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Exploring Physician Assistant Entrustable Professional Activities, Integration, and Role Satisfaction Within Academic Hospitals in Hamilton, Ontario, Canada.

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ABSTRACT

Physician Assistants (PAs) have been integrated across academic teaching hospitals in Hamilton since 2010. To explore PA role integration and PA satisfaction in working at an academic hospital, a survey was administered to practicing PAs at Hamilton Health Sciences Centre (HHSC) or St. Joseph's Healthcare (SJH). The 22 PA respondents reported a considerable amount of autonomy of 76% (with 100% being full autonomy). The PAs felt their respective training programs prepared them for the workforce. It is evident that PAs integrate well into the healthcare system; many are involved in mentoring medical students, and all have excellent relationships with their supervising physician(s) and co-workers. However, many PAs expressed feelings of burnout, lack of compensation, and paucity of PA mentorship. Areas of improvement include increasing PA mentorship, recruiting more PAs, and integrating more specialized clinical experience into PA programs.

Introduction

Physician assistants (PAs) are trained healthcare professionals who are certified to practice medicine under the guidance of a physician[1]. Common specialties PAs work in include family medicine, internal medicine, emergency medicine, dermatology, nephrology, orthopedic surgery, neurology, infectious diseases, and geriatrics.[2] Similar to physicians, PAs are educated under the medical model[1]. Although the scope of practice of a PA varies with specialty, core duties include diagnosing, treating, and providing patient-centered care[1]. In Canada, there are approximately 700 PAs, of which over half work in Ontario.[3] The Canadian Association of Physician Assistants (CAPA) is a national organization that supports PA integration and promotes professional advocacy efforts.[4] The Physician Assistant Certification Council of Canada (PACCC) ensures that the standards of the profession are met and maintained through delivery of the national certification

exam and maintenance of certification status.[4] PAs are currently regulated in New Brunswick, Nova Scotia, Alberta, and Manitoba, and regulation is currently underway in Ontario.[2]

Recently, there has been a large surge in the demand for healthcare needs and a shortage of healthcare workers across North America.[5] This demand increased after the COVID-19 pandemic since the rate of physician burnout tripled in 2021 compared to previous years.[5,6] Increasing the number of PAs helps offset physician burnout and shortages by extending physician services. PAs are in demand due to increased wait times, and recognized need to boost support in underserved communities (i.e, care of the elderly, mental health, etc.).[7] International literature suggests that PAs can increase continuity of care, efficiency, workflow, increase patient satisfaction, improve access to care, and decrease length of hospital stays.[7-9] PAs also extend physician services: PAs perform 70-96% of the physician's duties and are involved in 40% of patient encounters every year.[7,8] Extending physician services can include conducting patient histories, reading and interpreting tests, and prescribing.[8] PAs can also increase patient satisfaction, decrease length of stay, and provide good quality, safe patient care .[7,10]

Although role definitions are similar across jurisdictions, each country has its own definition of role competencies and entrustable activities. In Canada, entrustable professional activities for PAs (EPA-PA) were defined and published in 2021 and are summarized in Table 1. PA EPAs provide an overarching summary of CanMEDS-PA competencies and highlight the twelve professional activities that can be entrusted to a PA as they transition into clinical work from a PA education program. [11,12] Given the value and breadth of practice, it is also important to understand the impact PAs have in academic teaching hospitals. With increased interest in using PAs to cover resident gaps and fill health human resource needs, academic teaching hospitals have become consistent employers of PAs. Academic teaching hospitals are already committed to providing medical education and training to future and current health professionals, but given the diversity of learners, understanding where the PA role fits is imperative to health human resource planning.

Given this existing landscape, the purpose of this study was to explore PA perceptions of entrustable professional activities, team integration, and role satisfaction across multiple specialties in academic teaching hospitals within Hamilton, Ontario, Canada.

