JOURNAL OF CANADA'S PHYSICIAN ASSISTANTS

Initial Employment Patterns for the University of Manitoba's Master of Physician Assistant Studies (MPAS): 2010-2016

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Abstract:
This study examines the initial employment patterns for graduates from the Master of Physician Assistant Studies (MPAS) program in Manitoba, Canada. We conducted interviews with graduates of the MPAS program from 2010-2016 to provide insight into the number of graduates who found successful employment as Physician Assistants (PAs), the length of time to find employment as a PA, location of employment, and clinical setting of employment. Our results indicate high rates of employment for graduates from the MPAS program within three months of graduating, a concentration of employed graduates in urban areas, and graduate employment in a variety of clinical settings. Successful employment for MPAS graduates is argued to be linked to four key factors: the need for PAs in Manitoba, the importance of PA contributions to the practice setting, the employability of graduates from the MPAS program, and support for the PA role from the Manitoba Government. This study emphasizes and advocates for more research focused on PAs within the Canadian health care contexts.

Keywords:
Physician Assistant; Health Workforce; PA employment, PA utilization, Manitoba, Canada, Health Care, Health Human Resources

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Introduction

The University of Manitoba introduced Canada's first university-based and only graduate-level PA education program. Students graduate with a Master of Physician Assistant Studies (MPAS) degree after the 26-month program, with the first cohort starting in 2008 and graduating in 2010 (1).

PAs were introduced to Manitoba as a solution to physician shortages and concerns with health care accessibility, as research, primarily from the US, demonstrates that PAs improve access to

and efficiency of health care delivery (2–4) in both primary care settings (5) and surgical settings (6,7). In this respect, it is not surprising that the demand for PA services continues to outpace supply (8). However, to date, there is a dearth of Canadian research exploring PA employment locations and settings, as well as whether PAs are meeting stakeholder expectations in terms of addressing needs.

This study explores the initial employment patterns of graduates from the MPAS program in Manitoba health care settings from 2010 to 2016. The research presented here represents one component of a more extensive program evaluation study conducted on the MPAS program. We assessed employment patterns by tracking the percentage of graduates who found employment within Manitoba, their employment location within Manitoba, and the length of time between graduation and first positions, as well as employment variation through time. These data are situated within the Manitoba health care context to explore mechanisms that may facilitate the employment of graduates from the University of Manitoba's MPAS program and to provide insight into PA employment patterns within Manitoba.

Methods

We investigated initial employment patterns by surveying graduates from the MPAS program from 2010-2016, focusing on current employment status, length of time from graduation to employment, and location of employment. This study was approved by the Health Research Ethics Board at the University of Manitoba (#H2014: 280).

Participants

All graduates of the MPAS program from 2010 – 2016 were invited to participate in the study. The study began as the Class of 2014 was graduating, which informed the grouping of potential participants, as data from classes graduating before 2014 was collected retrospectively. Participants were grouped into the following cohorts; graduates 2010-2013 and the graduating classes of 2014, 2015, and 2016.

Data Collection

Employment data were collected using online surveys of graduates from the MPAS program from 2010-2016. Twelve students started in each of those classes and all graduates were invited to participate in an online survey. The 2010–2013 classes were retrospectively invited at the onset of this study, while cohorts from 2014, 2015, and 2016 completed the survey at 6- and 12-months after graduation. Surveys for the Class of 2014 focused on data pertaining to program satisfaction and transition to the workforce. Subsequently, the survey was amended for the Classes of 2015 and 2016 to include questions related to the CanMEDS-PA roles (adopted by the program in 2015, and not considered here).

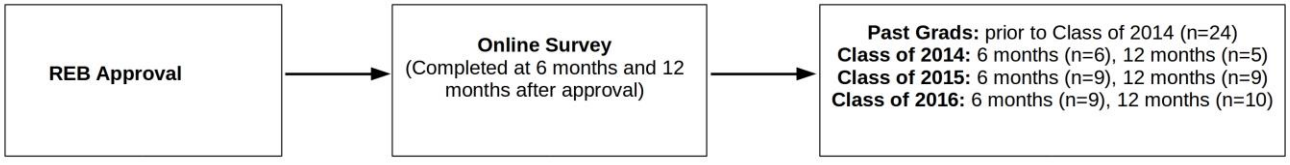

Figure 1. Overview of Data Collection

The online survey included questions on current employment (employed as a physician assistant, full-time/part-time), length of time between program completion and employment commencement, location of employment, and setting of employment. The survey underwent refinement between each cohort to explore other questions and to reflect the terminology used in a national survey for PAs (9). Of note, the categories for employment settings changed from urban and rural to urban, rural, and remote. Urban settings were considered population centres with >25,000 people, rural settings were considered population centres with <25,000 people and accessible by paved roads, and remote population centres were considered those that were not accessible by road. For this study, we combined the rural and remote categories to provide a comparison with urban settings, as the urban setting category was used consistently throughout all iterations of the survey. Employment setting information was collected, however, with a slight change in the question for the Class of 2015 population. Beginning with the Class of 2015, the survey was adjusted to remove the two categories of private office/clinic and community clinic/health centre and replace it with primary care. For this study, we grouped these three categories into Family Medicine/Primary Care, as this captures the types of practices MPAS graduates enter on employment, as well as allowing for an increase in sample size and facilitating data consistency across the survey duration. SPSS (v25) was used to analyze the data from online surveys.

