

**The Conference
Board of Canada**

Unlocking Potential

Exploring Physician Assistant Funding
Models and Impact Potential for
Three Practice Settings

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Key findings

- There is a nationwide need for healthcare professionals that is causing strain on current healthcare teams, system funding, and patients' access to care.
- Canadian physicians have noted that enhancing the model of team-based care and having increased time for non-patient care activities (e.g., personal time, continuing medical education, creative professional activity, etc.) could improve practice efficiency, job satisfaction, patient satisfaction, and decrease physician burnout. Incorporating physician assistants (PAs) into various practice settings could contribute to a long-term solution for these issues.
- Physician assistants are highly skilled healthcare professionals that are capable of practicing across multiple specialty areas; however, PAs can only practice in the public healthcare system in six provinces, with additional pilot projects anticipated in late 2023.
- Challenges to integrating the PA role in Canada are at the provincial level, from regulation to practice as a health professional to registration with their provincial college of physicians and surgeons, as well as an absence of a standardized funding model. This financial hurdle can produce challenges for practice settings that are looking to incorporate PAs and lead to job insecurities when provincially funded programs expire.
- PAs can contribute to a variety of healthcare specialties. Specifically, primary care, emergency medicine, and orthopedic surgery are disciplines that have well-established PA integration. Based on our analysis of fee-for-service models in these specialty areas, we found there were opportunities to increase cost savings for the healthcare system, increase the number of services for patients, and save time for physicians.
- Our results suggest that an employer-remunerated funding model has the greatest potential to positively impact the Canadian healthcare system.

Physician assistants in Canada

Canada's healthcare system is facing challenges we've never experienced before. Physician assistants (PAs) could offer a sustainable resolution to some of the key issues of this crisis.

Nationwide staffing shortages have sparked longer wait times, lack of access to primary care, emergency room closures, and overloaded in-patient care units.¹ Couple this with the impact of the pandemic, our rapidly increasing senior population, and increasing healthcare costs, the burden on our health systems is clear. The trajectory of our once-applauded healthcare system needs immediate attention and solutions to these challenges. Physician assistants are well positioned with the skills to excel in team-based models of care and have the expertise to deliver a high-quality and safe clinical experience to Canadian patients.

Where are they now?

This report contains an updated list of current PA funding models across the Canadian provinces and territories that have incorporated this position as part of their healthcare system. Information contained in this section builds upon the previous work of The Conference Board of Canada's reports² on PAs from 2016–17.

In 2021, there was an estimated 902 PAs working across Canada.³ Table 1 presents their distribution, both military and civilian, by province/territory.

Table 1

Physician assistants (military & civilian) across Canada, 2021

	Province/Territory	Number of PAs	PAs per 100,000 population
National	Canada	902	2.1
Registration with provincial college of physicians & surgeons**	Nova Scotia	32*	3.2*
	New Brunswick	7	0.9
	Manitoba	138	10.0
	Saskatchewan	1*	0.1*
	Alberta	55	1.2
No registration or regulation of PAs	Newfoundland & Labrador	3*	0.6*
	Prince Edward Island	2*	1.2*
	Quebec	23*	0.3*
	Ontario	610*	4.1*
	British Columbia	30*	0.6*
	Nunavut	1*	2.5*
	Northwest Territories	0*	0.0*
	Yukon	0*	0.0*

*counts and proportions may be over/underestimated due to the lack of regulatory status of this profession

**registration with a provincial college does not guarantee regulation of the PA role
Sources: Canadian Institute for Health Information, "Health Workforce in Canada, 2017 to 2021: Overview"; Burrows and others, "Understanding Health Professional Role Integration"; The Conference Board of Canada.

1 Moir and Barua, "Overwhelming Evidence"; Canadian Medical Association, "Canada's Health Care Crisis."

2 Desormeaux and others, *Gaining Efficiency*; Grimes and others, *Funding Models for Physician Assistants*; Grimes and Prada, *Value of Physician Assistants*.

3 Canadian Institute for Health Information, *Health Workforce in Canada*.

Physician assistants are located throughout the country; however, civilian (i.e., non-military) PAs are currently employed in only six provinces, and only Manitoba, New Brunswick, Nova Scotia, and Alberta have recognized PAs as registered or regulated health professionals.⁴

Among the remaining provinces and territories, the lack of PA integration and standardized funding in provincial/territorial models of care are contributing factors for why PAs are unable to practice in these regions. Furthermore, lack of accommodation as part of provincial colleges of physicians and surgeons and as a regulated healthcare profession have compounded this issue.

Unfortunately, these distribution estimates do not differentiate between civilian and military PAs. Therefore, due to the lack of registration in the remaining seven provinces/territories, PAs included in these areas are likely participating in military service.

For the purpose of this report, all reference to *public funding* will refer to PAs directly remunerated through a government healthcare budget (e.g., PA-specific procedure codes or salary coverage). Employer-remunerated funding will refer to remuneration of PA services directly by physicians, physician groups, individual practices, or allocated funding sources that are not paid directly from government spending. Below is a brief outline of the current PA legislation, provincial funding models and salary ranges in these six provinces.

Nova Scotia

During fall 2019, the Nova Scotia Health Authority (NSHA) launched a three-year pilot project introducing physician assistants to their orthopedics division. Combined support from the Department of Health and Wellness and the College of Physicians and Surgeons of Nova Scotia allowed the NSHA to

implement PAs as part of their publicly funded multi-year hip and knee action plan.⁵ PAs are currently responsible for both general medical practices and surgical support.⁶ The salary range for PAs in Nova Scotia is \$98,787 to \$120,003 per year, exclusive of additional compensation such as benefits or overtime pay.⁷ Recently, there have been two major updates to PA integration in Nova Scotia. First, the Nova Scotia Finance and Treasury Board released in the 2023-24 provincial budget the intention to incorporate \$1.7 million in funding to add 10 physician assistants, with the potential for more, in collaborative primary care settings across the province.⁸ Second, a 2023 pilot project introduced additional funding for family physicians that hire allied healthcare providers (AHCP) to support their practice. Family physicians may bill for services provided by an AHCP to a maximum of \$110,000 per year, with the goal of offsetting the costs of employing them.⁹

New Brunswick

In 2009, PAs were included in the New Brunswick *Medical Act* as part of their provincial healthcare model.¹⁰ Currently, all PA positions in the province are publicly funded and employed under the local regional health authority. Physician assistants are mandated to practice in accordance with the College of Physicians and Surgeons of New Brunswick's guidelines.¹¹ Salaries for New Brunswick PAs range from \$89,993 to \$126,750 annually, exclusive of additional compensation such as benefits, or overtime pay.¹²

4 Burrows and others, "Understanding Health Professional Role Integration."

5 Nova Scotia Health Authority, "Physician Assistant Role Pilot Program."

6 Ibid.

7 Canadian Association of Physician Assistants, *Compensation Report*.

8 Government of Nova Scotia, "Budget 2023–24 Advances Solutions for More Healthcare Faster"; Nova Scotia Finance and Treasury Board, *More Healthcare, Faster*.

