopted by the Department of PA Studies to help give students the skills they need to be professional healthcare providers. The Department of PA Studies should orient preceptors to professionalism expectations of their respective programs so that preceptors gain a better understanding of what professionalism expectations are required from them, in addition to the students they are precepting.

### **2.10 Predictions**

I anticipated the orientations would help to positively impact the post-survey questionnaire demonstrating that both student and preceptor understanding of program expectations of professionalism had improved. While the student professionalism orientation was a requirement of the program, I predicted a low number of preceptors would complete the orientation and surveys due to limited time and engagement with the program.

### **2.11 Methods and Measures**

This improvement science dissertation in practice focused on developing an orientation for students and preceptors regarding program expectations of professionalism. The study delved into several key elements: defining program expectations of professionalism for both students and preceptors, guiding both groups through the preceptor evaluation process in the context of professional behaviors, and explaining the competency scale (1-5 Likert scale) used in the preceptor evaluation of student. It particularly concentrated on how both students and

preceptors could demonstrate or assess competency in professional behaviors to achieve a score of 3 or higher on the Likert scale, signifying competence in this area.

The main aim of this study was to evaluate the efficacy of the orientation sessions in improving the comprehension of program professionalism expectations among both students and preceptors. Additionally, the study sought to investigate whether heightened awareness of these expectations would be associated with elevated scores in the professionalism area (questions 17-20) on the preceptor evaluation of students. It should be noted that while this initial analysis primarily focused on assessing the effectiveness of the orientation, subsequent iterations would delve into the correlation between increased awareness and scores on the preceptor evaluation of student (PES).

## **2.12 Study Design**

To achieve the objectives of this study, I implemented a quantitative quiz through the Learning Management System (LMS) Canvas targeting didactic students in the University of Pittsburgh PAS Hybrid Program and preceptors participating in the Pitt Professional course, titled Pitt PreCEPT (Preceptor Continuing Education and Preceptor Training). The choice of a quantitative methodology facilitated the efficient and broad collection of data, which was essential for evaluating the impact and effectiveness of the orientation.

To maintain statistical relevance, all 96 students in the PAS Hybrid Program were required to complete both the pre-and-post surveys and the professionalism orientation. The cohort of preceptors, or potential preceptors, enrolled in Pitt PreCEPT was variable in size. Nonetheless, all PAS Hybrid preceptors were strongly encouraged to participate in both the course and the orientation, including the completion of the surveys. The pre-survey for preceptors was a quantitative survey but incorporated a qualitative question focusing on

cultural humility and holistic admissions. This question was phrased as, “How do you believe the integration of professionalism behaviors ties to the broader context of cultural humility and holistic admissions in our program? Please share your thoughts or experiences.” This qualitative question will be discussed in more detail in a later section. This question will be a part of a next iteration of the course and was used to collect preliminary data. The post-survey questionnaire administered to the preceptors was entirely quantitative in nature.

### **2.13 Sampling Strategy**

In this dissertation in practice, the sampling strategy for PAS Hybrid didactic students represents a form of census sampling. This approach was taken as it sought to include every individual within a defined group, specifically all PAS Hybrid didactic students, in the survey. Census sampling is particularly effective when the population of interest is both small in size and easily accessible. By mandating the participation of all students in the PAS Hybrid Program didactic cohort to participate in both the pre-and-post surveys, the strategy aimed to capture data from the entire population segment.

The sampling strategy for preceptors differed. The methodology combined elements of purposive and convenience sampling. Purposive sampling is represented by selectively choosing participants for their distinct characteristics or expertise. In this context, it referred to the inclusion of preceptors or potential preceptors associated with the PAS Hybrid Program, chosen for their unique insights or experiences that are pertinent to the survey’s focus. Meanwhile, the aspect of strongly encouraging their participation introduced convenience sampling; an approach focused on facilitating participation for those who are willing, although it may not strictly enforce it.

In both instances, the surveys served as a systematic tool for collecting data from these targeted, relevant groups (pre-and-post-orientation). These methods enabled an evaluation of shifts in perceptions or understanding following the professionalism orientation.

### **2.14 Recruitment**

The process of participant recruitment was tailored distinctly for each group involved in the study. For PAS Hybrid didactic students, recruitment was achieved by integrating the surveys and orientation as mandatory components for progression into the clinical year. This approach guaranteed complete participation in both the intervention and the surveys.

In contrast, the recruitment of preceptors involved a multi-faceted strategy. Initially, dedicated sections for preceptors were established on the websites of both the PAS Program and the PAS Hybrid Program. These sections contained brief descriptions of the Pitt PreCEPT course, along with an invitation for all interested preceptors to enroll with a live link. Additionally, the course was promoted through a professional presentation at the Physician Assistant Education Association (PAEA) forum in October 2023, where a link to the course was shared. Further, to reach out to known preceptors associated with both programs, program administrators distributed emails containing a sign-up link for the course in fall of 2023.

### **2.15 Survey Instrument**

The survey instrument employed in this study involved administering both pre-and-post surveys to both student and preceptor populations using the “quiz” feature in the Learning Management System, Canvas. The primary aim of these surveys was to evaluate the



effectiveness of the orientation, with a focus on the participants' acquired knowledge regarding the program's professionalism expectations.

For the student population, the pre-and-post surveys consisted of four questions, all formatted as multiple choice and based on a Likert scale. This Likert scale was structured as a five-point scale, offering options to include strongly disagree, disagree, neutral, agree, and strongly agree. The utilization of Likert scale questions was chosen for its widespread acceptance and effectiveness in gauging opinions or attitudes towards a topic, as well as measuring agreement levels. Additionally, these questions are useful for assessing shifts in awareness from the pre-and-post-survey perspective. A detailed version of the survey questionnaires can be found in Appendix C.

For the preceptor population, the pre-survey included five questions. Four of these were multiple choice, utilizing the same five-point Likert scale format. The fifth question, which was open-ended, inquired about how preceptors perceive the integration of professional behaviors within the broader framework of cultural and holistic admissions. The post-survey for preceptors consisted of four questions, also formatted as multiple choice, and based on the previously mentioned Likert scale.

## **2.16 Data Analysis**

Quantitative analysis was performed on the responses to the pre-and-post orientation questionnaires. Pre and post scores were compared in aggregate using mixed-effects proportional odds modeling. The qualitative analysis was performed on the one open-ended question in the preceptor pre-survey questionnaire. This question was coded and analyzed looking for themes that could be used to inform the further iteration of this intervention.

## 2.17 Summary

The principal objective of this intervention was to positively influence the understanding of professionalism expectations within the program for both preceptors and students. Professionalism is a fundamental competency in the PA field, and success in grasping these concepts during the educational program can be indicative of future professional success. Enhancing knowledge about the program's professionalism expectations served to bolster the success of both students and preceptors.

Given the significance of comprehending and adhering to these professionalism expectations, the focus on augmenting the understanding of these standards among students and preceptors was paramount. The change strategies outlined in this study provided actionable methods to address both the secondary and primary factors contributing to the identified problem.

The intervention chosen involved the development of a professionalism orientation training tailored for both students and preceptors. This training was designed to expand their knowledge of the program's expectations regarding professionalism. This initiative presented a tangible opportunity to effect change that could be quantitatively assessed, methodically analyzed, and iteratively refined through one or more cycles of improvement.