Results

A total of 76 online surveys were completed, with 24 from graduates before 2014, 11 from the Class of 2014 over two time-points, 19 from the Class of 2015 over two time-points, and 22 from the Class of 2016 over two-time points. The survey response ranged from 53% to 100% (Table 1).

Table 1: Survey response rate.

Group	Survey response	Total grads*	Survey response rate
2010 – 2013	24	45	53%
2014 – 6 month	6	11	55%
2014 – 12 month	5	11	45%
2015 – 6 month	9	12	75%
2015 – 12 month	10	12	83%
2016 – 6 month	12	12	100%
2016 – 12 month	10	12	83%

*Retrieved from PA website (http://umanitoba.ca/faculties/health_sciences/medicine/education/paep/about_us/about.html)

Employment Status

By 12 months, 80-100% of survey respondents were employed full-time (Table 2). The time between graduation and commencing employment was consistently reported to be within three months of program graduation for those PAs who found employment and responded to the survey (Table 3).

Table 2: Employment status of survey respondents graduating from the MPAS program from 2010-2016 at 6- and 12- month intervals.

	2010-2013	2014		2015		2016	
Employment Status at:	**6 Months**	**6 Months**	**12 Months**	**6 Months**	**12 Months**	**6 Months**	**12 Months**
Employed (% total respondents)	24 (100%)	6 (100%)	5 (100%)	9 (100%)	9 (90%)	9 (75%)	10 (100%)
Employed as a PA* (% total respondents)	23 (96%)	6 (100%)	4 (80%)**	9 (100%)	9 (90%)	9 (75%)	10 (100%)

*All PAs reported being employed full-time **One PA left the profession

Table 3: Cumulative employment rates at 1, 2, and 3 months.

Group*	Total respondents	By 1 month	By 2 months	By 3 months	No Response
2015 – 6 month	9	89%	100%	100%	0
2015 – 12 month	10	70%	80%	90%	10%
2016 – 6 month	12	17%	75%	75%	25%
2016 – 12 month	10	80%	90%	100%	0

*This question was not asked prior to the 2015 survey.

Employment Setting

To account for all survey responses, we considered two settings within Manitoba: urban, with populations > 25,000; and rural, with populations <25,000. Our data indicate that the majority of PAs were employed in urban settings, with only one survey respondent since 2014 reporting employment in a rural setting (Table 4).

Table 4: Geographical location of employment

Group	Survey n=	Count (Percentage) Urban (population ≥25,000)	Count (Percentage) Rural/Remote (population < 25,000)*
2010 - 2013	24	20 (83%)	4 (17%)
2014 – 6 month	6	6 (100%)	0 (0%)
2014 – 12 month	5	5 (100%)	0 (0%)
2015 – 6 month	9	9 (100%)	0 (0%)
2015 – 12 month	10	10 (100%)	0 (0%)
2016 – 6 month	12	12 (100%)	0 (0%)
2016 – 12 month	10	9 (90%)	1 (10%)

* To allow for longitudinal comparison, the responses for the categories rural and remote have been collapsed into one category – rural/remote.

Participant responses demonstrate that PAs are employed in a variety of health care settings (Table 5). The variation in the 6- and 12-month data from 2014, 2015, and 2016 cohorts may indicate some change in PA employment. However, as the survey was anonymous, we cannot

distinguish whether this variation results from different individuals responding to the survey at different times.

Table 5: Primary setting of employment for PA graduates.

Group	Survey n=	Family Medicine/Primary Care**	Hospital (Medicine)	Surgery	Emergency Department
2010-2013	24	9	4	5	6
2014 – 6 month	6	4	1	0	1
2014 – 12 month	5	1	3	0	1
2015 – 6 month	8*	0	1	3	4
2015 – 12 month	9*	1	2	3	3
2016 – 6 month	9*	3	2	4	0
2016 – 12 month	10	4	4	2	0

*There were some non-responses in the survey, including:
Class of 2015-12 month, 1 respondent did not answer the question
Class of 2015-12 month, 1 respondent did not answer the question
Class of 2016-6 month, 3 respondents did not answer the question
**For the purposes of this survey, primary care refers to services that are chiefly delivered by family physicians and general medical practitioners that are provided in outpatient/ambulatory settings (10).

