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Funding Models for Physician Assistants.

Canadian and International Experiences

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Funding Models for Physician Assistants: Canadian and International Experiences

Kelly Grimes, Gabriela Prada, Yvonne James, Thy Dinh, and Jessica Brichta

Preface

This report reviews several funding sources for employing physician assistants (PAs), including the experience in the Canadian provinces of Manitoba and Ontario. International models include the United States, the United Kingdom, and the Netherlands. This report also provides insight on funding experiences from the perspective of several PAs in Ontario. PAs are employed in many settings in Canada. Informants in this report identified challenges with sustainable funding that contribute to job security in PA employment. Funding for PA employment is derived from several sources: provincial governments through demonstration projects, career start programs, and targeted clinical service funding in primary care and hospital settings; block funding such as academic speciality groups; or direct funding from physicians or hospitals. In comparing PA funding models and workforce planning, approaches vary considerably to reflect community need and wider health policy directions. Ideally, health care funding models should be cost-effective and sustainable while meeting system performance targets. Canada should explore means of optimizing funding models to better support the integration of PAs in its health care system to help meet these goals. Improved tracking of where and how PAs work and understanding of their benefits to society will help create opportunities to optimize the health care workforce through increased PA use.

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EXECUTIVE SUMMARY

Funding Models for Physician Assistants: Canadian and International Experiences

At a Glance

- This report describes sources of funding where significant numbers of physician assistants (PAs) are working, offers case examples of health systems that have successfully integrated PAs domestically and abroad, and discusses next steps for research, policy, and practice.
- The United States provides PA remuneration through a discounted fee-for-service model, the United Kingdom pays PA salaries and has proposed a single investment model, and in the Netherlands PA services can be billed to insurance companies and deducted from practice expenses.
- In Canada, Manitoba is shifting PA funding from hospitals to physician groups, while PA funding in Ontario comes from a number of different sources.
- Better leveraging of PAs can help address many of Canada's health system goals, such as improved continuity of care, access, equity, and sustainability.

Innovation, patients first, interprofessional health care teams, sustainability, and capacity-building are but a few of the common terms now part of the Canadian health care lexicon. Health care system stakeholders, including patients, providers, policy-makers, decision-makers, and researchers, all want to imagine a new system that better meets the needs of an aging society (a key cost driver) but is also cost-effective to ensure sustainability and growth.

This research series provides a better understanding of the role and impact of Canada's 587 practising PAs.[1] In various health care settings across Canada, sources of funding in jurisdictions where significant numbers of PAs are working are described. In addition, the report offers case examples of health systems that have successfully integrated PAs domestically and abroad, and discusses next steps for research, policy, and practice.

This is the third report in this series by The Conference Board of Canada. The first, *Value of Physician Assistants: Understanding the Role of Physician Assistants Within Health Systems*,[2] discussed the role and impact of PAs in health care. The second report, *Gaining Efficiency: Increasing the Use of Physician Assistants in Canada*,[3] estimated potential cost savings generated by increased PA use in primary care, emergency care services, and orthopedics. The analysis showed that task-shifting certain physician responsibilities to PAs could create cost savings for the health care system, ranging from $22 million to more than $1 billion between 2017 and 2030, depending on the level of PA productivity. This third installment provides an overview of the various funding sources used to integrate PAs in health systems and policy considerations for the Canadian context. It focuses on different Canadian funding models that have been used to support the integration of PAs

1 CAPA 2017 census data.

2 Grimes and Prada, *Value of Physician Assistants*.

3 Desormeaux and others, *Gaining Efficiency*.

The U.S. employs the highest number of PAs in the world.

in health teams. Adoption and modification of funding models could serve for exploring the scaling of PA services across the country.