### **3.0 PDSA Results**

#### **3.1 Study Participation**

The orientations were pre-recorded on PowerPoint and uploaded to Canvas. The preceptors accessed their pre-recorded orientation on Pitt Professional in the course PreCEPT. The module was named, “Professionalism for the Clinical Preceptor” and was available starting September 2023. Any preceptor who enrolled in the free course was able to complete the module for one CE credit. There were 35 preceptors who fully completed the module at the time of data analysis which included completion of the pre-and-post surveys and viewing the pre-recorded orientation PowerPoint.

The student orientation was housed in Canvas since students use Canvas throughout their educational journey in the Department of PA Studies. The module was found in the Canvas course, “SHRS PAS Hybrid Student Orientation Sp 23” under the module “Clinical Year” which became available in early November 2023 and was required to be completed by the end of the fall term in mid-December 2023. All students were required to complete the entire series, which included the pre-and-post surveys, as well as the pre-recorded PowerPoint labeled, “Student Professionalism Orientation: Preparing for Supervised Clinical Practice Experiences” to start clinical rotations. We had 96 students in the program during this time and all students successfully completed the module.

### 3.2 Questionnaire Results

The preceptors were asked five questions in the pre-survey and four question in the post-survey with the responses collected in Likert scale from 1-5. Table 1 demonstrates how the Likert scale used for both students and preceptors was defined.

**Table 1 Likert Scale for Pre-and-Post Survey Questionnaires**

| Survey Answer Selection | Likert Scale Number |
|-------------------------|---------------------|
| Strongly Disagree       | 1                   |
| Disagree                | 2                   |
| Neutral                 | 3                   |
| Agree                   | 4                   |
| Strongly Agree          | 5                   |

The preceptor pre-and-post survey questionnaire responses on the Likert scale with associated p-values found using mixed-effects proportional odds modeling can be seen in Table 2 Preceptor Questionnaire Results and Table 3 Student Questionnaire Results. The mixed-effects proportional odds model was selected for statistical analysis due to the nature of the survey data. This model is typically used when survey data has repeated measures coming from the same candidates. In this case, the same preceptors and students were surveyed in the pre-and-post tests and their data was identified to create those correlations. In mixed-effects proportional odds modeling, the assumption was made that the effect of moving from the pre-survey to the post-survey was the same for all scores. This result was quite reliable since the following model would lead us to get a value for the average effect of the intervention on the scores. The brant test was used for testing if this assumption was held or not. This test produced p-values for individual questions to assess for statistical significance from pre-test results to post-test results. Of note, the first and fifth pre-survey question data from the preceptor questionnaire has not been included in the results shown in the correlating table as the first

question was an identifier question, and the fifth question was the open-ended question which will be discussed in a later section. The last question of the post-survey was also excluded, as there was no pre-survey question that correlated thus pre-and-post survey mean and p-values could not be calculated. Thirty-four preceptors and ninety-six students fully completed both the pre-and-post survey questionnaires.

**Table 2 Preceptor Questionnaire Results**

| <b>Survey Item</b>           | <b>Range</b>  | <b>Pre-survey response mean</b> | <b>Post-survey response mean</b> | <b>p-value</b> |
|------------------------------|---|---------------------------------|----------------------------------|----------------|
| Professionalism expectations | 1. Strongly Disagree<br>3. Neutral<br>5. Strongly Agree | 3.76                            | 3.31                             | 0.4375         |
| Orientation once per year    | 1. Strongly Disagree<br>3. Neutral<br>5. Strongly Agree | 3.91                            | 4.03                             | 0.45           |
| Effectively complete PES     | 1. Strongly Disagree<br>3. Neutral<br>5. Strongly Agree | 3.68                            | 4.24                             | 0.000105       |

### **3.3 Preceptor Survey Results Discussion**

It should be considered that the preceptors in this study already have completed their own professionalism trainings in their previous educational experiences and have been in a professional healthcare setting working as a provider for at least two years. As such, the preceptors had a level of understanding of the professionalism expectations of the program. which may have contributed to the results seen in Table 2 regarding the preceptor’s perception or knowledge of our program’s professionalism expectations of students. The question performed worse in the post-survey, indicating preceptors may have felt they knew the

expectations well in the pre-survey, but realized they may have had knowledge gaps they realized in the post-survey.

In the past, when we attempted interventions with preceptors and in focus-group discussions with preceptors, they expressed limited interest in being asked to do more work without compensation. Preceptors have students on average for approximately 160 hours per rotation, typically without compensation. Adding additional burdens, such as mandatory trainings, or even optional trainings, have been poorly received. The results indicated preceptors did find value in a once per year professionalism orientation training, but the results were not statistically significant because the mean did not significantly change. This result is consistent with data I have collected through my educational journey.

The last data set represented in Table 2 referred to the survey question, “To what extent do you believe preceptors know how to effectively complete the professionalism section of the preceptor evaluation for students?” This question was the only one that showed statistical significance in the preceptor surveys. There was a significant change from the pre-survey to the post-survey mean which resulted in a significant p-value. This was valuable information as this was one of the change ideas previously referenced and helps to inform future iterations of this orientation for preceptors.

In summary, prior to the professionalism orientation for preceptors, the preceptors had a moderate level of understanding program professionalism expectations. The significant change noted in the post-survey results related to effectively completing the PES after there was an overview in the orientation shows preceptors may be open to a more in-depth training where the entire PES, not just the professionalism questions, would be reviewed to ensure preceptors would complete this section per the program’s expectations. There was a slight increase in preceptors finding value in a once per year professionalism orientation, which may

indicate preceptors would be open to the idea if they felt it added value to their precepting experience.

**Table 3 Student Questionnaire Results**

| Survey Item                              | Range   | Pre-survey response mean | Post-survey response mean | p-value                 |
|--|---|--------------------------|---------------------------|-------------------------|
| Understand professionalism expectations  | 1. Strongly Disagree<br>3. Neutral<br>5. Strongly Agree | 4.50                     | 4.68                      | 0.00306                 |
| Orientation once per year                | 1. Strongly Disagree<br>3. Neutral<br>5. Strongly Agree | 3.94                     | 4.16                      | 0.00102                 |
| Preceptor assessments of professionalism | 1. Strongly Disagree<br>3. Neutral<br>5. Strongly Agree | 3.99                     | 4.42                      | 1.64 x 10 <sup>-5</sup> |
| Orientation helpful to success           | 1. Strongly Disagree<br>3. Neutral<br>5. Strongly Agree | 3.96                     | 4.17                      | 0.00186                 |

### 3.4 Student Survey Results Discussion

It should be considered that the students in this study already have completed some professionalism modules in their didactic education to provide a knowledge baseline; however, student had not had any clinical year professionalism orientation prior to this intervention. As noted, all 96 students completed all the orientation components. The cohort was made up of students with various lived experiences, ranging in age between 20 and 50, and represented twenty-three states. Some students had significant healthcare experience, while others had a more limited experience. All students were required to complete a minimum of 500 healthcare

experience hours where they must have hands-on experience with patients. Examples of these types of professional or volunteer roles included patient care technician, phlebotomist, certified nursing assistant, physical therapist, etc.

All questions in the professionalism orientation had a significant p-value, indicating students felt the orientation objectives of increasing knowledge of professionalism expectations in the clinical year, there is value in a once per year pre-clinical orientation to professionalism expectations, increased understanding of preceptor assessments of professionalism, and the orientation increasing their success in the clinical year were met and well received. This positive trend in the post-survey data from the pre-survey data may indicate students view the orientation as a valuable addition to their pre-clinical year experience.