9 Doctors of Nova Scotia, "Funding for Allied Health-Care Providers (2023)."

10 Canadian Association of Physician Assistants, "Legislation."

11 College of Physicians and Surgeons of New Brunswick, "Regulation #6: Physician Assistants."

12 Canadian Association of Physician Assistants, *Compensation Report*.

Ontario

Ontario has the largest proportion of physician assistants practicing in the country. However, despite their ability to practice, they remain unregulated in Ontario¹³ and therefore provide patient care under a delegated acts provision,¹⁴ with no legally defined scope of practice. PA funding is provided via several streams in Ontario. Provincially funded healthcare employers, such as hospitals or primary care physicians, can receive funding from the province to hire newly graduated PAs. Compensation is based on the location's Rural Index for Ontario (RIO) score. Regions with higher RIO scores receive additional funding and eligibility for incentive grants.¹⁵ Employer recipients of an incentive grant (i.e., hospital, physician, health team) must match the grant awarded to fully cover the PA's salary. Alternatively, physician assistants in Ontario may also be compensated directly by a specialist, primary care physician/physicians, or community-centred primary care team. Although there are additional methods of funding (e.g., redirected grant funding in hospital settings), these are considered Ontario's main funding mechanisms for PAs. PA salaries range from \$109,025 to \$126,750 per year outside of the Greater Toronto Area (GTA) and \$114,992 to \$126,750 within the GTA, exclusive of additional compensation such as benefits or overtime pay.¹⁶ As of June 2021, the College of Physicians and Surgeons of Ontario proposed regulation of physician assistants following an amendment to the *Medicine Act, 1991*.¹⁷

Manitoba

Since 2009, the Manitoba *Medical Act* has included physician assistant registration and title protection (candidate must meet the necessary education and qualifications of the position as defined under the College of Physicians and Surgeons of Manitoba).¹⁸ Funding models for PAs in Manitoba consist of both publicly and privately funded positions. Publicly funded roles are compensated through the Winnipeg Regional Health Authority (WRHA) under their Physician and Clinical Assistants of Manitoba (PCAM) collective agreement.¹⁹ Privately funded positions are compensated through the supervising physician or group practice, which are essentially publicly funded through negotiated agreements with the province and the provincial medical association. PA salaries in Manitoba range from \$87,391 to \$124,697 annually, exclusive of additional compensation such as benefits or overtime pay.²⁰ Future negotiations between PCAM and the WRHA will likely result in an updated pay ladder.²¹ The most recent (2019) records to our knowledge indicate that PAs practicing in Manitoba are currently supporting care in the following settings: surgical services (43.0 per cent), primary care (17.0 per cent), medical in-patient care (14.6 per cent), emergency departments (12 per cent), and mental health or psychiatry (7.0 per cent).²²

13 Canadian Association of Physician Assistants, "Legislation."

14 Cawley and Hooker, "Determinants of the Physician Assistant/Associate Concept."

15 Ontario Ministry of Health, Ministry of Long-Term Care, "Physician Assistant Career Start Program."

16 Canadian Association of Physician Assistants, *Compensation Report*.

17 Ontario's Regulatory Registry, Government of Ontario, "College of Physicians and Surgeons of Ontario Is Proposing Amendments."

18 College of Physicians & Surgeons of Manitoba, The, "Regulated Associate Member—Physician Assistant."

19 Winnipeg Regional Health Authority and Physician and Clinical Assistants of Manitoba, *Collective Agreement Between: Winnipeg Regional Health Authority (WRHA) and Physician and Clinical Assistants of Manitoba Inc.*

20 Canadian Association of Physician Assistants, *Compensation Report*.

21 Ibid.

22 Jones, "Seeing Value in Physician Assistants."

Saskatchewan

In May 2023, Saskatchewan passed *The Medical Profession Amendment Act, 2023*, which enables the regulation of PAs under the College of Physicians and Surgeons of Saskatchewan, as well as introduces a scope of practice guidelines for physician assistants. The legislation includes a \$1.3-million investment to create 12 publicly funded PA positions across the province.²³ As of this publication, specific details regarding practice areas and settings have not been released.

Alberta

As of April 1, 2021, the College of Physicians & Surgeons of Alberta (CPSA) began regulating physician assistants following new legislation under the *Health Professions Act*.²⁴ PAs are expected to abide by CPSA's standards of practice.²⁵ Funding is provided both through Alberta Health Services (public system) or through compensation from the supervising physician or health team. The Alberta PA salary range is \$87,000 to \$123,411 per year, exclusive of additional compensation such as benefits or overtime pay.

Potential integration

Provincial funding models for PAs are quite variable and continue to be a significant barrier to the integration, expansion, and sustainability of this profession in Canada's health systems.²⁶ Provincially funded opportunities are limited. Employer-remunerated funding models, where a publicly funded solo or group physician practice, hospital foundation, family/community based health team or other entity privately employs PAs, may be financially burdensome should the role not be integrated effectively.

This variability in funding approaches, provincially or through employer- remunerated models, tends to result in short-term contracts, lack of job security, and reduced opportunities for PAs to have an integrated practice presence in provincial healthcare systems.²⁷

PAs have the unique opportunity to “supplement physician care, increase patient access to care, and improve efficiencies,” as well as serve many other critical functions.²⁸ Therefore, establishing a funding model that fits within current healthcare remuneration structures and that supports employing PAs across Canada is an essential step toward further integrating the role in Canada's health and care ecosystem.

Can PAs enhance physician practice in Canada?

A literature review identified Canadian evidence of value-based PA activities relevant to three specific physician practice settings: family medicine, primary care, and orthopedic surgery. We focused on activities with the potential to increase or decrease practice efficiency and patient care capacity, job satisfaction and/or physician burnout, and patient satisfaction. A critical prerequisite to effectively realizing the value-chain benefits of integrating PAs into these specific practice settings is the promotion and expansion of team-based models of care and funding.²⁹

A team-based approach assigns patient care tasks to designated healthcare professionals within the team, such as medical assistants, nurse practitioners, or physician assistants. The supervising physician can then work collaboratively with their team to prioritize workflow and improve access to care and services or increase the number of patients seen.³⁰

23 Government of Saskatchewan, “Saskatchewan Introduces Legislation to License Physician Assistants.”

24 Canadian Association of Physician Assistants, “Legislation.”

25 College of Physicians & Surgeons of Alberta (CPSA), “Information for Physician Assistants.”

26 Cawley and Hooker, “Determinants of the Physician Assistant/Associate Concept”; Lack and others, “The Emergence of the Physician Assistant Role.”