Compared with other countries, Canada has a highly decentralized system for the financing,[4] funding,[5] and delivery of health care services. Provincial/territorial total health expenditures vary per capita. Canada is often referred to as having 14 different health systems (provinces, territories, and federal). Internationally, Canada continues to be a high health spender among Organisation for Economic Co-Operation and Development (OECD) countries,[6] although it is still ranked behind the U.S. in terms of per capita spending. Canada ranks third in the world in the average number of physician visits per capita, ahead of the U.S., U.K., and the Netherlands.[7] The health workforce implications of these economic realities are significant, as supply will not meet the growing demand for health services—the result of an aging population, a rise in chronic disease, and other growth-affecting factors. Interprofessional and collaborative care teams help meet these heightened service demands, and PAs can fill in service gaps.

International Experience With PAs

The U.S. employs the highest number of PAs in the world. PAs and nurse practitioners (NPs) comprise 20 per cent of the U.S. clinician workforce, and demand appears to be greater than supply.[8] Each state regulates the practice of PAs through licensure (by licensing them to practise under a physician). A supervising physician must be named (at least on paper); however, states do not require the physician to be physically present to supervise.[9] In the U.S., there are over 115,500 clinically active PAs,[10]

4 Financing refers to how revenues are raised, such as through public sources like taxation or private sources such as employee health insurance plans, user charges, loans, and fees.

5 Funding refers to how health care organizations and providers are paid to carry out their work. This includes remuneration of health providers, team-based models of care, organization-specific funding, or grants.

6 OECD, comprising 35 member countries from around the world, "promotes policies that will improve the economic and social well-being of people around the world." OEDC, *Members and Partners; About the OECD*.

7 Canadian Institute for Health Information, *National Health Expenditure Trends, 1975–2016*.

8 Hooker, Brock, and Cook, "Characteristics of Nurse Practitioners and Physician Assistants." Individual nursing and PA data were not isolated in this source.

9 Davis and others, "Access and Innovation in a Time of Rapid Change."

10 American Academy of Physician Assistants, *PA Myth Busters*.

Thirty PA education programs in the U.K. are expected to graduate 3,200 PAs by 2020.

mainly in family medicine, medical subspecialties, surgery, and emergency medicine.[11] In the U.S., the *Patient Protection and Affordable Care Act, 2010*[12] changed the landscape of providing care from a specialist-centred system to a primary care one. The Act recognizes PAs, NPs, and physicians as primary care providers and permits PAs to lead patient-centred medical teams. Delivery models such as patient-centred medical home and accountable care organizations are now more commonplace. Thus, the health care payment system has also shifted, with 30 per cent of traditional Medicare payments now going through alternative payment models, such as bundled payments and accountable care organizations. The PA median salary is US$95,000 (2015 dollars). Remuneration from public payers (i.e., Medicare, Medicaid) for PA services is provided through a discounted fee-for-service model (i.e., 85 per cent of a physician's fee schedule). Nearly all private payers cover PA services at a similar rate. PAs in the U.S. recertify every 10 years (recertification is mandatory for some states and optional for others).

In the U.K. (England and Scotland), PAs (known as "physician associates"[13]) have been providers of care within the National Health Services (NHS) since 2006.[14] As of 2017, approximately 400 PAs are clinically active, initially to augment primary care practices.[15] PAs are not regulated; however, NHS is examining this issue further as part of a wider policy approach. In the U.K., PA scope of practice is similar to that of a junior physician.[16] PAs are required to recertify every six years. Thirty PA education programs in the U.K. are expected to graduate 3,200 PAs by 2020 and PA workforce planning includes meeting the target of 1,000 primary care PAs by 2020. PA education expansion has occurred in Wales and Northern Ireland. As of 2016, only 20 per

11 National Commission on Certification of Physician Assistants, *2015 Statistical Profile of Certified Physician Assistants by Specialty*.

12 *Patient Protection and Affordable Care Act, 2010*.

13 In 2013, physician assistants were renamed physician associates because of NHS salary banding.

14 Aiello and Roberts, "Development and Progress of the United Kingdom Physician Associate Profession."

15 Ibid.

16 Junior physicians in the U.K. are medical practitioners who have graduated with a Bachelor of Medicine or Bachelor of Surgery degree, and have started the UK Foundation Programme. This is roughly equivalent to a post-graduate year one (PGY1) resident in Canada.