Methods

Survey Design

To measure PA integration and common roles, an online-based survey was created and administered using Microsoft Forms. Since satisfaction analysis assessment is more interpersonal and opinionated, it is typically measured through surveys or interviews with questions geared towards assessing efficacy, professionalism, and knowledge.[13, 14] Within Healthcare delivery, team integration is a way of collaborating and communicating between professionals.[15] Integration can be measured by the process of how care is organized and managed by the provider through surveys.[16,17] These questions involve types of healthcare providers the participant directly works with, quality assurance, coordinated practice, and resourcefulness.[18]

Table 1 – Entrustable Professional Activities for Physician Assistants (2021)

EPA 1	Practices patient-focused, safe, ethical, professional, and culturally competent medical care across the healthcare continuum.
EPA 2	Obtains histories and performs physical examinations, demonstrating the clinical judgement appropriate to the clinical situation.
EPA 3	Formulates clinical questions and gathers required clinical evidence to advance patient care and communicates those results to the patient and medical team.
EPA 4	Formulates and prioritizes comprehensive differential diagnoses.
EPA 5	Develops and implements patient-centered, evidence-based treatment plans within the formalized physician, clinical team and caregiver relationship.
EPA 6	Accurately documents the clinical encounter incorporating the patient's goals, caregiver goals, decision-making, and reports into the clinical record.
EPA 7	Collaborates as a member of an inter-professional team in all aspects of patient care including transition of care responsibility.
EPA 8	Recognizes a patient requiring immediate care, providing the appropriate management and seeking help as needed.
EPA 9	Plans and performs procedures and therapies for the assessment and the medical management appropriate for general practice.
EPA 10	Engages and educates patients on procedures, disease management, health promotion, wellness, and preventive medicine.
EPA 11	Recognizes and advocates for the patient concerning cultural, community, and social needs in support of positive mental and physical wellness.
EPA 12	Integrates continuing professional and patient quality improvement, life-long learning, and scholarship.

A survey was chosen rather than an interview due to scheduling constraints and ease of data collection. Participants were recruited through the participating organization's PA email distribution list. The surveys took 10-30 minutes to complete and consisted of 30 questions. Survey questions captured demographic information, common roles, role satisfaction, and team integration. Role-related questions focused on educational preparation, perceived abilities, and the most relevant EPA-PAs. PA integration was gauged by questions about relationships with co-workers, perceived support, advocacy, challenges, and role overlap. Satisfaction-related questions inquired about their job satisfaction and areas for improvement.

Participants

The survey was administered to PAs working in the Hamilton Health Sciences Centre including Hamilton General, Juravinski Hospital, McMaster Children's Hospital, McMaster University Medical Centre, and St. Joseph's Healthcare Hamilton – Charlton campus. Participants were employed by the organization and represented diverse specialties.

Data Analysis

The results of the survey were tabulated in a password-protected Microsoft Excel document. The data analysis involved tabulating the data by comparing responses and synthesizing common themes for written responses.

Ethics

This research project has been reviewed and accepted by the Hamilton Integrated Research Ethics Board (HiREB Project #15282). Each participant in this study provided informed consent prior to completing the survey.

Results

Twenty-two PAs agreed to participate in the study (n=22), representing over half of the hospital-employed PAs in Hamilton. The average number of years in their current specialty was 5 years and specializations are captured in Table 2.

Table 2. Participant Demographics

Variable	Response
Number of PAs	22
Year of Graduate (PA Education Program)	1997-2021
Number of Years in Current Specialty	5.31 years (range of 1-22 years)
Number of Supervising Physicians	Range from 1-12
Medical Discipline	General surgery, respirology, chronic pain, family medicine, interventional radiology, gynecologic oncology, critical care, peri-operative care in cardiac surgery, pain medicine, internal medicine, hematology, pediatric neurosurgery
Range of Patient Encounters	7-35 patients per day depending on service/specialty; average patient encounter 30-60mins.
Introduction to PA Profession	Learned about the profession through family members, friends, or colleagues; received treatment from a PA; Google search; participated in information sessions