### **3.5 Pre-Survey Preceptor Qualitative Question Discussion**

To deepen the program's understanding of the intersection between professional behavior, cultural humility, and holistic admissions, an open-ended question was incorporated into the preceptor pre-survey: "How do you believe the integration of professionalism behaviors ties into the broader context of cultural humility and holistic admissions? Please share your thoughts or experiences." This inquiry aimed to gather insights on preceptors' perceptions regarding the relationship between professionalism behaviors and the principles of holistic admissions and cultural humility. The rationale behind including this question was to pave the way for future iterations of this orientation on how preceptors' biases or misunderstandings of students' professional identities and cultural backgrounds might adversely affect students' professionalism evaluations during their clinical year. The Department of PA Studies had significantly advanced its holistic admissions processes in



recent years, admitting increasingly diverse cohorts. These cohorts have brought a wealth of varied lived experiences that enriched both the learning environment and patient care.

Building on this foundation, the American Association of Medical Colleges (AAMC) defines a comprehensive evaluation as a mission-aligned admissions or selection process that considers applicants' experiences, attributes, academic metrics, and potential contributions to education, clinical practice, and research (Coplan et al., 2021). Such an approach allows admissions committees to assess an applicant in their entirety, rather than focusing narrowly on a single factor. The process promotes a balanced appraisal, giving equal weight to 1) quantifiable factors such as academic performance, 2) qualitative factors like resilience and determination as portrayed in personal statements and recommendation letters, and 3) an integration of both, as demonstrated by accumulated hours of direct patient care experience. This holistic perspective not only aligns with the evolving landscape of holistic admissions but also reflects the nuanced understanding of professionalism within the context of cultural humility, ensuring a comprehensive approach to evaluating future healthcare professionals.

Of the thirty-four preceptors who completed the pre-survey, twenty-nine responded to the open-ended question. After analyzing the de-identified preceptor comments from the question about the integration of professionalism behaviors in the broader context of cultural humility and holistic admissions, several themes emerged. These themes illustrated the preceptors' perspectives on the importance of professionalism, its role in healthcare, and how it intersects with cultural humility and holistic admissions:

- 1) Foundation of Healthcare: Professionalism was seen as a fundamental aspect of healthcare, vital for building trust and accountability among healthcare providers, patients, and team members. It was viewed as critical for developing a future healthcare workforce that is morally, ethically, and clinically sound.

2) Awareness and Responsiveness to Diversity: There was a belief that healthcare providers should be conscious of and responsive to the diversity of patient populations they serve. This awareness should be an integral part of the curriculum, preparing providers to meet the needs of varied patient groups effectively.

3) Professionalism as a Basis for Navigating Cultural Differences: Professionalism was viewed as a foundational element that aids in addressing and navigating cultural differences and other challenging situations that may arise in healthcare settings.

4) Setting Expectations and Standards: The integration of professionalism behaviors was important for setting clear expectations and standards within educational programs and professional environments. This ensured the development of professionals who are not only sensitive but also effective in their practice.

5) Professionalism and Holistic Care: There was an emphasis on taking patients' preferences seriously and providing care that aligns with their life and lifestyle, including holistic approaches. Professionalism involved respecting these preferences and working collaboratively with patients to achieve positive outcomes.

6) Cultural Humility and Respect: The ability to understand and respect individuals from diverse backgrounds was considered a core component of professionalism. This competency was crucial for fostering effective communication and behavior in healthcare.

7) Observational Learning of Professional Behaviors: Professional behaviors were often learned through observation. Being trained and mentored by individuals who exhibited cultural competency and professionalism provided a deeper understanding and model of professional conduct.

8) Importance of Professional Conduct in Healthcare: Professionalism was essential in all aspects of patient care. It reflected not only on the individual provider but also on the institution they represent.

These themes emphasized the interconnectedness of professionalism with cultural humility and holistic admissions, highlighting the importance of integrating these values into the training and development of healthcare providers.

### **3.6 Inquiry Questions**

After identifying themes from the qualitative data analysis and comparing them with the quantitative data, my insights were further explored in relation to my four inquiry questions.

#### **Inquiry Question 1: Do preceptors know our program's professionalism expectations of students?**

The PDSA results indicated a nuanced understanding among preceptors regarding the program's expectations of professionalism. Initially, preceptors believed they had a good grasp of these expectations, but post-orientation feedback suggested a realization of existing knowledge gaps. The orientation served as a mirror, revealing discrepancies between their perceived and actual understanding. This realization was a critical first step towards bridging the gap in professionalism expectations between the program and its preceptors. By acknowledging this discrepancy, the program could tailor future orientations to address specific areas of misunderstanding, thus aligning preceptor expectations with program standards more effectively.

#### **Inquiry Question 2: Was a once per year orientation an effective method of teaching program professionalism expectations to both preceptors and students for the clinical year?**

The orientation demonstrated effectiveness, particularly among students, in enhancing understanding and expectations of professionalism. While preceptors showed a slight increase

in recognizing the value of the orientation, the significant improvements in students' understanding suggest this approach resonated well within the educational context. The effectiveness of the orientation, as evidenced by the positive shifts in students' perceptions, emphasized the value of structured, formalized training in setting a unified standard of professionalism within the program. For preceptors, while improvements were noted, the orientation's effectiveness could be further enhanced by addressing specific needs and incorporating more interactive or engaging elements to boost participation and retention of information.

**Inquiry Question 3: Did preceptors know how to effectively complete the professionalism section of the preceptor evaluation of students?**

The significant improvement in preceptors' self-reported capability to effectively complete the professionalism section post-orientation was a testament to the orientation's impact. This improvement suggested the orientation successfully addressed a critical need for clearer guidelines and understanding regarding the evaluation process. The shift towards a more competent completion of evaluations indicated preceptors were not only more aware of what was expected but also felt more confident in their ability to assess students' professionalism accurately. This alignment was essential for ensuring that evaluations were both reflective of students' behaviors and aligned with the program's standards.

**Inquiry Question 4: Did students know our program's professionalism expectations during the clinical year?**

The students' significant improvement in understanding the program's professionalism expectations post-orientation highlighted the orientation's effectiveness as an educational tool. This result was encouraging, as it indicated students were entering their clinical year with a clearer, more comprehensive understanding of what was expected from them in terms of

professionalism. Such clarity was crucial for students to navigate their clinical experiences successfully and for the program to maintain high standards of professional behavior among its graduates.

### **3.7 PDSA Reflection**

The PDSA cycle reveals a promising trajectory towards improved understanding and application of professionalism standards among both preceptors and students. The orientation emerged as a pivotal educational intervention, facilitating a deeper comprehension of professionalism expectations within the program's context. For students, the orientation significantly enhanced their preparedness and understanding, setting a solid foundation for their clinical year. Preceptors, while initially potentially overestimating their grasp of professionalism expectations, recognized their learning gaps through the orientation, suggesting a pathway for more targeted and effective future training.

The orientation's role in aligning expectations and understanding across the board was evident. However, the nuanced differences in its impact between preceptors and students stressed the need for continuous evaluation and adaptation of the orientation's content and delivery. By fostering an environment of open feedback and iterative improvement, the program could further refine its approach to professionalism training, ensuring both preceptors and students would be not only aligned with but also would be fully equipped to meet and exceed the high standards set forth by the program.