Dutch PAs work in collaboration with physicians.

cent of PAs are recruited into primary care. Health Education England is looking at additional investments in the PA workforce, as several funding models are attempting to grow the PA supply. Health Education England has proposed a single investment model that addresses local needs and national policy to increase PAs. Communication has been a key ingredient to garner PA support and integration. PAs are salaried and their compensation is not linked to volume or type of patient seen. NHS employers remunerate PAs in the range of £33,000 to £42,000 per year (C$59,448 to $75,661) (2015 currency).[17] PAs have been found to decrease locum team expenses and contribute to a more stable and economical workforce.

Like the U.K., the Netherlands' health system is run centrally, with the national government determining and monitoring health care priorities, legislation, and quality. Predicted physician shortages provided the impetus for developing a PA workforce[18] and the PA supply grew from 4 PAs in 2001 to 1,000 over a 15-year period. Five PA education programs produce 150 graduates per year—projected to reach 200 by 2020. PAs work in all health care settings, from forensic to academic; however, most are employed in hospitals in specialty practices, followed by ambulatory primary care. In the Netherlands, PA legislation considers PAs independent health care providers who can bill insurance companies for clinical services provided and do not require supervision by a medical specialist. Dutch PAs work in collaboration with physicians. The Advisory Committee on Medical Manpower Planning oversees health workforce planning and has emphasized vertical substitution[19] of physician work to PAs and NPs. Data show the largest PA increases in general practice, gastroenterology, orthopedics, and internal medicine. In terms of funding, insurance companies negotiate with boards of hospitals for contracted services. PAs' salaries are lower, so if they can deliver the same service as a resident (e.g., junior doctor), the hospital saves money. As of 2017, there are no set fees by insurance companies for PAs. However, some insurance companies are requesting

17 Calculated using OECD's purchasing power parities converter. OECD, *Purchasing Power Parities*.

18 Van den Driesschen and de Roo, "Physician Assistants in the Netherlands."

19 Vertical substitution is the delegation of tasks across professional boundaries, such as a pharmacist providing flu shots, a role traditionally done by physicians. Throughout this report, however, substitution is referred to as "task transfer."

a special fee for PAs (such as .88 of a normal fee), so this may change.[20] Individual PAs negotiate their own salaries with their employer, with an €80,000 (C$101,762)[21] annual survey average. A 2015 change in the tax system has facilitated task realignment and the integration of PAs by allowing medical specialists to deduct these practice expenses.

PAs in Manitoba and Ontario

In Canada, 13.8 per cent of PAs are employed in Manitoba,[22] and the province has the longest history of integrating PAs into various models of care—primarily surgical, emergency, and primary care. The PA profession has been regulated in Manitoba since 2001, and PA allocation is centralized with the government deciding what programs will receive the new annual graduates (12 per year as of 2017). Each year, funds earmarked for PAs flow to the Regional Health Authorities and then to PAs. Manitoba remunerates PAs through salary. Physicians can bill the government for services pursuant to the Physician's Manual, which may include PA services if they have been substantially involved in the services rendered. However, a funding model option that allows physicians to bill for PA services at a discounted rate to reduce health system costs does not yet exist. The Manitoba government is supportive of PAs in principle as they increase throughput (i.e., more patients are seen, especially in high wait-time areas) and help physicians deal with more complex tasks. Manitoba's province-wide tracking system will play an important role in the establishment of a dedicated source of funds for PA employment, as the system will help determine if subsidizing PA billing codes for specific tasks is feasible in the Canadian context.