27 Burrows and others, “Understanding Health Professional Role Integration”; Dies and Taylor, “Ontario Physician Assistants.”

28 Jones and others, “A Perspective on the Economic Sustainability of the Physician Assistant Profession in Canada.”

29 Rao and others, “Physician Burnout, Engagement and Career Satisfaction”; Witter and others, “Human Resources for Health Interventions”; Malhotra, Wong, and Thind, “Canadian Family Physician Job Satisfaction”; DeChant and others, “Effect of Organization-Directed Workplace Interventions on Physician Burnout.”

30 Witter and others, “Human Resources for Health Interventions”; DeChant and others, “Effect of Organization-Directed Workplace Interventions on Physician Burnout.”



In turn, the PA can increase the scope of generalist services they can provide in the specific practice setting (i.e., family health team, surgical suite, or patient follow-up). This gives physicians the opportunity to address complex patient cohorts or medical procedures—both actively (on a day-to-day basis) and proactively, in the framework of population health management.³¹

Additionally, as physician assistants gain experience and the physician-PA dynamic enhances, there can be further empowerment for both the physician and the PA to share tasks and effectively balance caseloads and realize benefits from team-based practice collaboration.

For example, in a Canadian surgical setting, shifting tasks to physician assistants decreased late discharges from hospital by nearly 20 per cent and increased unplanned early discharges by about 16 per cent.³² Furthermore, increasing practice efficiency through integrating PAs allows supervising physicians to have more control of their time, for both patient and non-patient activities, and can increase productivity of administrative duties (charting, patient education/health promotion, workers compensation forms) due to task sharing.³³

Previous literature has suggested that delegating electronic medical records (EMR) documentation and administrative tasks (such as review and actioning of patient laboratory results) to qualified health professionals, such as PAs, results in increased job satisfaction and practice efficacy, improved face-to-face interactions with patients, and decreased patient wait times.³⁴ In the current context, the vision and potential for PAs is much greater.

Patient-facing roles should be the primary focus of both PAs and physicians, with the administrative duties being a secondary but necessary task. While PAs are adept at these skills and processes, administrative and documentation duties do not leverage the full scope of clinical training they receive. Instead, administrative duties can be tasks shared with the physician to create a more efficient practice, and medical scribes are best positioned to take on that role. They document the words of the healthcare professional during an assessment with no patient care responsibilities (or formal training in this regard).³⁵ Furthermore, as AI technology expands into the medical scribe function, it is anticipated to further support PAs to practice in primarily patient-facing care roles, which is essential to realizing the aforementioned benefits.

31 Jones, "Seeing Value in Physician Assistants."

32 Dies and others, "Physician Assistants Reduce Resident Workload."

33 Burrows, Nickell, and Krueger, "Physician Ratings of Physician Assistant Competencies."

34 Malhotra, Wong, and Thind, "Canadian Family Physician Job Satisfaction"; DeChant and others, "Effect of Organization-Directed Workplace Interventions on Physician Burnout"; Mitra and others, "Alternative Payment Models"; Myles and others, "Ontario Family Physicians' Perspectives."

35 Shah and others, "Effects of Medical Scribes."

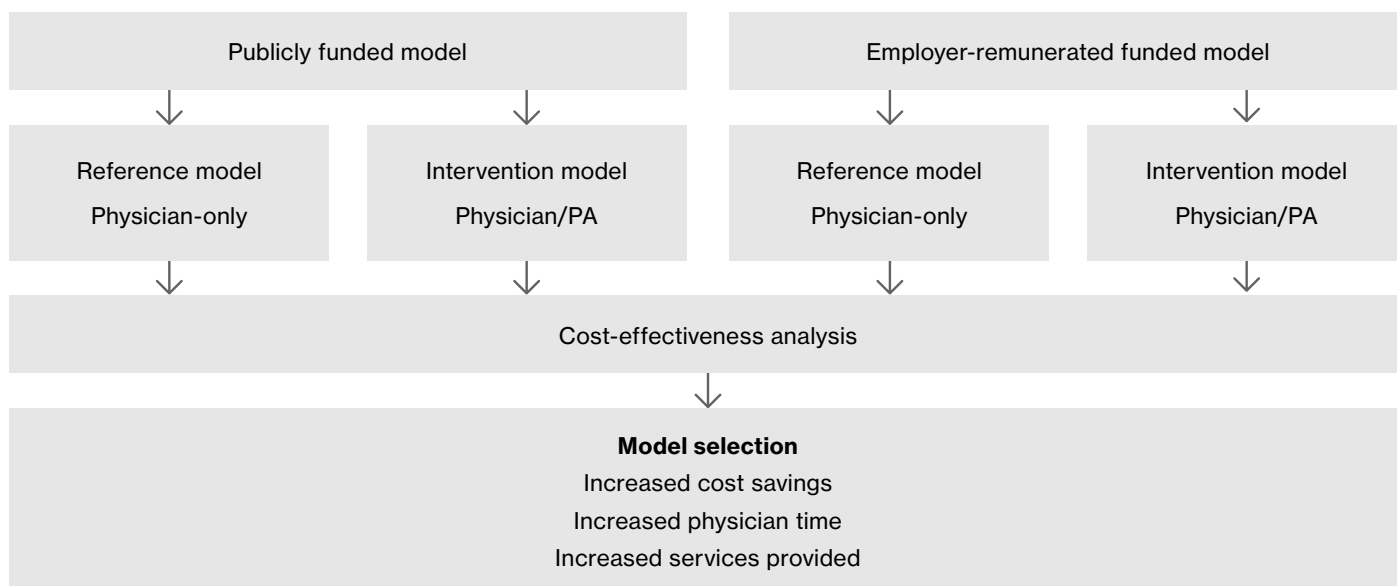
Can PAs offer value for patients and healthcare systems?