## **4.0 Learning & Actions**

Professionalism stands as a foundational competency within PA education, mandated by ARC-PA for instruction. However, the absence of a universally endorsed definition, standard, or curriculum for professionalism by leading PA organizations and the accrediting body has led to varied approaches across PA programs in defining, teaching, and evaluating professionalism. This improvement cycle was initiated to evaluate the efficacy of a specialized professionalism orientation for both preceptors and students, aiming to synchronize their perceptions of professionalism with the expectations outlined by the program.

### **4.1 Key Findings**

The most significant outcome of this cycle was the positive impact of the professionalism orientation on students. Post-orientation, there was a notable enhancement in students' comprehension of the program's professionalism expectations. This revelation highlighted the orientation's role as a pivotal educational tool, ensuring students embark on their clinical year with a well-rounded and clear understanding of expected professional behavior. The necessity of such clarity for successful navigation through clinical experiences and the maintenance of high professional standards within the program is critical. This targeted approach to setting clear expectations and providing ongoing feedback is echoed in professional education literature, emphasizing its importance in the cultivation of professionalism (Hong & Yoon, 2021; Mueller, 2015).

Another key insight from this cycle was related to the preceptors' preparation for evaluating student professionalism. The pre-and-post survey data revealed a statistically

significant improvement in preceptors' confidence in filling out the professionalism evaluation section for students' post-orientation. However, it was important to note that this was the only significant finding for preceptors, with no marked change in their understanding of the program's professionalism expectations for themselves or the students. This note highlighted a potential area for further development in ensuring preceptors are fully aligned with program expectations.

The inclusion of an open-ended question for preceptors, probing their views on the integration of professionalism behaviors with cultural humility and holistic admissions, yielded rich insights. The engagement with this question was notably high, uncovering eight main themes from their responses. These themes ranged from the importance of professional conduct in healthcare, cultural humility and respect, to professional and holistic care, and the need for awareness and responsiveness to diversity. The depth of engagement on this topic signals the preceptors' recognition of the complexity of professionalism, its interconnection with cultural humility, and the pivotal role it plays in delivering patient-centered care.

## **4.2 Impact of the change**

In the realm of improvement science, the use of measurements is crucial for assessing the effects of interventions, especially in terms of their influence on educational practices within professional settings. Through measurements, we gain insights into the effectiveness of an intervention, its mechanisms of action, and the demographics for which it proves beneficial or otherwise. This analytical approach allows for a distinct understanding of intervention impacts, guiding further refinement and implementation strategies (Langley et al., 2009).

### **4.3 Impact on process measures**

For this PDSA cycle, pre-and-post survey questionnaires functioned as the central process measures, capturing the effect of the professionalism orientation through the analysis of mean changes and p-values for both preceptors and students from the pre-test to the post-test. The outcomes revealed through the preceptor post-intervention questionnaire suggested a marginal impact of the orientation, contrasting with the student questionnaire, which demonstrated a significant positive effect in bridging students' knowledge gaps concerning professionalism during the clinical year.

### **4.4 Impact on driver measures**

An updated driver diagram was developed (Appendix E) to better visualize the measures impacted by this intervention. The drivers primarily impacted by the intervention were professionalism knowledge (primary driver), and students' and preceptors' value and knowledge of professionalism (secondary drivers). The orientation resulted in a significant enhancement of students' understanding of professionalism expectations post-orientation. This finding suggested students were now more likely to meet the professionalism benchmarks set for clinical evaluations, thus driving the aim forward. This change was impactful, as evidenced by the students' improved scores and their subjective feedback, indicating the orientation's effectiveness as an educational tool.

However, there was minimal statistical significance in the change of preceptors' knowledge post-orientation, indicating a potential area for improvement. Of note, the significant increase in preceptors' confidence to evaluate students suggests a positive impact, albeit limited to evaluation skills rather than a holistic understanding of professionalism. The



results showed while there was no significant change in preceptors' overall understanding of program expectations, their confidence in completing the professionalism evaluation section improved, indicating that targeted training might be needed to address understanding of this evaluation more completely.

#### **4.5 Impact on Balance Measures**

There was minimal time, less than a few hours, spent creating my intervention which used minimal institutional resources. Incorporating the orientation into a pre-existing learning management system that students and preceptors were already familiar with required no training and minimal administrative support. It was possible, although never expressed to me, that the intervention caused preceptors and/or students to feel overburdened when asked or required to spend time taking the questionnaires and watching the orientation. As previously noted, the preceptor orientation was approximately fifteen minutes, and the student orientation was approximately eighty minutes. The average time preceptors and students spent completing the pre-and-post-test surveys was less than two minutes each.

#### **4.6 Impact on outcome measures**

My problem of practice (PoP) is Physician Assistant (PA) students at the University of Pittsburgh Department of Physician Assistant Studies fail to meet the program benchmarks for professionalism. While this singular PDSA cycle cannot answer if I made a significant impact on my problem of practice, the use of improvement science has helped me study and analyze at least one change idea that may impact my problem of practice.

My problem of practice has not been occurring in a vacuum. The PAS Hybrid Program has created several change ideas surrounding professionalism such as a professionalism series. The professionalism series was occurring at least once per semester where we created interactive online synchronous sessions where we discussed communication, didactic and clinical student scenarios related to professionalism, email etiquette, and more. Additionally, we rewrote the entire student handbook and sections of the policy and procedure manual to better address program expectations overall, including professionalism. Lastly, PreCEPT has been adding new preceptor modules and creating a preceptor community where they can engage, learn, and grow together in the online space. With data from this intervention, there are already discussions on clinical faculty creating an asynchronous PowerPoint reviewing the preceptor evaluation of student. This would address how to complete all sections of the evaluation, and not just the professionalism section like my intervention addressed.

The introduction of the professionalism orientation demonstrated a notable positive effect on student outcomes, as evidenced by significant improvements in students' self-reported understanding of professionalism post-orientation. This suggested the program was on track to meet or possibly exceed its aim, given the progressive trend seen in the post-survey results. The encouraging shift in students' comprehension points towards increased knowledge and application of professionalism standards in clinical settings. As students transitioned to clinical rotations, the improved understanding was poised to positively influence their behavior and performance, potentially resulting in enhanced patient care outcomes and satisfaction levels.

The qualitative feedback from preceptors, reflecting on the fusion of professionalism with cultural humility and holistic admissions, indicated a clear eagerness to delve into the implications of these concepts on patient care. The Department of PA Studies' commitment to holistic admissions has yielded a student body rich in diverse backgrounds and experiences.

Such engaged discussions around a single question suggested the potential development of further asynchronous lectures for preceptors, fostering an enriched and comprehensive appreciation of professionalism. This approach was anticipated to complement with the modern demands of healthcare and meet the program's benchmarks.

In summary, the impact on outcome measures was multifaceted, encompassing immediate improvements in knowledge and evaluation capabilities, as well as contributing to a broader cultural shift within the program. To ensure the continuation and amplification of these positive outcomes, the program must maintain its focus on comprehensive, engaging, and iterative professionalism education for both students and preceptors.

#### **4.7 Strengths of the Change Process**

One of the primary strengths was the intervention focused on addressing both students and preceptors to ensure a common understanding of professionalism standards. This targeted approach was crucial for aligning expectations and practices within PA education, enhancing the coherence between learning outcomes and clinical practice. The dual focus on students and preceptors in the intervention was pivotal in bridging the gap between theoretical knowledge and practical application of professionalism standards. This comprehensive approach was supported by Cruess & Cruess (2016), who emphasized the importance of shared understanding among all shareholders in medical education to foster a culture of professionalism.