Ontario is the province with the highest proportion of PAs (64.74 per cent),[23] and its two civilian educational programs produce 50 graduates per year. The Canadian Armed Forces (CAF) program is also located in Ontario and produces some 25 additional graduates per year,

20 Key informant interviews.

21 Calculated using OECD's purchasing power parities converter. OECD, *Purchasing Power Parities*.

22 Canadian Association of Physician Assistants, CAPA 21017 census data.

23 Ibid.

Many military PAs retire with the intention of practising in the public health care system.

bringing the Ontario PA graduate total to approximately 75 per year among the three programs. PAs in the CAF have clinical rotations in civilian clinics and hospitals. Many military PAs retire with the intention of practising in the public health care system. PAs in Ontario are unregulated, and the province does not have an established PA funding model, although eligible employers may be granted Career Start Program or clinical services funding to support PA employment. Ontario has established a Physician Assistant Integration Working Group to support initiatives that improve population health through the integration of more physician assistants into Ontario's health workforce. Practice setting interviews with several PAs and supervising physicians in the province uncovered a sentiment that, among some Ontario PAs, unsustainable and unpredictable funding engenders insecurity and turnover, irrespective of the practice setting or funding model of the physicians with whom they work. Like other health care professionals, some PAs work within multiple practices to maintain a full-time equivalent (FTE) income while others choose to work part time at multiple sites because of medical/career interests or for better work–life balance. PAs working in large group practices with physicians in a physician fee-for-service model reported being employed or more likely to be employed in full-time positions than those in smaller practice settings and that the sustainability of these positions was sometimes dependent on the PA meeting service delivery quotas.

Areas of Further Investigation for PA Funding Models

The funding experience for PAs differs between the two largest provincial PA employers (Manitoba and Ontario) highlighted in this report. Based on the work conducted for this report, some of the key observations and potential areas for further investigation include:

- ensuring funding models reflect a contemporary context, considering the benefits and challenges of a salaried approach to remuneration;

- tracking the PA profession in all provinces and the benefits that PAs provide from a population health and systems efficiency perspective (taking into account other factors, such as multiple providers and costs);
- improving awareness of the role and value of PAs among patients and other health care providers.

As population health needs become more complex and the demand for services increases, optimizing health care workforce configurations, service delivery approaches, and funding models becomes increasingly important. PAs are an existing and largely untapped health provider group that could be better leveraged to narrow health care service gaps in Canada. PAs are trained as effective health professionals in collaborative relationships with physicians and interprofessional teams. Leveraging PAs can help address many of Canada's health system goals, such as improved continuity of care, access, equity, and sustainability.

CHAPTER 1

Introduction

Chapter Summary

- PAs in Canada have a long history of being employed in the military, and the Canadian PA supply and workforce has increased notably over the past decade.
- This series engages in practical dialogue for the future expansion of PA roles within Canada.
- This third report reviews both national and international funding sources for PAs and discusses considerations by profiling three countries—the United States, the United Kingdom, and the Netherlands.
- It also highlights Manitoba and Ontario, which employ the largest portion of Canadian PAs.

This series illustrates the role and impact physician assistants have in various health care settings, including funding attributes in jurisdictions where significant numbers work. In this report, funding refers to money provided by governments or organizations to pay for PA-related salaries (including wages and other compensation) and services.

The first report provided context by analyzing the role and impact of PAs in health care. The second report calculated potential economic benefits that hiring more PAs could generate for Canada's health system. This third installment provides an overview of the various funding sources and considerations for the Canadian context. The purpose is to provide evidence to engage in dialogue about the expansion of PA roles within Canadian health care systems.

The PA profession began in the mid-1960s with military medics acting as medical assistants.[1] Today in Canada, one military and three civilian PA education programs (two in Ontario and one in Manitoba) train students in the medical model, typically over a two-year period.[2] In Canada, PAs are employed in a variety of settings, from primary to acute care academic centres. (See Table 1.) As of July 2017, CAPA had 587 practising members.[3] (See Table 2.) According to CAPA's 2017 census data, 81.32 per cent are employed as civilian PAs, 16.48 per cent are employed as CAF PAs (active duty), and 2.2 per cent are contracted to the military.[4] Most PAs work in hospital (38 per cent), family practice (30 per cent), and military (17 per cent) settings.[5] In terms of PA certification, the highest number are found in Ontario (64.74 per cent) and Manitoba (13.8 per cent) where PA university programs are housed.[6]

1 Mertens and Descoteaux, "The Evolution of PAs in the Canadian Armed Forces."
2 Vanstone, Boesveld, and Burrows, "Introducing Physician Assistants to Ontario."
3 CAPA 2017 census data.
4 Ibid.
5 Ibid.
6 Ibid.

