

THE UTILIZATION OF PHYSICIAN ASSISTANTS IN MANITOBA OVER THE PAST 15 YEARS

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Abstract:

Introduction: A Physician Assistant is a medical professional working to help extend physician care for patients, and one of the solutions to optimize healthcare and improving access to quality care across the country. PAs improve wait times, patient satisfaction, quality of life of the physician and allows the physician to focus on complicated cases without sacrificing the care of other patients. The civilian PA has been present since 2003 in Manitoba.

Objective: A mixed methodology qualitative research project with a questionnaire of opened ended questions and commentary was conducted to evaluate the utilization of PAs over the last fifteen years.

Methods: A literature review using the University of Manitoba catalogue and PubMed going back the last ten years sought articles related to the history of PAs and their utilization in Canada. Of the 217 articles reviewed eight papers met the criteria, two were specific to

Manitoba alone. Questionnaires were sent to physicians and PAs present at the inauguration of the PA profession and in the workforce spanning the last fifteen years.

Results: The questionnaire was sent to forty-six individuals, including seven physicians and thirty-nine PAs. Twenty-four completed the survey resulting in a 52% response rate. Four themes emerged from the data: PA improvement of the medical team, the varying utilization of the PA within multiple disciplines, the lack of proper utilization of the PA within Manitoba, and the discussion on where the PA will create the greatest impact in the coming years.

Conclusions: Over the past fifteen years PAs have been introduced to multiple disciplines in Manitoba. PAs, trained as generalists, help improve access to care, patient satisfaction, and the quality of life of both the patients and the physicians. However, their utilization is not to their fullest potential in Manitoba.

1. Introduction:

Over the past ten years, the Canadian medical system has been changing and evolving. Citizens in urban and rural Canadian settings have suffered from physician shortages or maldistribution. These maldistributions have to lead to difficulties accessing medical care and increased wait times to see both general practitioners and specialists. One factor thought to help reduce the issues surrounding the lack of physicians is the introduction of a new medical profession, the physician assistant (PA). A PA is a medical professional who works alongside a physician to help extend care to patients.⁽¹⁾ The inclusion of a PA in patient care results in improved wait times, higher patient satisfaction, improvement of the quality of life of the physician, and allows the physician to focus on complicated cases without sacrificing the care of other patients. These results were found to be accurate for family practices, emergency departments, intensive care units, and many subspecialties.⁽²⁻⁵⁾ In the United States, since the mid-1960s, the benefits of PAs are demonstrated throughout multiple disciplines, with the PA an integral part of their medical system. The PA position is well defined within the United States, and their PA utilization viewed as more stable than that of the Canadian counterpart despite identical roles.

PAs were introduced to Manitoba in 2003, with the University of Manitoba PA Studies program introduced in 2008. In the decade since there have been many adjustments and continual development of the PA positions.⁽¹⁾ While PAs have been employed in Manitoba, many current and former PAs, dependant on location and service, feel that the PA-role is not utilized to the fullest across the province. A questionnaire was used to help gauge the opinions' of Manitoba physicians who worked with or hired a PA between 2003 and 2013, and to gather the opinions of the PAs who worked in those same years or as graduates from the first three years of the Manitoban PA education program. The purpose of this questionnaire and study is to discover whether there has been a noticeable change in the PA profession since the program was initiated in Manitoba and whether PAs are better utilized now than they were in the past in Manitoba.

1.1 The Utilization of Physician Assistants in Manitoba

Over the last fourteen years, PAs have been working alongside physicians in multiple disciplines in Manitoba. However, research on the utilization or role of the PA in Manitoba is scarce. There are two recent papers published regarding PAs in Manitoba. The first based on the primary care system and its e integration of PAs. The second study examined the on the skills and benefits of integrating PAs into the arthroplasty hip and knee program at the Concordia Hospital in Winnipeg.