Discussion

This study demonstrates that graduates of the MPAS program have been successful in finding employment as PAs within the Manitoba health care system. Specifically, it provides support for four assertions: the need for PAs within Manitoba's health care system; the important contributions PAs make to their practice settings; the ability of MPAS graduates to find employment; and the role of government support for PAs in Manitoba.

First, there is a need for PAs within Manitoba's health care system, as demonstrated by the high employment rates for MPAS graduates. This need appears to be in urban areas, of which there are only two in Manitoba, Winnipeg and Brandon. Winnipeg contains over 75% of Manitoba's population, as well as the primary referral and tertiary healthcare centres. Based on this information, we suggest that the majority of employment opportunities for PAs are located within Winnipeg. However, the meagre employment numbers for PAs outside of urban centres in Manitoba may be a point of concern and one that merits further exploration.

Second, the successful employment of MPAS graduates may also speak to the value and contribution they bring to their practice setting. Although this study was not designed to identify

and quantify the nature of these contributions, we propose that positive contributions made by PAs in Manitoba may play a role in the successful employment of MPAS graduates. This hypothesis derives support from previous research in Canadian settings, such as in surgical settings (6,7) and primary care settings (5,11), as well as research that demonstrates the impact PAs make towards increasing access to health care, improving quality of care, and increasing efficiency of care (2–4). However, further research that explores the impact of PAs on the Manitoba health care system is needed.

Third, the success of the graduates from the MPAS program in finding employment speaks to the ability of the program to prepare its learners for professional practice appropriately. Given the recent introduction of PAs in Manitoba and Canada combined with the lack of familiarity of healthcare stakeholders with PAs, the consistently high percentage of graduates obtaining employment within three months provides preliminary and indirect evidence that MPAS graduates are well prepared for professional practice. This result seems to be on par with Canadian Nurse Practitioner (NP) programs, where employed and practicing NPs increased from 943 to 5,697 individuals from 2005 to 2018 (12–14).

Fourth, the success of program graduates in finding employment has resulted in the growth of the number of PAs practicing in Manitoba. Although not all PAs practicing in Manitoba are graduates of the MPAS program, this growth is crucial as it reflects a practice environment open to employing PAs. We suggest that this growth is the result of a multi-stakeholder approach designed to address physician shortages and patient needs in primary care (15). This strategy, developed by the College of Physicians and Surgeons of Manitoba and the Government of Manitoba, resulted in changes in legislation related to the regulation of health professionals to allow for PAs to practice and facilitates funding for the creation of jobs for PAs in the province. Manitoba was the first province to pass enabling legislation that facilitated the regulation of PAs, with the College of Physicians and Surgeons of Manitoba introducing these regulations in 1999. Regulation, which includes title protection, the authority to practice reserved medical acts, and accountability to the public through the Medical College, is critical in defining the role and scope of PA practice and legitimizing the PA profession (6,21). In this respect, provincial regulation not only enabled PAs to practice in Manitoba, but also laid the foundation for the MPAS program and may contribute to understanding the successful employment of its graduates.

Funding for PAs positions has also been critical to their adoption in Manitoba. While the funding model for PAs may have changed over time, government support through funding may be a critical factor in the successful employment of graduates in Manitoba. From approximately 1999 to 2016, PAs in Manitoba were primarily employed in government-funded positions, while beginning in 2016, some PA positions are funded through specialty practice groups. (pers comm. Ian Jones). Both models provide for appropriate economic compensation and position security for PAs, which are considered critical for maintaining and growing the PA profession in Canada (16–19).

Limitations

This study forms part of extensive and ongoing program evaluations for the MPAS program. Some of the study parameters changed through time in response to the initial findings and feedback on surveys and interviews. While this presents some challenges in data consistency, we

see this as part of the iterative process of research, especially longitudinal research. A further limitation of this study is the lack of comparative data from within Manitoba and more broadly from throughout Canada. This lack of data emphasizes the need for further research into the PA profession within the Canadian context.

Conclusion

This study reported on the initial employment patterns of new graduates from the MPAS program at the University of Manitoba. Our research demonstrates that the majority of MPAS graduates enter the workforce within three months of graduating, with the majority employed in an urban setting. Moreover, we suggest that the substantive success of PAs obtaining employment in the Manitoba health care system reflects the need for PAs in Manitoba, the importance of PA contributions to the practice setting, the employability of graduates from the MPAS program, and support from the Manitoba Government. This study also further emphasizes the need for more research focusing on the PAs in the Canadian context to facilitate a better understanding of their impacts and contributions throughout the health care system.

Acknowledgements

This study is supported by the Rady Faculty of Health Sciences, University of Manitoba. We would like to thank all of the anonymous survey respondents for taking the time to complete the survey, as well as Christen Rachul and two anonymous reviewers, who provide comments on an earlier draft of this manuscript.

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