Table 1
Primary PA Work Setting
(n = 267)

Practice setting	Per cent
Family practice	29.95
Canadian Armed Forces	17.23
Hospital medicine	14.61
Hospital surgery	13.86
Emergency or urgent care	10.49
Out-of-hospital medical specialty	7.49
Industrial/occupational/contracted coverage	4.12
Out-of-hospital medical surgery	2.25

Source: CAPA.

Table 2
PA Employment by Province
(n = 587)

Province	Number
Ontario	380
Manitoba	81
Nova Scotia	34
Alberta	32
British Columbia	23
Quebec	23
New Brunswick	8
Newfoundland and Labador	1
Prince Edward Island	1
Saskatchewan	1
Northwest Territories	1
Other (Dublin and the U.S.)	2

Source: CAPA.

The first report on the value of PAs showed that their scope of practice depends directly on the relationship with the physician. This is achieved either through regulation (e.g., in Manitoba and New Brunswick) or through individual medical directives (e.g., in Ontario, see "Medical Directives") that can vary widely across practice settings.[7] In turn, that relationship is reflected in the PA's education, experience, and competencies. CAPA serves as the foundation for CanMEDS-PA (the Canada's National Competency Profile for PAs—developed by CAPA in conjunction with the Royal College and the College of Family

7 Grimes and Prada, *Value of Physician Assistants*.

Physicians of Canada (CFPC) with input from the various programs. Its 2015 CanMEDS-PA competency profile outlines the PA's role as a physician extender.[8] However, the individual relationship between the supervising physician and the PA is determined by each PA's specific clinical role, scope of practice, and competencies.[9] Experience, education, and clinical setting are other determining factors.[10]

Medical Directives

PAs function under a set of medical directives that are designed to meet the needs of patients and the skills of the individual PA as determined by the primary supervising physician. These directives authorize the PA provider to perform specific tasks for the patient population that the supervising physician has instructed in the directive description, such as seeing patients rostered to a supervising physician, taking histories and performing physical exams, ordering diagnostic tests, leading a disease-centred clinic (e.g., a diabetes clinic), and prescribing medications. Directives must explicitly outline every task within a PA's scope. The PA carries out physician orders when implementing the medical directive.

As there are no legislated guidelines for medical directives, approval processes can be individualized to each hospital and clinic. Generally, a directive must be specific to a patient population and accepted by the physician's or physicians' supervising PA. In family medicine with 1 or 2 physicians, an agreement on the required tasks can be implemented quickly. Emergency Department directives could require agreement from 20 or more physicians. The supervision can either be direct, in-clinic, or indirect, off-site, as long as the physician can be reached by the PA.

Source: The Conference Board of Canada.

The second report calculated the economic benefits that could be generated for the health system by hiring more PAs. Three areas of economic modelling included primary care, emergency care services,

8 Canadian Association of Physician Assistants, *CanMEDS-PA*.

9 Ibid.

10 Health Professions Regulatory Advisory Council, *Literature Review on Physician Assistants: A Literature Review*.

and orthopedics. They revealed that demand is growing twice as fast as population growth, which strains the health system. Integrating more PAs into health care teams can help alleviate demand increases, reduce wait times, and offset health workforce shortages.[11] In primary care, cost savings occur when PAs can substitute for 29 per cent or more of a physician's time. Adding PAs to orthopedic and emergency room care would also generate savings when PAs substitute for specialists' time.[12] The costs and cost savings to the overall health care system calculated in this report are considered at a system level, which does not reflect the current reality in Canada. The existence of various provincial funding envelopes is a central reason why long-term, sustainable funding for PAs has yet to be established. Physician remuneration and oversight comes from a separate budget than funding for hospitals or other health professionals.

This report explores attributes of the funding mechanisms in jurisdictions (both national and international) where PAs work. It is third in the series and comprises a literature review and analysis of PA funding mechanisms in four nations: the U.S., the U.K., the Netherlands, and Canada (Manitoba and Ontario). It provides an overview of the various funding sources used to integrate PAs into health care streams and provider remuneration mechanisms. Considerations are tailored to the Canadian context in line with current health care reform directions.