The introduction of a structured orientation program for professionalism represents a proactive step towards formalizing the teaching and assessment of this core competency. By providing a comprehensive overview of professionalism expectations, the program set clear benchmarks for behavior and performance in clinical settings. The structured orientation program's role in formalizing professionalism instruction mirrored the recommendations of

Swing (2007), who suggested clear frameworks for core competencies in healthcare education enhance learners' acquisition and application of these skills. Furthermore, Wilkinson et al. (2009) highlighted the effectiveness of structured programs in improving students' understanding and application of professionalism in clinical settings. This proactive step not only set benchmarks but also provided a roadmap for students and preceptors alike, aligning with the competency-based education framework suggested by Frank et al. (2010).

Incorporating an open-ended question for preceptors about professionalism and its integration with cultural humility and holistic admissions added depth to the intervention. The question enabled the collection of diverse insights, highlighting the multifaceted nature of professionalism in healthcare and its relevance to broader societal and cultural contexts. The inclusion of open-ended questions for preceptors regarding professionalism's integration with cultural humility and holistic admissions enriched the dialogue around professionalism. This method aligned with Kumagai & Lypson (2009) who advocated for reflective practice and narrative approaches in teaching professionalism, arguing that such methods foster deeper understanding and appreciation of the social and cultural dimensions of healthcare. This approach underlined the complexity of professionalism as not merely a set of behaviors but a reflection of broader values and ethics in healthcare, as discussed by Wear & Zarconi (2008).

Utilizing pre-and-post orientation surveys to measure changes in understanding and attitudes towards professionalism allowed for an empirical assessment of the intervention's impact. This feedback loop was instrumental in identifying successful elements of the orientation and areas requiring further enhancement. The empirical assessment of the intervention's impact through pre-and-post orientation surveys was a critical component of the improvement science methodology. This approach echoed the principles outlined by Batalden & Davidoff (2007) who advocated for the measurement and analysis of interventions to foster continuous improvement in healthcare education. The feedback loop created by these surveys

allowed for an evidence-based approach to refining the orientation program, consistent with Langley et al. (2009) who stressed the importance of using data to drive improvements in educational practices.

#### **4.8 Weaknesses of the Change Process**

The challenge of engaging preceptors effectively in professionalism orientation accentuated the necessity of rethinking participation strategies. As Steinert et al. (2006) suggested, faculty development initiatives must be designed to be as accessible and relevant to participants as possible to encourage active involvement. Incorporating interactive, case-based learning, and peer discussion might have increased engagement (Steinert et al., 2006). Furthermore, O'Sullivan & Irby (2011) highlighted the importance of incentivizing participation, perhaps through accreditation points or recognition within the institution, to enhance motivation among preceptors. In the Department of PA Studies, discussions were ongoing about incentivizing preceptors to participate in these new potential requirements by giving them adjunct appointment in addition to them taking a set number of students each year. This could possibly increase participation and motivation. Another potential solution for a next iteration could be implementing a blended learning approach, combining online modules with synchronous sessions, which could cater to preceptors' varying schedules and preferences, increasing accessibility and engagement (Cook et al., 2010).

The variability in defining and assessing professionalism across PA programs challenges the establishment of a uniform standard, as noted by Cruess & Cruess (2008). The authors advocated for a consensus-building approach among educational leaders and accrediting bodies to delineate clear, actionable criteria for professionalism. This aligns with the call by Frank et al. (2010) for competency-based education frameworks that include

professionalism as a core element, emphasizing the need for standardized assessment tools and criteria. A potential solution could be having representatives from the Department engage in national or regional dialogues, workshops, and symposiums to establish consensus on professionalism standards and assessment methods could foster greater uniformity across PA programs.

The intervention's primary focus on preparing preceptors to evaluate student professionalism, without equally addressing preceptors' professional development, pointed to a missed opportunity for enhancing the overall professional culture. Wilkinson et al. (2009) stressed the importance of role modeling in teaching professionalism, suggesting that enhancing preceptors' reflective practices and professional behaviors could significantly impact students. Future iterations could include dedicated sessions for preceptors on reflective practice, ethical dilemmas, and managing professional identity challenges, drawing on frameworks like those suggested by Mann et al. (2007) for reflective learning.

Lastly, the concerns about the long-term sustainability and scalability of the orientation echo broader challenges in educational intervention research. Kirkpatrick & Kirkpatrick (2006) discussed the importance of evaluating training programs not just for immediate outcomes but also for their lasting impact and integration into practice. Achieving sustainability requires institutional commitment, resource allocation, and ongoing evaluation mechanisms to adapt and refine the program over time (Batalden et al., 2007). Establishing partnerships with community partners and major healthcare organizations, securing grant funding for professionalism program expansion, and embedding professionalism orientation within mandatory training requirements for new preceptors could enhance both sustainability and scalability.

## 4.9 Next Steps and Actions

Building on the positive feedback from the orientation sessions, it would be reasonable to consider expanding the content for a new PDSA cycle to include more interactive elements, such as case-based scenarios, discussion board posts, and synchronous sessions that can deepen understanding and application of professionalism standards. This model could be used to benefit both students and preceptors, but it would likely work best to increase preceptor engagement. As previously noted, given the significant response to the cultural humility and holistic admissions question in relation to professionalism, integrating training modules on cultural humility and sensitivity can further enrich the orientation program, particularly for preceptors who see the value in both their role as an educator and for the students as future healthcare providers of diverse patient populations.

This initiative could have ongoing preceptor development to secure its sustainability. Some ideas for continuing to engage preceptors in the importance of these orientations could be establishing a continuous professional development program for them, focusing on up-to-date practices in evaluating and teaching professionalism. An annual requirement for new preceptors to participate prior to accepting students should be considered, with an annual refresher course and forum for sharing experiences and implementation of learnings and strategies for established preceptors accepting students for the upcoming year.

A future iteration of this initiative should consider additional feedback mechanisms by implementing various avenues and options for feedback to be submitted. By allowing for the collection of data on the long-term impact of the orientation on students' and preceptors', the program can better assess the impact on understanding and applications of lessons learned from the professionalism orientations. The use of these data could then inform and continuously refine and improve the orientations for both parties.

This PDSA cycle was piloted in the PAS Hybrid Program first, but if successful, the thought process was to expand the orientation modules into the PA Studies Program. The student success of the orientation intervention within the PAS Hybrid Program, presents a compelling case for implementing the same or similar orientations in the PA Studies Program as well. With time, the professionalism series could be brought into other spaces, like the School of Health and Rehabilitation Sciences programs, such as physical therapy, emergency medicine, and occupational therapy, where these modules could also serve to education those students and preceptors/educators on professionalism in their respective fields.

#### **4.10 Potential implications**

This intervention highlighted the importance of clear and shared expectations for professionalism between students and preceptors. This clarity was essential not just for educational purposes but also for the practical application in clinical settings, impacting patient care quality and safety. Additionally, these findings highlighted the value of a structured, comprehensive orientation to instill professionalism among PA students and preceptors. Such orientations should become a staple in PA education, emphasizing the development of professional behaviors as much as clinical skills. Further research should explore the long-term impacts of professionalism orientations on PA students' clinical performance and professional development. Investigating the effects of different teaching methods on the absorption and application of professionalism principles can inform future educational strategies. Lastly, this project supported the call for standardized professionalism criteria and training across PA programs. Policymakers and the accrediting body should consider setting clear guidelines for professionalism education and assessment, ensuring consistency and high standards across the board.