Bowen et al.⁽¹⁴⁾ in 2015 discussed the integration of PAs into six different primary health care sites in Manitoba. This study looked at the benefits and challenges of PAs and how they are utilized at each site. The main challenges for PAs appears to be the establishment of a system for salary or reimbursement for services, ordering tests or receiving results, and communicating the PA role to the bureaucracy. Many benefits to PAs were found through the study, including increased patient quality of care and access, decreased emergency department visits, walk-in clinic visits, and hospitalizations. Patients also reported increased responsiveness to provider or patient telephone calls, which helped increase the safety of the patients and enhanced the quality of their care. Physicians found they were able to accommodate new patients by having an increased patient flow, improved timeliness of follow up (whether in hospital or clinic) and found improved communication and documentation throughout their practices. One significant benefit of hiring a PA was enhanced work-life satisfaction, for not only physicians but other providers as well. Non-physician hospital-based staff reported reduced frustration and workload, enhanced inter-professional communication and greater confidence in the care of patients. The benefits of hiring a PA not only affected the primary care clinic, but the extended services of physicians within the hospital or through home/telephone visits.⁽¹⁴⁾

Bohm et al.⁽¹⁵⁾ found similar results when studying the Concordia Joint Replacement Group (CJRG) and its use of PAs to help redistribute the load placed upon the orthopedic services at the Concordia Hospital in Winnipeg. Bohm et al. looked at the benefits of adding PAs to the CJRG and the cost-effectiveness of employing PAs. In 2003, two PAs were hired with a third added to the team in 2006. These PAs are utilized in multiple aspects of the surgical service, including the first call back after standard hours with their supervising physician for emergency department consults, provide first assist services in the operating room (OR), write and follow up on postoperative orders, generate notes and undertake daily working rounds, and completing discharge summaries. Significantly, the addition of the PAs to the CJRG also allowed a single surgeon to run two ORs simultaneously, increasing the volume from three to seven primary joints per day. This double surgery strategy resulted in \$139.58 saved per procedure, and generated further efficiencies as general practitioners were able to continue their work in

the clinics rather than assisting in the OR. Overall, 815 hours were saved per year, which is 204 hours per surgeon or four 50-hour work weeks. The study gauged the impact that PAs had on other members of the medical team, including OR nurses, ward nurses, and residents. PAs were labelled as a valuable team member necessary to running two ORs. The ward nurses felt patient care, information flow and patient rounds were enhanced by the PA and found they helped develop the sense of team on the ward. The addition of a PA to the team also increased surgical volumes resulting in reduced waiting times for patients, and therefore in higher patient satisfaction.⁽¹⁵⁾

2. Methods:

The author used a mixed methodology qualitative research approach with a questionnaire of open-ended questions and commentary. Two articles regarding physician assistants in Manitoba were identified using the University of Manitoba's e-libraries' resources. The first paper extracted from 883 results was identified using the search terms "physician assistants Manitoba." Using the filters "Peer-Reviewed Journals," "English" and narrowing the publication date to 2015-2018, 135 results were found. Of those 135 papers, only one truly discussed the utilization of PAs in Manitoba. The second paper was found using the search terms "physician assistants" AND "Winnipeg Manitoba." Filters included "peer-reviewed journals only" and a publication date between 2010 and 2018 resulting in 34 results. Of these papers, one was chosen. Using Pubmed, the search terms "Physician Assistants" [Mesh] AND "Canada" provided 121 possible results for the 'history of PAs in Canada'. A filter of publication date within the last five years provided 21 results. Out of these 21 papers five were chosen. The research done on the utilization and profession of PAs in Manitoba and Canada is scarce.