When considering the value of increasing PA integration into Canada's healthcare systems, patients are at the forefront of the potential impact. Integrating more PAs into Canadian medical practice can contribute to value-based transformations of the healthcare system through a variety of avenues, including the potential to reduce wait times, improve patient outcomes through proactive population and individual health management, and continuity of patient care. Greater integration can also improve physicians' quality of life and make positive contributions to increasing the number of patient care services provided.³⁶

PAs offer the opportunity for enhanced medical practice and patient care. From a public payer and patient perspective, the potential value of incorporating more physician assistants into Canada's health ecosystems is substantial through both direct (e.g., increased number of services provided) and indirect contributions (e.g., reduced physician burnout). Several provinces are currently benefiting from PAs' participation in practice; however, there is still a need for further provincial legislation and regulation, as well as a funding model that will allow more healthcare settings to effectively access and integrate trained PAs into models of care.

Exhibit 1

Funding model outline



Source: The Conference Board of Canada.

³⁶ Burrows, Nickell, and Krueger, "Physician Ratings of Physician Assistant Competencies."

Building the foundation: A PA funding model

With the lack of standardized funding for PAs across Canada and a paucity of research on potential funding models in the Canadian health systems context, we developed funding models in three practice areas: primary care, emergency medicine, and orthopedic surgery. The models highlight the potential impact through both a decrease in the cost of services (discounted physician fee-for-service) and an increase in the number of services that can be provided by PAs. These two components of efficiency are far reaching in their potential for direct and indirect benefits.

The funding models were developed to determine both potential cost and time savings (see Exhibit 1) and assumes that PA-delivered services are 100 per cent funded by either the public system or an employer-remunerated funding model. The public funding model proposes provincially funded reimbursement for both the physician and physician assistant, while the employer-remunerated funding model comprises out-of-pocket reimbursement from a supervising physician or physician group for PA billings.

Our analysis compares the outputs from a reference model (status quo scenario) with the outputs from an intervention model (scenario whereby PAs deliver a portion of services in addition to the supervising physician). All healthcare service data (e.g., services provided, cost per service) were retrieved from the Canadian Institute for Health Information's National Physician Database (CIHI-NPDB) for the fiscal year 2020–21.³⁷ Additional information pertaining to physician assistants' involvement in patient care services was based on expert review from practicing PAs and/or project stakeholders. The following resources were included for each model to determine cost-effectiveness:

- Number of services provided³⁸
 - Number of healthcare services provided in Canada for fiscal year 2020–21 based on CIHI-NPDB services groupings.
- Mean physician cost per service³⁹
 - Mean physician cost per service, based on CIHI-NPDB services groupings.
- PA cost per service
 - Calculated as a discounted physician cost per service.
- Mean duration per service
 - Time variable based on average PA duration per service.
- Mean proportion of PA involvement
 - Percentage of time a PA delivers a specific service in their practice area.

To determine cost-effectiveness, we focused on three primary variables of interest: a) cost savings to the public healthcare system, b) increased services provided to the specialty area, and c) increased time for physicians. In addition to this, we aimed for a cost-neutral scenario to remunerate PAs, therefore reducing the impact of implementation and offering a more sustainable model for future systems.

With the complexity of constructing a funding model that utilizes pan-Canadian data and contains notable variations in provincial healthcare systems, the following assumptions were required to determine the most effective funding model.

Fee-for-service model

Due to the variability in PA remuneration across Canada, the proposed funding models closely mirror the successful discounted fee-for-service (FFS) model currently implemented in the United States (e.g., 85 per cent of physician fee schedule for Medicare reimbursement).⁴⁰ While there are similarities to these funding structures, there are several key differences that must be addressed.

First, U.S.-based physician assistants do not require physician participation to bill for their services, whereas Canadian PA services are billed at 100 per cent of the service by the supervising physician. With the current Canadian billing structure, there would be no cost savings to the public system, despite PAs billing at a reduced FFS, as the remaining proportion of the fee would be allocated to the supervising physician. Next, the U.S. structure allows for “incident to” billing, whereby a physician can bill for 100 per cent of the service if certain criteria are met (e.g., the physician established a diagnoses or treatment plan during the patient visit).⁴¹ For the models included in this report, we assumed that PAs are entitled to a discounted FFS without a supervising physician billing for the remaining proportion and “incident to” billing is not incorporated. Discounted FFS percentage and ranges are based on average current Canadian physician assistant salaries, as well as the potential for physicians as private-payers to earn additional revenue or billings to maintain a cost-neutral arrangement.

³⁷ Canadian Institute for Health Information, “National Physician Database Metadata.”

³⁸ Ibid.

³⁹ Ibid.

⁴⁰ American Academy of Physician Assistants, *Third-Party Reimbursement for PAs*.

⁴¹ Ibid.

PA regulation structure

As discussed earlier, lack of regulation (in select provinces) and registration with a provincial college of physicians and surgeons dictate that PAs must practice under a supervising physician. The level of supervision varies by practice setting, PA experience, and physician-PA professional relationship.

Unfortunately, this lack of registration directly affects funding structures, as PAs are unable to bill directly for their services. Therefore, the Canadian Association of Physician Assistants' (CAPA's) goal is to have all PAs regulated and registered within their respective provincial healthcare systems.⁴²

For these models, we have explored both exclusive public payer and publicly funded physicians as private-payer (or employers of PAs) systems, then evaluated the costs and benefits associated with each approach. While there are also opportunities for PAs to bill directly for non-covered elective services, these were not included in our model. All models assume that PAs are under the supervision of an attending physician.



PA implementation across practice settings

The following section includes an overview of a proposed PA funding model for each practice area included in this study, along with the findings from the scenario-based analysis. Across all practice areas, models A and C are physician-only models that represent the current cost of care and number of services provided. For the purposes of this report, only models B and D are discussed in detail. (Please see Appendix A for illustrations of all models explored in our analysis).

Primary care

Total estimated costs for primary care services in Canada were \$6.71 billion in 2021, and Canadian primary care physicians spent over 28 million hours on services within a PA's scope of practice. We accounted for primary care PAs working an average of 37.5 hours per week, using community-centred primary care team data (e.g., Ontario Family Health Team) validated through expert review. Using these figures and the proportion of time a PA is participating in qualified services, we estimate that this has the potential to save primary care physicians over 2 million hours per year (7.3 per cent) based on these original 28 million hours. A total of 1,145 full-time physician assistants would need to be incorporated into provincial/territorial systems to create this 7.3 per cent increase in available time. Table 2 (see Appendix A, Table 2) includes an outline of time and cost savings by number of PAs in primary care.

The first scenario-based analysis (see Appendix A, Table 3) assumes all additional physician hours (2,060,414) are used to increase provision of patient care and associated services. No adjustments have been made for alternative use of increased physician time for non-patient care activities (e.g., personal time or improved work-life balance, continuing medical education, or creative professional activity, etc.).