Perception of Training, Role Autonomy, and EPA-PAs

With regards to how well the PAs believed they were trained in PA school on a scale of 1 to 10 (1 being not prepared, 10 being fully prepared), the average rating was 7.19 out of 10. A few PAs (n=5) indicated that more specialized training would have allowed them to attain more experience across different specialties. Others indicated that lengthening the duration of the PA program to cover more clinical and administrative content would result in more robust preparation for the workforce. One participant stated*:*

> *"It's difficult only because [my discipline] is such a sub-specialty, the only thing that would have better prepared me would have been to do a rotation in [this specialty], however unfortunately due to scheduling with learners, it was not possible in my case".* [PA6].

PAs who attended PA school during the COVID-19 pandemic stated that the lockdown restrictions from clinical sites and movement to virtual rotations made them feel less prepared. Other themes that emerged from PA perception of training included the importance of PA mentorship, networking, and the need for more experience in interpreting clinical investigations.

In terms of PA autonomy, the average ranking for the level of autonomy was 7.71 out of 10 (1 being no autonomy, 10 being fully autonomous). However, one PA indicated they were fully autonomous and no one else rated their autonomy as less than 5. Fifty percent (n=11) of participants indicated that their autonomy is somewhat important to them and 41% (n=9) rated their autonomy as very important to them. The rest were neutral. 91% of PAs verified that they work under medical directives. One PA clarified that there is a higher degree of autonomy for "on-track patients", stating:

> "*…we do have a lot of autonomy. Especially in the context of our routine "on-track" patients - the PAs have a lot of freedom with our care decisions with these patients*" [PA7].

Participants were also asked to identify the top 5 activities they were most often entrusted within their respective roles. Participants identified EPA 1, EPA 2, EPA 5, EPA 7, and EPA 8 as their top EPAs (Figure 1). Many of these PAs noted that these tasks are done independently and reviewed by the supervising physician.

Non-Patient Related Roles

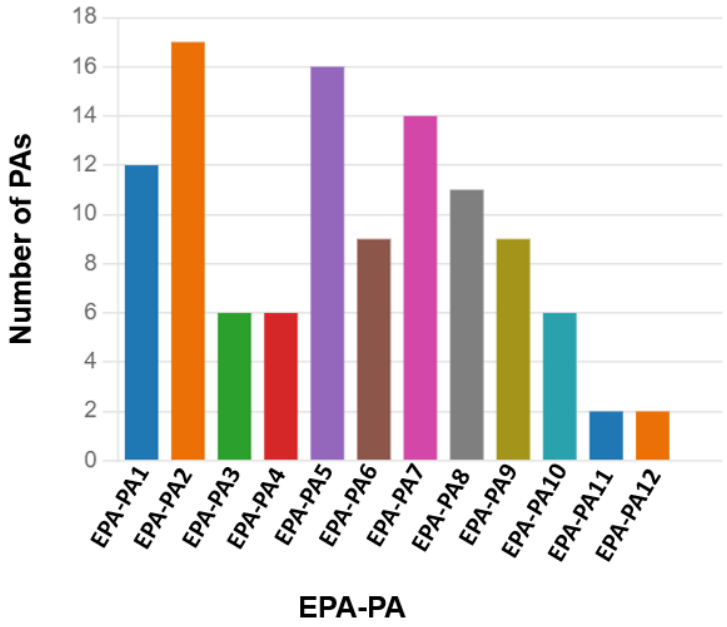
Several participants identified areas outside of direct patient care that they support from an organizational or administrative perspective (Table 3). Interestingly, the majority are involved in medical education through teaching/orienting/mentoring of medical learners (medical students, PA students, residents, etc.).