A questionnaire was created to collect the data on opinions of the PA profession and the utilization of PAs in the workforce. This questionnaire was sent to both physicians and PAs working or hired around the time the PA profession was introduced in Manitoba ten years ago. This included physicians that are now since retired and those that helped structure the current program to which PAs are trained in the present. The second group of individuals contacted included all PAs that graduated between 2010 and 2013 from the University of Manitoba, who continue to work in Manitoba today. The participants were told the study was designed to explore the personal opinions of the individuals and gauge how the PA profession has changed over the past ten years. Each contact provided with a code to keep responses anonymous. This code started with "ACQ" with a number generated by a random number generator. The questions were designed specifically for the research question at hand and included fifteen questions three of which were directed strictly to physicians, while five were aimed directly towards PAs. The research questions were as follows:

- What is your profession, physician assistant or physician? Where do you work (including specialty)? What year did you start in your profession?
- How often do you work with a PA? How did you utilize your PA in the workforce when you started? How is your PA utilized now? Has this changed?
- What were your roles as a PA when you first started in the workforce? What are your roles now as a PA, have they changed or grown? As a PA do you feel you are doing more now than when you started? How and Why? Does your current position reflect what you thought you would be

doing when first joining the PA program? Is the training you received in the program being fully utilized in this position?

- Do you believe PAs are being utilized to their fullest? If not, why and how do you think the PA profession should be changed to increase utilization? Where do you think PAs will provide the most impact? Do you believe PAs make the healthcare system better?

The questionnaire was originally sent out via email to eighteen individuals; one was unable to be contacted via the email provided (Group A). Seven were physicians present at the time of the inauguration of the PA profession; the other eleven were PAs who worked prior to the University of Manitoba Master of Physician Assistants Studies program. A reminder was sent out two weeks after the initial contact. Five physicians and five PAs responded resulting in a 58% response rate for Group A. The second group of participants included forty-four individuals, three of which were unable to be reached. Twelve no longer work in Manitoba or left the profession and were removed from the study, leaving twenty nine in Group B. A reminder was sent two weeks after the initial contact. Fourteen responded resulting in a 48% response rate. When combined, the questionnaire was sent to forty six individuals with a response rate of 52%. Participants responding were provided with a written debriefing, thanks for their participation and time.

The Helsinki Declaration was observed throughout the research for this paper. The information collected was voluntarily provided by each participant. There was no patient data provided or used, and confidentiality assured to each participant.

3. Results:

When discussing the utilization of the PA in the workforce, one must consider multiple factors. These include the length of the PA's career, the length of time that the physician has employed the PA, the jobs and responsibilities entrusted to the PA, and whether the individual PA believes their skills have utilized to their fullest extent. The following four themes emerged from the data: PAs' contributions to the improvement of the medical team, the varying utilization of the PA within multiple disciplines, the lack of proper utilization of the PA within Manitoba and the discussion on where the PA will create the greatest impact in the coming years.

3.1 PA improvement of the medical team.

This idea was unanimous throughout all responses from physicians and PAs alike. PAs not only lessen the workload for the physician but also improve the quality of life for the patients and supervising physicians. Many participants simply answered "yes" to the question "Do PAs improve the medical system", but many were more enthusiastic. As one PA stated, "*Yes we do, and I have seen this over the past 18 years as we have grown as a profession.*" (PA, ACQ46) PAs may improve the medical system, however as pointed out by a PA "*...I firmly believe we are but one integral part of the healthcare system. Our success as a profession will be contingent on how we integrate*" (PA, ACQ06) This is a key observation, as a PA works not only with his or her physicians, but are a part of a medical team and must be able to integrate and adapt to new roles, tasks and responsibilities.

3.2 The varying utilization of the PA within multiple disciplines.

As many participants pointed out, the utilization of PAs is dependent on the location and responsibilities of the given position. A PA's utilization may be drastically different when comparing a neurosurgery service to a family medicine clinic. These differences in responsibilities range from history and physicals in the emergency department to assisting in an OR every day. Table 1 provides a listing of

disciplines Manitoba PAs currently work in and their accumulated responsibilities as provided by the questionnaire. Differences between family medicine PAs were attributed to the difference among the physicians and clinics that hired the PA, influencing the roles and responsibilities authorized to the PA. Drastic differences in day to day routine are often seen with PAs located remotely compared to those in a Winnipeg family medical clinic. Examples of statements regarding the responsibilities of a PA include the following:

“I have to be able to manage all emergency cases which includes all aspects of the provision of care, i.e. IV starts/meds, procedures etc.; this also included that procurement and dispensing of medications up to and including narcotics.” (PA, ACQ46)

“Seeing patients – assessing, diagnosis, prescribing, performing procedures.” (PA, ACQ12)

Table 1: Current list of PA disciplines and roles in Manitoba, as determined by a 2018 qualitative questionnaire.