42 Canadian Association of Physician Assistants, "Are Physician Assistants Regulated Through a College?"

Model B includes a decreased baseline cost (\$6.67 billion) to the public payer due to the introduction of PAs. Although there was a 7.3 per cent increase in practice capacity to primary care physicians resulting in over 3.8 million services provided, there are higher overall costs (\$6.84 billion) to the public payer. Model D has a lower baseline cost to the public payer (\$6.54 billion), with private payers in an employer-remunerated model responsible for the total cost of all PA salaries (\$131 million). With the increased practice capacity illustrated in this model, publicly funded solo or group physician practices, a hospital foundation, family/community based health team or other private entity employing PAs may have the potential to earn an additional \$175 million, covering the cost of PAs and increasing physician services (access to care). This model demonstrates the same increase in services as Model B.

Table 4 (see Appendix A, Table 4) builds upon the previous scenario-based model, with the adjustment made for primary care physicians to use the increased time for both work and non-patient care activities. Models B and D incorporate physician assistants, but account for physicians only putting 5.5 per cent of their time savings back into patient care and practice administration; and applies the remaining 1.8 per cent to non-patient care activities. Model B illustrates PAs receiving remuneration from the public payer, whereby the total costs to the public system would be over \$88 million higher than the physician-only (control) model, but with increased services provided. Model D illustrates an employer-remunerated model for PAs (\$131 million) with the same increase in number of services provided (2.8 million). At this proportion of service increase (5.5 per cent), there would be a small increase in physician services and cost (\$601,260), which would effectively represent a cost-neutral scenario.

Discounted fees-for-service for primary care PAs applied in our model fall between 75–80 per cent of the physician fee schedule, reflecting a salary range of \$114,832 to \$122,487 annually. Both models listed above utilized a discounted FFS of 75 per cent, which reflects an average baseline salary of a newly graduated PA.

Emergency medicine

Total estimated cost per year for emergency medicine services in Canada in 2021 was \$5.67 billion, and the number of patient care hours emergency physicians were spending per year on services within a physician assistant's scope of practice was over 4 million. We assessed the proportion of time these emergency services are within a PAs scope of practice. With the relevant emergency care training, we estimate that PAs could save emergency medicine physicians over 3.2 million hours per year. This translates to an 80.1 per cent increase in time savings for these services. PAs in emergency medicine worked an estimated 16 days per month and 9.4 hours per shift. Based on time characteristics exclusively, Canada's healthcare systems would require over 1,800 physician assistants to fulfill the current time requirements over a one-year period. Table 5 (see Appendix A, Table 5) outlines the time and cost savings of incorporating various proportions of PAs into emergency medicine practice.

Table 6 (see Appendix A, Table 6) outlines the four scenario-based approaches with no adjustments for physician's time use. Model B incorporates PAs into a public payer model, with the assumption that supervising physicians spend the 80.1 per cent time savings increasing their practice capacity. Based on average cost-per-service estimates, this would increase physician billings by nearly \$630 million, as well as rely on the public payer to cover PA billings of over \$215 million. With an 80.1 per cent increase in productivity, the healthcare system would see the number services provided increase by over 11.5 million. The total cost to the public payer would be \$5.86 billion.

Table 7 (see Appendix A, Table 7) builds upon the previous model including assumptions based on physicians' use of time. Model B accounts for physicians increasing their practice time by 28.1 per cent and utilizing the remaining 52.0 per cent for non-patient tasks. With this increase in work-related activities, physicians could collectively increase patient care services by over \$220 million per year. Despite this increase and the public payer absorbing the PA funding, there are still net savings of over \$211 million and an increase of over 4 million patient care services provided.



Model D outlines the employer-remunerated model where payers absorb funding for physician assistants while increasing practice efficiency by 28.1 per cent. The key difference of this model is that the public payer is reducing its costs by over \$426 million while still increasing the number of services provided. Furthermore, at a 52.0 per cent reduction in time for services within a PA's scope of practice, employers of PAs (publicly funded solo or group physician practice, hospital foundation, family/community based health team or other private entity) can effectively reach cost neutral.

Discounted fees-for-service for emergency medicine PAs would fall between 30–45 per cent of the physician fee schedule, which would reflect a salary range of \$102,052 to \$155,078 per year. Both models listed above utilized a discounted FFS of 30 per cent, which would reflect the baseline salary of a newly graduated PA.

Orthopedic surgery

Total service costs for orthopedic surgery in Canada were \$597 million in 2021, and there was an estimated service time of 1.7 million hours for services within a PA's scope of practice. After adjusting for the number of hours physician assistants could participate in surgical orthopedic services, there was an estimated time savings of 717,756 hours to supervising physicians. This increase in time translates to a 40.8 per cent increase in services within PAs' scope of practice. Orthopedic surgery PAs reported working an average of 7.92 hours per day, 4.12 days per week. Taking these estimates into consideration, Canada's healthcare systems would require 423 physician assistants to cover all of the services within their scope of practice per year. Table 8 (see Appendix A, Table 8) outlines the time and cost savings of incorporating various proportions of PAs into orthopedic surgery practice.

Table 9 (see Appendix A, Table 9) outlines the four scenario-based models with no adjustments for time use. Model B incorporates PAs into the public payer model, which increases physicians' time for services related to the practice by 40.8 per cent and over \$114 million in increased physician services. There was also an increase of over 1.3 million services provided. Overall, despite the increase in physician salaries and the public payer absorbing the PA funding, there was a net savings of over \$1.5 million.

Similar to the previous scenarios, Table 10 (see Appendix A, Table 10) includes assumptions based on physicians' time savings due to their decreased workload. Model B has a substantial decrease of over \$115 million due to the discounted PA fee-for-services. For this model, we attributed 21.0 per cent of the physician's time to work-related tasks, which resulted in nearly \$59 million in additional earning potential for physicians and an additional 681,396 services provided. Again, even with the increased physician services, costs, and PA funding, we still saw a decrease of over \$57 million in public payer spending. Model D furthered this savings trend with a total decrease in public payer costs of over \$115 million, all while keeping the same increase in services as Model B but resulting in a nearly cost-neutral (\$923,319) outcome.

A key characteristic of this model was that it only included services that would contribute to increased time availability for orthopedic surgeons. The majority of clinical services included for this model were consultations and assessments. PAs noted that during operating room time they are designated to support a non-orthopedic surgeon position in their practice setting (hospital), such as a primary care physician or a registered nurse first assistant.

Therefore, by excluding these services, we were able to estimate the time savings more accurately for the orthopedic surgery specialty.