Table 3. Distribution of PAs Engaged in Other Non-patient Care Roles

Non-Patient Care Roles	% of PAs
Teaching/Orienting/Mentoring Medical students	**73% (n=16)**
Teaching/Orienting/Mentoring PA students	**64% (n=14)**

Teaching/Orienting/Mentoring residents	**64% (n=14)**
Other Administrative work (i.e., patient paperwork, drug applications, etc.)	**55% (n=12)**
Teaching/Orienting/Mentoring Fellows or Clinical Assistants	**41% (n=9)**
PA Scheduling (i.e., creating shift or vacation schedules)	**36% (n=8)**
Other hospital work (committee participation, union obligations, PA lead role, etc.)	**27% (n=6)**

Figure 1. Top EPAs Identified by Practicing PAs



Team Integration

With regards to team integration, most PAs have excellent relationships with their supervising physicians. Many indicated that they complete family meetings independently without the supervising physician and work under directives and are permitted to act without direct communication with the supervising physician:

> "*I work with many different supervising physicians. We have an excellent trusting relationship... I review with them on an as needed basis which would include questions that I have or co-signatures on medications that do not fall within my scope of practice*." [PA8].

Others indicated that due to the nature of the PA role, it was sometimes challenging to ask questions or make suggestions:

> "*We can sometimes have this mindset of not "wanting to rock the boat" or raising concerns about things, asking "why" we still do things the way we do. I've not fully unpacked where*

this comes from but sometimes, I think we "accommodate" more than we should on a whole host of things related to our practice." [PA12].

Potential overlap with PAs and other professionals such as residents, NPs, and fellows is summarized in Figure 2. One participant stated that:

"*The nurses don't do the physical exams or make decisions… the fellows are the closest match, and we honestly do work similarly. There has even been talk of having a fellow/PA clinic*" [PA6].

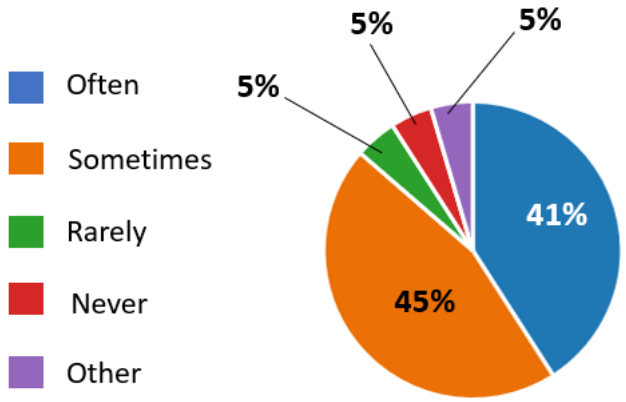


Figure 2. Amount of overlap PAs experience with other healthcare professionals.

Other PAs mentioned that PAs have a greater amount of flexibility and autonomy than their NP and resident counterparts. Unlike the residents, fellows, and physicians, PAs foster a multi-disciplinary/inter-professional approach to care and benefit from being more available to improve continuity of care. Several PAs mentioned that they round independently and often act as "… *a co-pilot for the supervising physician*" [PA19].

Role Satisfaction

Each participating PA (100%) indicated that they would recommend the PA profession to others and 95% of PAs stated that they would recommend their current specialty to others. 95% of PAs stated that they felt supported by their supervising physician, and 73% of PAs said that they felt supported by their department (Figure 3).

In terms of areas of improvement, some PAs (36%, n=8) indicated that they do not have an advocate or point person to address work-related issues:

"*Because I have a "split management" structure (i.e., I have a manager in Medical Affairs who is only cursorily involved if at all) I sometimes don't know what the best way is to address problems.*" [PA12].

Many PAs also indicated that they cannot prescribe certain controlled medications or prescribe at all using newly implemented electronic medical records systems. Almost half of the participants mentioned that compensation is not as high as it should be compared to their NP counterparts:

"*The current funding model…requires that a fee-for-service encounter must include a meaningful encounter with the Physician. I am capable of seeing patients independently and developing plans independently, but this is not possible due to the funding model*." [PA2].