Family Medicine	<ul style="list-style-type: none"> • Same day/week access for clinic patients • Clinic/hospital/care home • Assessing, diagnosing, and prescribing • Small procedures • Review incoming labs, test results, and consult letters • Return phone calls from patients and doctors • PCH rounds with residents address issues, manage prescriptions, order and interpret tests, diagnose new issues, follow up on recent admissions
General Surgery (Rural)	<ul style="list-style-type: none"> • Surgical assist • Procedures • Surgical Ward management • Surgical Consults
General Surgery (Urban)	<ul style="list-style-type: none"> • OR assist • Follow up on postoperative patients • ER surgery consults
Reconstructive Surgery	<ul style="list-style-type: none"> • Performing own procedures and clinics • Excision of skin cancers, lipomas, cysts, revisions of scars, temporal artery and skin and muscle biopsies • Reconstruction of skin defects
Neurosurgery	<ul style="list-style-type: none"> • History and physicals • Ordering/interpreting tests/imaging • Performing procedures
Plastic Surgery	<ul style="list-style-type: none"> • Assisting with surgical and clinical roles
Crisis Response Center (Psychiatry)	<ul style="list-style-type: none"> • Interview patients from mental health ER • Assessment, diagnosis, and treatment plans • Admit patients, order medications
Emergency Department (Seven Oaks, Grace hospital)	<ul style="list-style-type: none"> • History, Physicals, Diagnose and interpret diagnostics • Prescribe treatments • Any patient in ER • Minor treatment issues to help free up the backlog • Assisting in suturing, fracture reductions, central lines, LPs etc • Help with the flow in ER, with procedures, and with consults
Geri-rehab	<ul style="list-style-type: none"> • Run codes • Team lead creating, forming policies, procedures, and research-based practice guidelines • Medical issues within own department and personal care home • Admissions, day to day medical needs, investigations and diagnosis

	<ul style="list-style-type: none"> • Treatment plans, and discharge planning
Occupational Medical	<ul style="list-style-type: none"> • Care of 800 patients • Primary and emergent care • Health surveillance, drug and alcohol testing • Case management services
Urology	<ul style="list-style-type: none"> • Round on in-patients with residents • Manage ward with assistance from attendings and residents • Assist in OR • Attend clinic and consults in ER
Cardiac Sciences (Surgery and Cardiology)	<ul style="list-style-type: none"> • Post-cardiac surgery ward work • Cardiology ward work • OR assists

3.3 The Lack of Proper Utilization of the PA within Manitoba.

Overall, the majority of participants appear to feel that “PAs are not utilized fully.” Physicians and PAs alike had their unique take on the why not and difficulties of utilizing a PA. Some PAs believe they are utilized to their fullest in their particular role. Most PAs believe they are not, and would like to see better utilization in the future whatever the role may be. This is truly down to personal opinion which makes the information difficult to quantify. Another important factor to consider is the experience of the individual PA. As stated by one seasoned PA:

“New PA grads are not being utilized to their full potential....They need time, training and experience in their roles for this to happen. It is a 5-year process... Same as residency is.... AND the reality is any help is better than no help.” (PA, ACQ26)

Many PAs stated that their responsibilities have changed since the beginning of their career, and the number of tasks they can complete in a day has improved through the years. The majority of the participants also indicated they do not believe that the utilization of PAs in Manitoba has reached its full potential, but it has improved over the years. This was made clear with one individual’s comment:

“the utilization of PAs in the civilian healthcare system has seen a year over year improvement since their introduction, particularly here in Manitoba. I believe this will continue as our profession gains acceptance in other jurisdictions across the country.” (PA, ACQ06)

Physicians in Manitoba have utilized their PAs in multiple ways over the years. Some physicians use PAs to provide the best, quickest and safest treatments for patients that come through the emergency department, others to provide more access to the clinic while the PA travels. Examples of statements about the utilization of PAs in their service include the following:

“Office, hospital, home visits, nursing home, chronic disease, spirometry, and EKGs.” (Family Physician, ACQ15)

“Direct patient care doing patient assessments, investigations, treatment ordering, and discharge care planning.” (PA, ACQ06)

“From 1995-2006 I was Head of the Department of Surgery and worked hard along our original complement of PAs utilized through peri-operative work...I saw them adopting a more independent role dealing with protocolize [sic] conditions...allows physicians to devote more time to the complex cases.” (Dr. Luis Oppenheimer)

How a PA is utilized, and the complexity of that job depends on the specialty and the hiring physician. A PA cannot be utilized to their full extent if the supervising physician does not see the potential in that individual. This, however, does not breach the subject as to why PAs are not being utilized to their fullest across Manitoba. Within Manitoba there is a significant issue with funding, limiting where PAs can work, and not allowing the full potential of the PA to be recognized. Improvement within services such as psychiatry where *“...a role for PAs on the inpatient units working with 1-2 psychiatrists as well as the outpatient department is limited due to funding” (Physician, ACQ31)*

Dr. William Pope is the former Registrar of the College of Physicians and Surgeons of Manitoba and among those responsible for introducing regulated PAs in Manitoba. When asked what needed to change to help utilize PAs in Manitoba better he stated: *“...if Family Physicians could bill for them...they would likely more involved and would better serve the people of Manitoba.”*

In light of all of the misgivings regarding PAs due to the issues with funding, the consensus of physicians and PAs alike is that PAs are an integral part of the medical system and help make the healthcare system better. Physicians have noted the PA profession evolving over the last fifteen years, and many do not want to imagine what our system would look like without the 98 PAs [on the CPSM PA Registry] currently working in Manitoba.

3.4 The discussion of where the PA will create the greatest impact in the coming years.

This question was interpreted many different ways resulting in many different answers. Some individuals interpreted this as an area in medicine on where PAs would do best to improve the system. For example, PAs can provide better access to and a larger portion of the Primary Care in Manitoba. This includes both urban, and more specifically rural practices allowing more access for the thousands located remotely without taxing the services of the physicians and causing more harm than good. Hospital specialties specifically: *“...services where there are few physicians such as geriatrics, immunology, urology, and endocrine a PA...can assist in alleviating consult overburden.” (PA, ACQ27)* Some examples of areas where PAs may make the most difference are stated here:

“Could be a huge asset in Primary Care (urban and rural) to make enrollment of the population possible without expanding physician manpower. This is essential for prevention and management of chronic diseases and increasingly large frail/elderly population.” (Dr. Luis Oppenheimer)

“...it all starts with primary care in community. Management of chronic diseases is a large part of preventing acute issues which impact ER and medical admissions. Community providers are burdened with a large patient ratio and PAs can help. In services where there are few physicians

such as geriatrics, immunology, urology, endocrine, a PA or 2 or 3 ... can assist in alleviating consult overburden". (PA, ACQ27)

"...most impact wherever there is a shortage of physician services...any clinical setting, rural or urban, to long-term care and in the far northern reaches of the country...providing excellent physician extender capabilities to many specialties and more want us...continue to be observant of where there are gaps in the healthcare system and target those areas". (PA, ACQ06)

PAs are considered as important members of the team and appear to have a strong impact on that medical team, whether it is in family clinic, the operating theater, in Northern Manitoba, or on an in-patient ward.

4. Discussion:

The PA profession is an integral part to the complex medical team and helps improve most aspects of the medical system. Therefore, it is interesting and somewhat confusing as to why, after the call for research into PAs within Manitoba in 2010, there is no significant research into the utilization of PAs and the effect they have on the medical system. The lack of research may be because physicians and medical personnel are highly content with the roles that PAs play and do not recognize the need for further research. (I.Jones 2018, oral communication, 22nd April) Since employing a PA can lead to improved patient satisfaction, quality of care, wait times, and even physician work/life balance, it is possible that professionally they do not feel the need to justify employing a PA.