Discounted fee-for-service percentages for orthopedic surgery PAs would fall between 30–40 per cent of the physician fee schedule, which would reflect a salary range of \$117,480 to \$156,640 annually. Both models listed above used a discounted FFS of 30 per cent, which would reflect the baseline salary of a newly graduated PA.

Are PAs cost-effective in the current healthcare system?

Our three funding models offer a strong justification for increasing the integration of PAs into Canada's healthcare systems. Among each specialty area, several benefits were identified.

Decreased cost to the healthcare system

When PAs were integrated into the funding models outlined above there were net savings to the healthcare system. This was especially true for the employer-remunerated models, where we saw significant savings of up to \$426 million. Furthermore, there is also potential for indirect cost savings through increased patient care services offered. These can include greater continuity and access to care and disease prevention, which can decrease progression of illnesses through well-resourced and evidence-based proactive population health management.⁴³

Decreased wait times

Another indirect benefit is the potential to decrease wait times. This is especially important for emergency medicine and orthopedic surgery. Recent estimates for orthopedic surgery procedures in Canada indicate that only about 62 per cent of patients received their joint replacements within the 182-day recommended timeframe.⁴⁴ Furthermore, emergency department wait times across the country have been steadily increasing since 2021. In response to this increased strain, provinces such as Quebec and Alberta have released updated healthcare action plans to prioritize these challenges.⁴⁵ In some instances, lack of staff

and other factors have forced emergency department closures to levels never experienced in years prior, especially in remote and rural communities, with some settings shutting their doors for over 530 hours in a six-month period.⁴⁶

Increased number of services

Both funding scenarios (no inclusion of time for non-patient care activities, inclusion of time for non-patient care activities) saw significant increases in service provision (16.7 million, 7.6 million) compared to the current (status quo) service data. By increasing the number of services provided across these specialty areas, there is the potential for decreased costs to the healthcare system due to decreased wait times for appointments and procedures. Furthermore, increased services could translate to enhanced practice efficiency and improved patient impact. In turn, this may reduce service backlogs and the number of extra hours healthcare professionals are working, as well as potentially reduce physician burnout as they are able to fulfill their professional commitment.

Increased time for physicians

Increasing the time available to supervising physicians has the potential to address many of the challenges outlined in previous sections. One of the major consequences of poor workplace efficiency experienced by physicians is a lack of time—both sufficient patient-facing time to deliver the safest and highest quality of care and personal time to avoid burnout. All models were made with the assumption that physicians would dedicate a portion of their increased time back into practice and utilize the other portion for non-patient care activities. Although we are unable to confirm these predictions, even small portions of time savings could have a major effect on patient satisfaction due to the potential for more continuity of care and meaningful healthcare experiences, as well as overall physician quality of life. This increased time may also contribute to a decrease in physician burnout, which would have substantial systematic impacts and benefits, especially following a period of high burnout prevalence due to the recent pandemic.

43 Beaglehole and others, "Prevention of Chronic Diseases."

44 Canadian Institute for Health Information, "Wait Times for Priority Procedures in Canada, 2022."

45 Cowell, "Healthcare Action Plan"; Faubert, "Learning to Be Patient."

46 Duong, "Why Are Emergency Departments Closing?"

Increased access to primary care

A major issue facing Canadians is the lack of a primary care provider. As of 2019, Statistics Canada published that 14.5 per cent of Canadians over the age of 12 did not have a family doctor,⁴⁷ with more recent estimates indicating a rise in this value to over 20 per cent.⁴⁸ Increasing the number of services provided and time available to primary care physicians could increase the number of patients a practice can support, or “roster.” Furthermore, if community-centred primary care teams are meeting their provincial requirements, they may be eligible to apply for specific bonuses or premiums.⁴⁹

Model limitations

Although there are many benefits to the proposed funding models, there are several limitations that should be considered.

Pan-Canadian dataset

A notable limitation was the structure of the pan-Canadian dataset used for these models. Due to the variation in services across Canada, many services were combined into mixed categories that were at times difficult to differentiate. Furthermore, emergency medicine and primary care were categorized under the same practice area, which made it difficult to ensure each practice setting was accurately represented. Although we were able to differentiate the two practice areas, the cost per service was likely underestimated for emergency medicine and overestimated for primary care. Future modelling would benefit from having these two practice areas separated by CIHI⁵⁰ to produce the most accurate results. Furthermore, Quebec and the territories do not provide data to CIHI.⁵¹ Although territorial datasets would likely be small, they would still provide greater directional insight into this model and set the basis for important data to inform Indigenous, Northern, remote, and rural health systems. Quebec data could naturally add important value, especially considering the major city centres included within its geography.

Lack of PA data

One clear limitation to this topic is the lack of data on PA practice. There is a dearth of research exploring or expanding upon the physician assistant role in community- and/or hospital-based healthcare systems in Canada since our 2016 publications. We are aware of several internal surveys offered by various PA organizations across Canada, many of which we used for this report. However, focus should be given to collecting stronger quantitative data on practice settings and workplace characteristics that more accurately represent the PA role for evidence-informed models such as these. Furthermore, there is a need for clearer role identification in healthcare system databases (e.g., EMR) to differentiate healthcare professionals and their practice settings. Despite the absence of this data, we incorporated expert review and opinions from physician assistants in the practice areas of interest, as well as those from our Research Advisory Board. Future integration of the physician assistant role across Canada and increased number of PAs practicing will likely increase data availability.

Primary care setting

To estimate the proportion of PA services provided in primary care we were limited to a dataset from an Ontario-based Family Health Team. While this does not represent all primary care settings across Ontario or Canada, there are key advantages to modelling around this structure. Since 2005, the Ontario Ministry of Health and Long-Term Care has operationalized 184 Family Health Teams across the province, caring for over 3.4 million patients.⁵² As noted earlier in this report, a team-based model of care composed of several healthcare professionals is the foundation for realizing the PA value-chain. This will likely continue to be a major trajectory for primary care practice in Canada (with some provincial exceptions), as well as a central location for where PAs will be hired in primary care. Therefore, we feel that by building our funding model around these estimates we are creating a more accurate representation of future care settings.