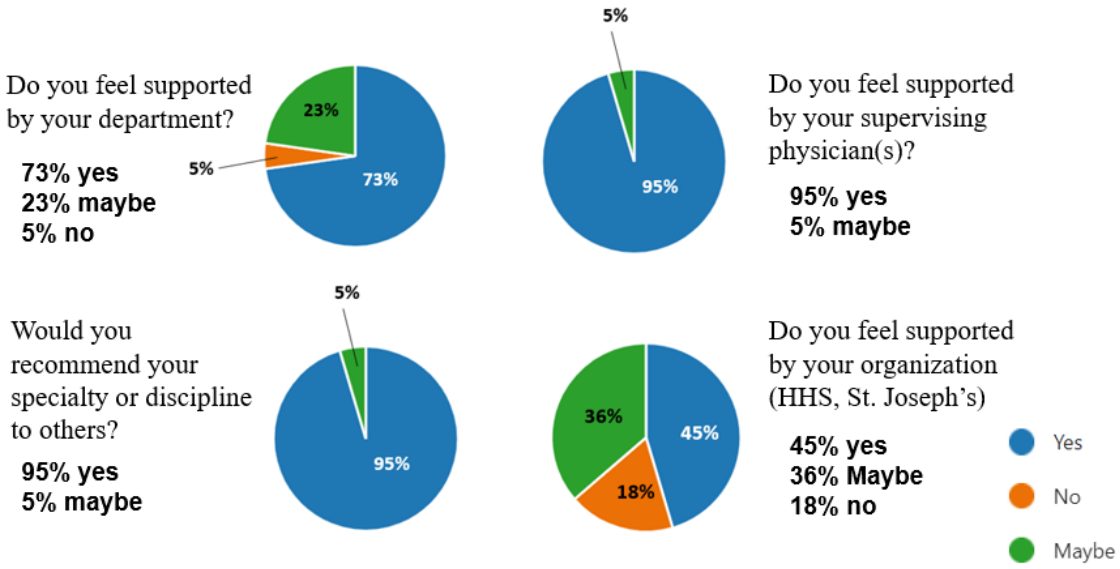


Figure 3: PA Feedback on Role Satisfaction (by question)

Multiple PAs also stressed the need for more PAs on the team, and increased vacation time in order to reduce burnout and enhance quality of care: "*I am the "glue" keeping the team afloat as we do not have enough staff…*" [PA22].

Another PA mentioned that:

> "*More support from the institution (the hospital) would be my number one request. We have so much support on the ground level from our supervising physicians and team on the unit - but when there are larger issues on an administrative level there are often challenges. I think the hospital still doesn't completely understand our role and generally creates more roadblocks than help. But this also true for many allied healthcare workers and by no means isolated to PAs…*" [PA7].

Benefits of Being a PA

The main theme expressed by participants involved working collaboratively with the healthcare team:

> "*Something that I feel my supervising physician did very well (likely above average) was develop a very succinct onboarding process. I spent time shadowing residents, physiotherapists, occupational therapists, social workers…etc. to fully understand the pathway my patients take and how each role is involved with their care. I feel this made me very well rounded and cognizant of the importance of each step in the patient experience and considerations that need to be made along the way*." [PA8].

Other responses reveal that maintaining independence in patient care and a wide scope of practice is one of the highlights of being a PA. Many PAs also appreciate the high level of trust, approachability, and reliability between themselves, their supervising physicians, and other members of the healthcare team:

> "*I love when the MDs ask my opinion about what I think….I love being able to help with the knowledge I've gained over the past years, while still being somewhat removed as the PA and not the primary decision maker. It's also really nice when I get used to seeing patients routinely and then their physician is away and they are booked into another physician's clinic, but they still have me as continuity of care*" [PA6].

Discussion

Integration and Satisfaction

In this study, we explored PA perceptions of their role, integration, and satisfaction when employed in an academic hospital. PAs enjoy the collaborative working relationship with supervising physicians and appreciate the ability to see patients independently. Academic hospital PAs appreciate the need for networking and to build in mentorship to ease the transition from education program graduate to clinical practice. The idea of mentorship is supported by other studies that suggest mentorship from others in the same field yields a higher level of performance for the mentee, but also benefits the mentor.[19] In addition to mentorship, academic hospital-employed PAs also benefit from an advocate or point person to address work-related issues.