#### **4.11 Summary of Learning and Actions**

The initiative to enhance professionalism within the PAS Hybrid Program through a specialized orientation for both students and preceptors represents a significant step towards addressing the challenges posed by the lack of a universally endorsed definition, standard, or curriculum for professionalism. This endeavor aimed to bridge the gap in understanding and expectations of professionalism between students and preceptors, aligning with the program's goals. The positive impact of the orientation on students' comprehension of professionalism highlighted its efficacy as an educational tool, preparing them for their clinical year with a clearer and more comprehensive understanding of professional behavior expectations. This was critical for navigating clinical experiences successfully and maintaining high professional standards within the program.

However, while the orientation significantly improved preceptors' confidence in evaluating student professionalism, it revealed areas requiring further development, particularly in fully aligning preceptors with program expectations and enhancing their own professional development. The insights garnered from the open-ended question about the integration of professionalism with cultural humility and holistic admissions highlighted the complexity of professionalism in healthcare. These findings emphasize the importance of professional conduct, cultural humility, respect, and the need for a holistic approach to care, showcasing the multifaceted nature of professionalism and its pivotal role in patient-centered care.

Looking forward, expanding the orientation's content to include more interactive elements, and integrating training on cultural humility could enrich the orientation further. Ongoing development for preceptors, focusing on current practices in evaluating and teaching professionalism, alongside continuous feedback mechanisms, will be essential for assessing

the long-term impact of the orientation. The potential expansion of the orientation to other programs and the consideration of standardized professionalism criteria emphasizes the initiative's broader implications for PA education. This project not only addressed immediate gaps in professionalism training but also set the stage for standardized professionalism education, promising to enhance the quality of patient care and safety through improved professional practice.

## 5.0 Reflections

Embarking on this dissertation has not only been an academic pursuit but a journey of discovery through the realm of improvement science, especially within the context of professionalism in PA education. This deep dive into structured orientations to harmonize the understanding of professionalism among PA students and preceptors has highlighted the complexity and dynamism of educational improvement. Through methodical implementation and rigorous evaluation of a specialized orientation, I have garnered that true improvement transcends mere problem identification; it demands a comprehensive strategy that addresses both the visible and underlying factors influencing outcomes. The Plan-Do-Study-Act (PDSA) cycles highlighted the iterative nature of improvement, where each cycle builds upon the learnings of the previous, fostering a culture of continuous feedback and refinement.

This intellectual voyage has catalyzed significant personal and professional transformation, reshaping my perspectives as a student, educator, leader, and scholarly practitioner. I have come to appreciate the nuanced challenges of effecting change within educational ecosystems, where aligning interventions with the diverse needs and expectations of all concerned users is paramount. Leading such initiatives has taught me the importance of resilience, adaptive leadership, and the power of a shared vision. It has honed my skills in empathetic leadership, active listening, and effective communication, emphasizing the essence of leading with integrity and purpose.

As a scholarly practitioner, this journey has enriched my research acumen, notably in the adept execution of PDSA cycles and the nuanced integration of quantitative and qualitative insights to steer evidence-based decision-making. It has reaffirmed the role of a robust theoretical foundation, empowering the development and implementation of interventions with a lens of scholarly inquiry. The project illuminated the vast potential for improvement science

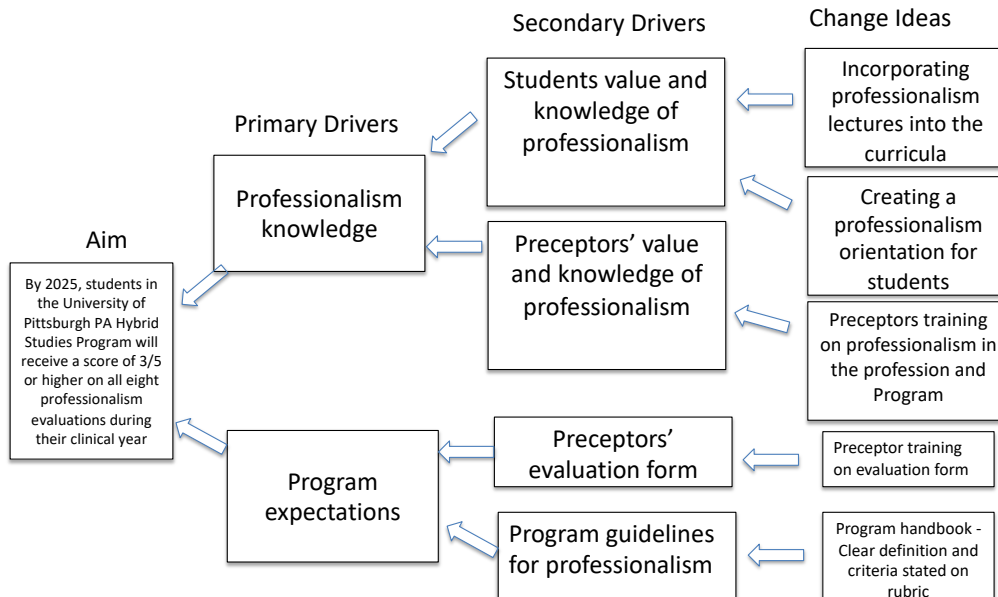
to address pressing problems of practice within PA education and beyond, advocating for a disciplined yet flexible approach to effecting meaningful change.

In my role as a program director, this dissertation has solidified the imperative of ongoing program self-assessment, advocating for both immediate and far-reaching enhancements to elevate the experiences of our students. This entailed a proactive stance on problem identification, engaging a broad spectrum of concerned users in the dialogue to ensure a holistic understanding of issues before embarking on change initiatives. The recognition that well-intentioned changes can have unintended consequences invites a careful consideration of balance measures, advocating for a comprehensive evaluation of potential impacts before implementation.

Looking ahead, I am committed to harnessing the principles of improvement science to confront other challenges, leveraging structured frameworks like PDSA cycles to foster an environment of perpetual self-assessment and improvement. Navigating the unique landscape of hybrid PA education, with its distinct challenges and opportunities, demands a scholarly practitioner mindset, ready to adapt to the evolving standards of accreditation, student needs, and the broader shifts in higher education. This dissertation has equipped me with the strategic acumen to navigate institutional dynamics, propose and manage budgetary allocations effectively, and champion the continuous enhancement of our program.

Moreover, the emphasis on integrating feedback mechanisms, championing data-driven decisions, and nurturing a culture of inclusivity and cultural humility will guide our approach in future problems of practice. This holistic perspective ensures our solutions are not only effective but equitable, reflective of the diverse needs and aspirations of our community. In sum, this dissertation journey has imbued me with a deeper sense of purpose and a renewed commitment to lifelong learning, underscoring my dedication to advancing PA education and healthcare delivery through the lens of improvement science.

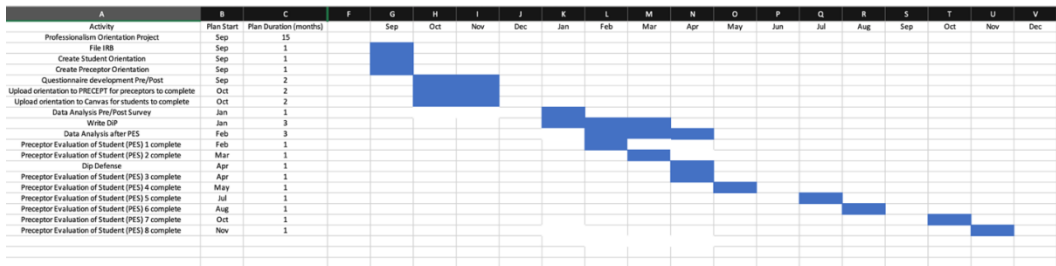
## Appendix A Driver Diagram



**Figure 1** This image is a flowchart titled "Professionalism Knowledge." It outlines a strategic plan aimed at enhancing students' professionalism in the University of Pittsburgh PA Hybrid Studies Program by 2025.