This study looked at the utilization of PAs in Manitoba and found that over the past fifteen years the PA profession has improved and grown. PAs today are being utilized more than they were in 2003. Job descriptions have become more detailed. PAs are entrusted with more responsibilities, possibly quicker than they were at the initiation of the profession. Moreover, they are sought and used in many different disciplines across Manitoba. The majority of participants believed PAs are not utilized to their fullest even if there have been improvements since the start of the profession.

Multiple participants indicated that they believe the issues around funding are to blame for the lack of utilization. However, this study does not go into detail on the PA funding program in Manitoba. Funding may be viewed as the main issue to the utilization of PAs, however education of other professions on the roles and capabilities of a PA is also required. As a relatively new profession in Canada, many disciplines of the medical system are unaware or undereducated on what Physician Assistants can truly do.

4.1 Limitations and Improvements:

Areas that could be improved when moving forward with this research include a larger sample size of both physicians and PAs alike. The physician's sample group enlarged to include individuals that have experience of working with a PA up to 2013. As well, the number of PAs increased to include the military educated PAs. Approximately 10 retired military PAs began working in Manitoba between 2007 and 2013. As non-graduates of the University of Manitoba program email connections were difficult, and they were regrettably excluded from this study. It is likely once PAs from the Canadian Armed Forces make the transition to the Manitoba Health System they may have the same experiences as graduates from

the university program. One of the largest potential research directions is expanding the survey including all PAs and physicians across Canada. This larger scope would allow research into the national utilization of PAs and would indicate whether there are differences across the provinces. Another improvement is the clarification regarding the question “Where do PAs provide the most impact?” This question was subject to an interpretation resulting in a wide variety of answers making it difficult to condense the responses. Funding is another essential question requiring substantial investigation. Research could also be conducted to examine the regulation of PAs and how regulation affects the job market for PAs in Canada.

5. Conclusion:

Throughout the history of the PA profession from military to civilian in Canada, a common theme presents itself. PAs are beneficial to the medical system as an integral part of the healthcare team. PAs are not only knowledgeable and trained as generalists; they help improve access to care, patient satisfaction, and the quality of life of both the patients and the physicians. The abilities of each PA may change from individual to individual and province to province. However, the professionalism exuded by the PAs in Manitoba is something that exists throughout the entire country. PAs are helping those in need have access to care without taxing the governmental resources. Over the past decade, PAs have been introduced into multiple specialties and subspecialties in Manitoba, including plastic surgery, cardiac surgery, and family medicine both rural and urban to name a few. The efficacy of the PA has been tested time and time again by those in the medical field. The profession has not only held strong but has increased significantly since the first civilian PA began working in Manitoba in 2003. The utilization of the PA in the workforce has changed over the years for the better and will continue to change opening new doors and more opportunities for those entering the profession in the future. The PA profession will continue to grow, learn and adapt as it needs to, to help better the medical system in Manitoba and across the country.

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Appendix 1:

Title: *The Utilization of PAs in Manitoba Over the Past 10 Years Questionnaire*

- What is your profession? Physician Assistant or Physician
- Where do you work (including speciality)? (ex: family physician, cardiac surgeon)
- What year did you start in your profession?

Physicians Only

- How often do you work with a PA? Daily | 3-4 times per week | 2 times per week | Rarely
- How did you utilize your PA in the work force when you started?
- How is your PA utilized now? Has this changed?

Physician Assistants Only

- What were your roles as a PA when you first started in the work force?
- What are your roles now as a PA, have they changed or grown?
- As a PA, do you feel you are doing more now than when you started? How and Why?
- Does your current position reflect what you thought you would be doing when first joining the PA program?
- Is the training you received in the program being fully utilized in this position?

Both Physicians and Physician Assistants

- Do you believe PAs are being utilized to their fullest?
 - If not, why and how do you think the PA profession should be changed to increase utilization?
- Where do you think PAs will provide the most impact?
- Do you believe PAs make the health care system better?