47 Statistics Canada, “Primary Health Care Providers.”

48 Duong and Vogel, “National Survey Highlights Worsening Primary Care Access.”

49 Ontario Ministry of Health, Ministry of Long-Term Care, “Primary Care Payment Models in Ontario.”

50 Canadian Institute for Health Information, “National Physician Database Metadata.”

51 Ibid.

52 Ontario Ministry of Health, Ministry of Long-Term Care, “Family Health Teams.”

Dataset availability

This model used 2020–21 fiscal year data and therefore may not represent current healthcare utilization and costs. Furthermore, because of the COVID-19 pandemic, this data may not indicate “normal” healthcare usage. When compared with the three fiscal years prior to this dataset, there was an 8.4–11.1 per cent increase in services provided during those years in orthopedic surgery, and a 5.8–7.1 per cent increase in services provided during the years prior in both family medicine and emergency medicine. The current dataset was most similar to the 2017–18 fiscal year. Despite these limitations, this was the most current and complete dataset to our knowledge to inform this model.

Ideas into action

After reviewing multiple funding models with a discounted FFS and adjusted time resources for physicians, it is our recommendation to adapt the adjusted (incorporation of non-patient care time) Model D across all specialty areas (see Appendix A, tables 4, 7, and 10). Overall, there are significant savings to the healthcare system when physician assistants are employed by a publicly funded solo or group physician practice, hospital foundation, family/community based health team or other private entity.

Among the specialty areas reviewed in this report, there were significant potential cost savings of \$585 million to the public healthcare system. Next, Model D across all specialty areas saw an increased potential for non-patient care time. As discussed in previous sections, there will likely be variation in how each physician chooses to use this time. Despite this variation, whether it be to allocate more time to practice or non-patient care activities, there are potential benefits for patients and the overall healthcare system.

While the direct benefits of these models are clear, there are many indirect benefits that should be noted. First, previous studies have shown the importance of the supervisory relationship between the physician and PA.⁵³ The nature of this relationship and the trust developed is largely dependent on the physician's

experience with the PA, which varies greatly between specialty areas. Primary care physicians spend most of the time working in parallel with a physician assistant, whereas PAs in surgical specialties may have multiple physician supervisors. Practicing in a “shift” schedule environment, such as emergency medicine, may offer the least opportunity for a parallel work environment. Yet, conversely offer the greatest opportunity for variation in breadth and depth of experience in this context. By incorporating PAs under a employer-remunerated model, this may incentivize physicians to build these relationships and create stronger working dynamics that could increase practice efficiency, and therefore fund both the physician assistant and increase physician service provision.

Lastly, although this model used a direct FFS structure, we recognize that some healthcare settings incorporate an alternative payment agreement. Due to the variation of these agreements across practice settings, it would have been extremely difficult to adapt a model around this approach. However, we feel that the current model could easily be modified to fit these settings by adjusting the FFS percentage. As stated previously, this is a proposed model to represent the potential for increased PA integration across Canada's healthcare systems. We feel there is clear evidence to support this step; however, future modelling should incorporate setting-specific data and funding information to clearly highlight the full potential of integrating physician assistants.



⁵³ Burrows and others, “Understanding Health Professional Role Integration.”

Appendix A

Supporting tables

Table 2

Proportion of required primary care PAs and their associated cost and time savings per year

Primary care PA savings (75% remuneration)

Number of PAs	Cost saving/year (\$)	Time saving/year (hours)
1,145	43,834,235	2,060,414
573	21,917,118	1,030,207
286	10,958,559	515,104
115	4,383,424	206,041
57	2,191,712	103,021
23	876,685	41,208
11	438,342	20,604

Sources: The Conference Board of Canada; Canadian Institute for Health Information, "National Physician Database Metadata."

Table 3

Primary care funding model without inclusion of non-patient care physician time

75% Remuneration – primary care	Public funding model		Employer-remunerated funding model	
	(A) Control	(B) Experimental	(C) Control	(D) Experimental
Cost to public payer (total fee-for-service billings)				
Physician (service provision, \$)	6,710,745,065	6,535,465,556	6,710,745,065	6,535,465,556
Physician (increased service provision with PA, \$)	–	175,261,763	–	175,261,763
Physician assistant (service provision, \$)	–	131,445,274	–	–
Cost to private payer (independent employer)				
Physician assistant (service provision, \$)	–	–	–	131,445,274
Practice efficiency				
Increase in physician time (work related, per cent)	0.0	7.3	0.0	7.3
Increase in physician time (non-patient care, per cent)	–	–	–	–
Number of services provided	52,341,267	56,162,180	52,341,267	56,162,180
Total cost to public payer (\$)	6,710,745,065	6,842,172,593	6,710,745,065	6,710,727,319
Net cost (–) or savings (+) to public system (compared with control model, \$)	–	(–)131,427,528	–	(+)17,746
Net cost (–) or savings (+) to private payer (\$)	–	0	–	(+) 43,816,489

Sources: The Conference Board of Canada; Canadian Institute for Health Information, "National Physician Database (NPDB)."

Table 4

Primary care funding model with inclusion of physicians utilizing increased time for both work and non-patient care activities

75% Remuneration – primary care	Public funding model		Employer-remunerated funding model	
	(A) Control	(B) Experimental	(C) Control	(D) Experimental
Cost to public payer (total fee-for-service billings)				
Physician (service provision, \$)	6,710,745,065	6,535,465,556	6,710,745,065	6,535,465,556
Physician (increased service provision with PA, \$)	–	132,046,534	–	132,046,534
Physician assistant (service provision, \$)	–	131,445,274	–	–
Cost to private payer (independent employer)				
Physician assistant (service provision, \$)	–	–	–	131,445,274
Practice efficiency				
Increase in physician time (work related, per cent)	0.0	5.5	0.0	5.5
Increase in physician time (non-patient care, per cent)	0.0	1.8	0.0	1.8
Number of services provided	52,341,267	55,220,037	52,341,267	55,220,037
Total cost to public payer (\$)	6,710,745,065	6,798,957,363	6,710,745,065	6,667,512,089
Net cost (–) or savings (+) to public system (compared with control model, \$)	–	(–)88,212,299	–	(+)43,232,975
Net cost (–) or savings (+) to private payer (\$)	–	0	–	(+)601,260

Sources: The Conference Board of Canada; Canadian Institute for Health Information, "National Physician Database (NPDB)."

Table 5

Proportion of required emergency medicine PAs and their associated cost and time savings per year

Emergency medicine PA savings (30% remuneration)

Number of PAs	Cost saving/year (\$)	Time saving/year (hours)
1,813	431,654,645	3,262,695
907	215,827,322	1,631,348
453	107,913,661	815,674
181	43,165,464	326,270
91	21,582,732	163,135
36	8,633,093	65,254
18	4,316,546	32,627

Sources: The Conference Board of Canada; Canadian Institute for Health Information, "National Physician Database Metadata."