## Appendix B PDSA Sheet

| A  | B | C  | D | E  | F        | G  | H  |
|--|---|--|---|--|----------|--|--|
| <b>PDSA Form</b>   |   |  |   |  |          |  |  |
| Test Title:  |   | Student/Preceptor Orientation to Professionalism Expectations  |   |  | Date:    |  | Spring 2024  |
| Tester:  |   | Students/Preceptors for the class of 2024  |   |  | Cycle #: |  | 1  |
| What Change Idea is being tested?  |   | Creating a Professionalism Orientation for students and preceptors   |   |  | Driver:  |  | Primary - Professionalism Knowledge Secondary - Students/Preceptors value and knowledge of program professionalism |
| What is the overall goal/hypothesis you are testing?   |   | Student/preceptor orientations to professionalism will increase the number of students in the University of Pittsburgh PA Studies Hybrid Program receiving more scores of 3/5 or higher on all eight professionalism evaluations during their clinical year  |   |  |          |  |  |
| <b>1) PLAN Details:</b> Describe the who/what/where/when for the test. Include your data collection plan.<br>Who: Students/preceptors for the PAS Hybrid Program class of 2024. What: Preceptor/Student Orientation. Where: Online for both students/preceptors. Will be recorded and posted in their respected shells where they access their materials (Canvas - students, PRECEPT - preceptors). When: In late fall 2023. Data collection will be begin after the orientation in late fall 2023 but the evaluation data collection will happen in spring 2024 when rotations begin. |   |  |   | <b>2) DO</b> Briefly describe what happened during the test, surprises,  |          |  |  |
| <b>Questions:</b> Questions you have about what will happen. What do you want to learn?<br>Secondary Driver: Students/Preceptors value and knowledge of Program professionalism. Will orienting both parties to the Program's definition and Primary Driver: Professionalism Knowledge. Will their knowledge of the Program's professionalism definitions/assessments increase Outcome - Will students in the University of Pittsburgh PA Hybrid Studies Program will receive a score of 3/5 or higher on all eight  |   | <b>Predictions:</b> Make a prediction for each question. Not optional.<br>I predict it will create a positive outcome - better student/preceptor scoring on assessments of professionalism<br>I predict it will create a positive outcome - better student/preceptor scoring on assessments of professionalism<br>I predict it will create a positive outcome - better student/preceptor scoring on assessments of professionalism<br>I predict it will create a positive outcome - better student/preceptor scoring on assessments of professionalism |   | <b>Data:</b> Data you'll collect to test predictions.<br>Preceptor evaluation of student questions 17-20 (professionalism questions) and Student evaluation of preceptor professionalism section<br>Preceptor evaluation of student questions 17-20 (professionalism questions) and Student evaluation of preceptor professionalism section<br>Preceptor evaluation of student questions 17-20 (professionalism questions) and Student evaluation of preceptor professionalism section<br>Qualitative and quantitative data survey from preceptors and students on the utility of the training/orientation |          | <b>What were your results?</b> Comment on your predictions in the box below. Were they correct? Record any data summaries as well. |  |
| <b>4) ACT</b> Describe modifications and/or decisions for the next cycle; what will  |   |  |   | <b>3) STUDY</b> What did you learn?  |          |  |  |



**Figure 2** These images present a professional study plan and timeline for enhancing professionalism in the University of Pittsburgh PA Studies Program.

## **Appendix C Preceptor and student pre-and-post survey questions**

### **Appendix C.1 Preceptor Pre-Survey Questions:**

1) Please identify which Program in the Department of PA Studies you are a preceptor for currently:

PAS Hybrid Program

PA Program (Residential)

Both

Neither

2) To what extent do you believe preceptors know our program's professionalism expectations of students?

Strongly Disagree

Disagree

Neutral

Agree

Strongly Agree

3) Do you think that a once per year orientation is an effective method for teaching program professionalism expectations to both preceptors and students for the clinical year?

Strongly Disagree

Disagree

Neutral

Agree

Strongly Agree

4) To what extent do you believe preceptors know how to effectively complete the professionalism section of the preceptor evaluation for students?

Strongly Disagree

Disagree

Neutral

Agree

Strongly Agree

5) How do you believe the integration of professionalism behaviors ties into the broader context of cultural humility and holistic admissions? Please share your thoughts or experiences (open ended question).

### **Appendix C.2 Preceptor Post-Survey Questions:**

1) After the training, to what extent do you believe preceptors know our program's professionalism expectations of students?

Strongly Disagree



Disagree

Neutral

Agree

Strongly Agree

2) Do you think that a once per year orientation is an effective method for teaching program professionalism expectations to both preceptors and students for the clinical year?

Strongly Disagree

Disagree

Neutral

Agree

Strongly Agree

3) After the training, to what extent do you believe preceptors know how to effectively complete the professionalism section of the preceptor evaluation for students?

Strongly Disagree

Disagree

Neutral

Agree

Strongly Agree

4) Do you feel the orientation and discussions about professionalism will help to create a mutual understanding of expected standards between preceptors and students?

Strongly Disagree

Disagree

Neutral

Agree

Strongly Agree

### **Appendix C.3 Student Pre-Survey Questions:**

Instruction before each question: How much do you agree with the following statement

1) I understand the program's expectations for the clinical year.

Strongly Disagree

Disagree

Neutral

Agree

Strongly Agree

2) I believe a once per year orientation in teaching program professionalism expectations to students for the clinical year will increase student success.

Strongly Disagree

Disagree

Neutral

Agree

Strongly Agree

3) I understand how preceptors assess students on their professionalism during the clinical year.

Strongly Disagree

Disagree

Neutral

Agree

Strongly Agree

4) I feel a once per year orientation on student professionalism expectations will be helpful for my clinical year success.

Strongly Disagree

Disagree

Neutral

Agree

Strongly Agree

#### **Appendix C.4 Student Post-Survey Questions:**

Instruction before each question: How much do you agree with the following statement.

1) I understand the program's expectations for the clinical year.

Strongly Disagree

Disagree

Neutral

Agree

Strongly Agree

2) I believe a once per year orientation in teaching program professionalism expectations to students for the clinical year will increase student success.

Strongly Disagree

Disagree

Neutral

Agree

Strongly Agree

3) I understand how preceptors assess students on their professionalism during the clinical year.

Strongly Disagree

Disagree

Neutral

Agree

Strongly Agree

4) I feel a once per year orientation on student professionalism expectations will be helpful for my clinical year success.