Results indicate that PAs are very satisfied with the relationship with their supervising physician. This is echoed in other studies that indicate that the quality of the PA-supervising physician relationship is a direct indicator of PA career fulfillment, well-being, and autonomy.[20] In terms of role clarity, a PAs ability to differentiate their role/duties between NPs, residents, and fellows despite the role overlap illustrates the profession's ability to integrate well into team settings. Additionally, participants indicated their role in teaching, mentoring, or orienting medical learners, PA students, and residents. PA involvement in non-patient-related activities can directly improve resident education and resident (or medical learner) satisfaction is an important variable of interest in academic hospital settings.[21]

The PAs are well prepared for obtaining histories, performing physical examinations, and demonstrating clinical judgment as demonstrated in their ranking of entrustable professional

activities. These core activities and expected competencies are supported by international literature exploring role definitions and PA scope of practice.[22,23] The participating PAs indicated they are satisfied with their career choices which is again echoed by previous literature exploring PA role satisfaction.[13, 24] In terms of role frustrations or limitations, increasing the PA rate of pay/pay scale or changing fee structures for physician billings (to include PA care) could improve role integration vs inconsistent funding models that limit role optimization.[25] Role burnout is a concern amongst all health professionals and carrying high patient loads across a small number of PAs is a contributing factor, which ultimately can impact a patient's well-being.[26,27] Not surprisingly, PA burnout can lead to increased dissatisfaction, additional fatigue, and increased odds of leaving their job.[13]

Recommendations

To optimize PA role integration into academic hospitals, this study has captured several recommendations. At a PA education level, the inclusion of PA mentorship that helps transition a student from program to practice would be a helpful addition. As in any discipline, PAs working in subspecialty areas identified the benefit of additional specialized clinical training and programs should be encouraged to continue to support elective opportunities and to invite sub-specialists to present to students to promote role integration and enhanced skills training in all medical settings.

At an employer level, organizations are encouraged to create efficient and informative PA onboarding processes with opportunities to shadow existing PAs, meet other (non-MD) staff, and participate in interprofessional training. Onboarding should also include PA-validated information for other employees to understand the PA role (if new to the site, setting, or organization). Additional recommendations include having a clear, centralized point person that is aware of union obligations, resources, and training opportunities in addition to being available to advocate for work-related issues.

Limitations, Implications, and Future Steps

Study limitations include the small sample size of PAs working in Hamilton-based academic hospitals. However, the purpose of this study was to understand role definitions, integration, and satisfaction specific to this well-defined population in hopes that this would inform larger studies. Although limited in generalizability, findings from this study can be used to build more robust onboarding platforms for PAs, ensure PAs are represented on EMR/information technology committees, and other factors that support PA recruitment and retention. Creating a sustainable employment landscape is essential since the work of PAs is highly sought after to support the healthcare system.[28] The analysis of this research was limited to the data provided by

the number of participants and extensive statistical analyses or comparisons were not completed (i.e., breaking rankings or responses down by specialty). This study also provided an opportunity to connect with PAs in collaboration with the local PA education program (via McMaster University) and will provides a starting point for future studies such as exploring patient satisfaction and employer satisfaction relating to the PA role in academic hospital organizations.

Conclusion

Academic teaching hospital PAs reported a high degree of independence, job satisfaction, team integration, and collaborative relationships with supervising physicians. Findings from this study help contribute to the limited literature on PAs in Canada and provide a starting point for additional studies exploring the role of PAs in academic hospitals. In our current health human resource crisis, understanding the factors that enhance and detract from role optimization is key. This optimization not only benefits the physician assistants themselves but also leads to improved efficiencies, fosters a culture of collaborative care, and supports additional medical education opportunities.

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