Table 6

Emergency medicine funding model without inclusion of non-patient care physician time

30% Remuneration—Emergency medicine	Public funding model		Employer-remunerated funding model	
	(A) Control	(B) Experimental	(C) Control	(D) Experimental
Cost to public payer (total fee-for-service billings)				
Physician (service provision, \$)	5,666,175,188	5,018,709,713	5,666,175,188	5,018,709,713
Physician (increased service provision with PA, \$)	–	628,849,492	–	628,849,492
Physician assistant (service provision, \$)	–	215,810,830	–	–
Cost to private payer (independent employer)				
Physician assistant (service provision, \$)	–	–	–	215,810,830
Practice efficiency				
Increase in physician time (work related, per cent)	0.0	80.1	0.0	80.1
Increase in physician time (non-patient care, per cent)	–	–	–	–
Number of services provided	14,382,651	25,903,155	14,382,651	25,903,155
Total cost to public payer (\$)	5,666,175,188	5,863,370,035	5,666,175,188	5,647,559,205
Net cost (–) or savings (+) to public system (compared with control model, \$)	–	(–)197,194,847	–	(+)18,615,983
Net cost (–) or savings (+) to private payer (\$)	–	0	–	(+)413,038,662

Sources: The Conference Board of Canada; Canadian Institute for Health Information, "National Physician Database (NPDB)."

Table 7

Emergency medicine funding model with inclusion of physicians utilizing increased time for both work and non-patient care activities

30% Remuneration—Emergency medicine	Public funding model		Employer-remunerated funding model	
	(A) Control	(B) Experimental	(C) Control	(D) Experimental
Cost to public payer (total fee-for-service billings)				
Physician (service provision, \$)	5,666,175,188	5,018,709,713	5,666,175,188	5,018,709,713
Physician (increased service provision with PA, \$)	–	220,607,625	–	220,607,625
Physician assistant (service provision, \$)	–	215,810,830	–	–
Cost to private payer (independent employer)				
Physician assistant (service provision, \$)	–	–	–	215,810,830
Practice efficiency				
Increase in physician time (work related, per cent)	0.0	28.1	0.0	28.1
Increase in physician time (non-patient care, per cent)	0.0	52.0	0.0	52.0
Number of services provided	14,382,651	18,424,176	14,382,651	18,424,176
Total cost to public payer (\$)	5,666,175,188	5,455,128,168	5,666,175,188	5,239,317,338
Net cost (–) or savings (+) to public system (compared with control model, \$)	–	(+)211,047,020	–	(+)426,857,850
Net cost (–) or savings (+) to private payer (\$)	–	–	–	(+)4,796,795

Sources: The Conference Board of Canada; Canadian Institute for Health Information, "National Physician Database (NPDB)."

Table 8

Proportion of required orthopedic surgery PAs and their associated cost and time savings per year
Orthopedic surgery PA savings (30% remuneration)

Number of PAs	Cost saving/year (\$)	Time saving/year (hours)
423	115,956,226	717,757
212	57,978,113	358,878
106	28,989,057	179,439
42	11,595,623	71,776
21	5,797,811	35,888
8	2,319,125	14,355
4	1,159,562	7,178

Sources: The Conference Board of Canada; Canadian Institute for Health Information, "National Physician Database Metadata."

Table 9

Orthopedic surgery funding model without inclusion of non-patient care physician time

30% Remuneration – Orthopedic surgery	Public funding model		Employer-remunerated funding model	
	(A) Control	(B) Experimental	(C) Control	(D) Experimental
Cost to public payer (total fee-for-service billings)				
Physician (service provision, \$)	597,385,718	423,451,379	597,385,718	423,451,379
Physician (increased service provision with PA, \$)	–	114,437,069	–	114,437,069
Physician assistant (service provision, \$)	–	57,978,113	–	–
Cost to private payer (independent employer)				
Physician assistant (service provision, \$)	–	–	–	57,978,113
Practice efficiency				
Increase in physician time (work related, per cent)	0.0	40.8	0.0	40.8
Increase in physician time (non-patient care, per cent)	–	–	–	–
Number of services provided	3,244,746	4,568,602	3,244,746	3,926,143
Total cost to public payer (\$)	597,385,718	595,866,561	597,385,718	537,888,448
Net cost (–) or savings (+) to public system (compared with control model, \$)	–	(+)1,519,156	–	(+)59,497,269
Net cost (–) or savings (+) to private payer (\$)	–	–	–	(+)56,458,956

Sources: The Conference Board of Canada; Canadian Institute for Health Information, "National Physician Database (NPDB)."

Table 10

Orthopedic surgery funding model with inclusion of physicians utilizing increased time for both work and non-patient care activities

30% Remuneration – Orthopedic surgery	Public funding model		Employer-remunerated funding model	
	(A) Control	(B) Experimental	(C) Control	(D) Experimental
Cost to public payer (total fee-for-service billings)				
Physician (service provision, \$)	597,385,718	423,451,379	597,385,718	423,451,379
Physician (increased service provision with PA, \$)	–	58,901,433	–	58,901,433
Physician assistant (service provision, \$)	–	57,978,113	–	–
Cost to private payer (independent employer)				
Physician assistant (service provision, \$)	–	–	–	57,978,113
Practice efficiency				
Increase in physician time (work related, per cent)	0.0	21.0	0.0	21.0
Increase in physician time (non-patient care, per cent)	0.0	19.8	0.0	19.8
Number of services provided	3,244,746	3,926,143	3,244,746	3,926,143
Total cost to public payer (\$)	597,385,718	540,330,925	597,385,718	482,352,812
Net cost (–) or savings (+) to public system (compared with control model, \$)	–	(+)57,054,793	–	(+)115,032,906
Net cost (–) or savings (+) to private payer (\$)	–	–	–	(+)923,320

Sources: The Conference Board of Canada; Canadian Institute for Health Information, "National Physician Database (NPDB)."

Appendix B

Methodology

Unlocking Potential: Exploring Physician Assistant Funding Models and Impact Potential for Three Practice Settings builds off the 2016–17 Conference Board reports examining the value and efficiency of physician assistants, as well as the current landscape of national and international funding models. This report expands on these previous findings by providing an environmental scan and literature review of current PA funding models across Canada. We utilized pan-Canadian physician service data from the National Physician Database to establish baseline fee-for-service and procedure proportion characteristics. Then, using a reduced fee-for-service remuneration strategy, we modelled the effect of integrating physician assistants into three practice areas where they currently have long-standing establishment. Both public and employer-remunerated models of PA salary remuneration were explored to examine their influence on service provision capacities, cost to the public healthcare system, and cost to private employers of PAs.

Appendix C

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