Strongly Disagree

Disagree

Neutral

Agree

Strongly Agree

## Appendix D : Preceptor Evaluation of Student in Internal Medicine – Question 17-20

### “Behaviors”

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#### Behaviors

17. **Professional Relationships-** In the practice of Internal Medicine, student’s ability to respectfully collaborate with other members of the interprofessional healthcare team and make appropriate referrals to other team members or to the public health system based on knowledge of their roles and responsibilities (Learning Outcome E1):

A. **Respectfully Collaborate with Other Members of the Interprofessional Health Care Team**

|   |   |   |   |   |   |
|---|---|---|---|---|---|
| 0 | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|

B. **Make Appropriate Referrals to Other Team Members or to the Public Health System Based on Knowledge of their Roles and Responsibilities**

|   |   |   |   |   |   |
|---|---|---|---|---|---|
| 0 | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|

11

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18. **Proactive Behavior**- In the practice of Internal Medicine, student’s ability to exhibit self-directed learning and seek out opportunities to actively participate in patient care (Learning Outcome E2):

A. **Exhibit Self-Directed Learning**

|   |   |   |   |   |   |
|---|---|---|---|---|---|
| 0 | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|

B. **Seek Out Opportunities to Actively Participate in Patient Care**

|   |   |   |   |   |   |
|---|---|---|---|---|---|
| 0 | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|

19. **Attendance and Effort**- In the practice of Internal Medicine, student’s ability to demonstrate professional accountability, punctuality, attendance for planned clinical practice opportunities and other learning opportunities, and completion of tasks assigned by the preceptor (Learning Outcome E3):

A. **Professional Accountability**

|   |   |   |   |   |   |
|---|---|---|---|---|---|
| 0 | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|

B. **Punctuality**

|   |   |   |   |   |   |
|---|---|---|---|---|---|
| 0 | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|

C. **Attendance for Planned Clinical Practice Experiences and Other Learning Opportunities**

|   |   |   |   |   |   |
|---|---|---|---|---|---|
| 0 | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|

D. **Completion of Tasks Assigned to Enhance Student Learning**

|   |   |   |   |   |   |
|---|---|---|---|---|---|
| 0 | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|

20. **Overall Professional Conduct**- In the practice of Internal Medicine, student’s ability to exhibit behaviors that are ethical, compassionate, patient-centered, maximize patient safety, critically recognize and prevent medical errors, and acknowledge their own limitations, mistakes, and planning to promote personal wellness and prevent burnout (Learning Outcome E4):

A. **Ethical Behavior**

|   |   |   |   |   |   |
|---|---|---|---|---|---|
| 0 | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|

B. **Compassionate Behavior**

|   |   |   |   |   |   |
|---|---|---|---|---|---|
| 0 | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|

C. **Patient-Centered Behavior**

|   |   |   |   |   |   |
|---|---|---|---|---|---|
| 0 | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|

D. **Behavior that Maximizes Patient Safety**

|   |   |   |   |   |   |
|---|---|---|---|---|---|
| 0 | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|

E. **Behavior that Critically Recognizes Medical Errors**

|   |   |   |   |   |   |
|---|---|---|---|---|---|
| 0 | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|

F. **Behavior that Prevents Medical Errors**

|   |   |   |   |   |   |
|---|---|---|---|---|---|
| 0 | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|

G. **Acknowledge Student’s Own Limitations**

|   |   |   |   |   |   |
|---|---|---|---|---|---|
| 0 | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|

H. **Acknowledge Student’s Own Mistakes**

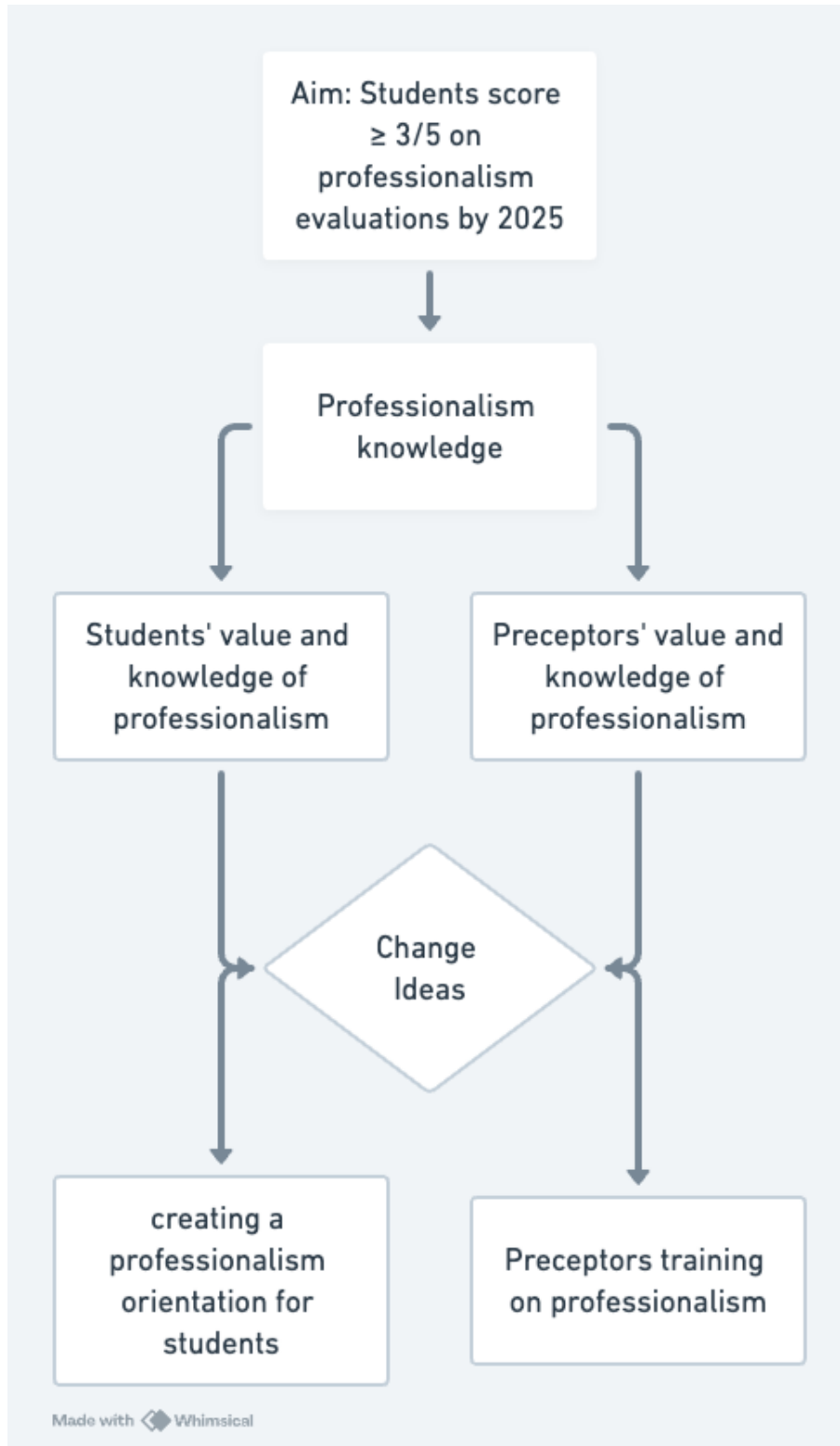
|   |   |   |   |   |   |
|---|---|---|---|---|---|
| 0 | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|

I. **Plans to Promote Personal Wellness and Prevent Burnout**

|   |   |   |   |   |   |
|---|---|---|---|---|---|
| 0 | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|

**Figure 3 This image displays an evaluation form from the University of Pittsburgh’s Physician Assistant Studies Hybrid Program, focusing on assessing students’ professional relationships, proactive behavior, attendance, effort, and overall professional conduct in internal medicine.**

## Appendix E – Intervention Driver Diagram



**Figure 4 This image is a flowchart detailing the University of Pittsburgh's goal for student professionalism in their PA Studies Program by 2025, highlighting key drivers like knowledge, values, and proposed changes to enhance professional orientation and training.**



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