Terminology: Task Transfer

Task transfer (also known as "physician delegation," "task shifting," and other terms) is at the heart of physician extension, organizational research, human resources theory, team-based care, reimbursement, distribution of responsibility, quality of care, outcomes research, and labour economics. The term is increasingly used to illustrate how PAs and nurse practitioners can be leveraged to improve efficiency in the health care system.[13]

Source: Sewell.

11 Desormeaux and others, *Gaining Efficiency.*

12 Ibid.

13 Sewell, "Task Transfer."

Ontario is the province that employs the greatest number of PAs in Canada.

Overview of Research Approach

This report presents four examples where funding supports successful PA integration into respective health systems. (See Chapter 3.) These examples were selected based on evidence from the literature review and consultation with the advisory committee. Key informant interviews with PAs, educators, association representatives, regulators, workforce development specialists, and consultants (held between May and September 2016) were conducted to inform the examples. Each informant was selected based on knowledge and experience integrating PAs in a health system and the impacts of their integration. A standardized interview guide for the 45-minute telephone interviews centred on the advantages and disadvantages of the funding models. (See Appendix A for the key informant interview list and guide for case examples.) Data collected also included program documentation, formal evaluations, articles, and follow-up e-mail communications for clarification and additional information.

Ontario is the province that employs the greatest number of PAs in Canada. To gain insight into the challenges and opportunities that characterize the funding experience, the Conference Board decided to conduct nine additional key informant consultations with Ontario PAs from a variety of settings, as well as those having direct experience with the funding of PAs (e.g., supervising physicians).[14] Interviewees were chosen from primary care, emergency medicine, endocrinology, and orthopedic surgery settings. In some cases, their experiences speak to the broader issues PAs in other jurisdictions are also facing. Supplementary data were provided in the form of written questionnaires and funding documents, hospital remuneration agreements, and applications for government funding.

14 For confidentiality purposes, the names of these key informants are not included in this report.

CHAPTER 2

Health Service Provider Funding Sources

Chapter Summary

- Aging is a key cost driver, with the highest health spending on seniors. Demand is growing at twice the population growth rate.
- Internationally, Canada is still a high spender on health, and better efficiencies are needed.
- Funding for PAs is derived from several sources, including provincial governments through demonstration projects, career start programs, and specific clinical services funding in primary care and hospital settings. Other sources include block funding (such as through academic speciality groups), or by direct funding from physicians or institutions.
- Remuneration or payment mechanisms for health providers vary and include annual salary, fee-for-service, capitation, and blended/mixed payment. In Canada, almost 76 per cent of PAs are remunerated via salary.

This chapter addresses the economic realities facing the Canadian health system. Funding sources for the delivery of care and remuneration or payment mechanisms for providers is included.

Canada's health system faces significant pressures to become more efficient and control costs. In 2016, health consumed 11.1 per cent of GDP, or $228.1 billion.[1] Overall health-spending growth is not keeping up with the combined growth in inflation and population. In the last five years, health spending decreased 0.6 per cent per year, mainly due to downturns in economic growth and resulting government focus on deficit reductions.[2] Aging is a key cost driver, with the highest health spending going to seniors. Chronic disease continues to rise due to improved treatment but also with increased demand for access to care. The second report in this series shows demand for physician services growing at twice the pace of population growth, putting considerable strain on the system and funding resources. Physician services spending as a share of total health care spending has increased since 2005.[3] In 2014, it accounted for 15.3 per cent, which is comparable to levels seen in the late 1980s.[4] The Canadian Institute for Health Information (CIHI) reports slower growth in the largest spending areas, although spending continues to grow for hospitals (29.5 per cent), drugs (16 per cent), and physician services (15.3 per cent). In total, these three areas account for 60 per cent of health dollars.[5]

Internationally, Canada continues to be a high health care spender. CIHI's 2016 report of the 35 OECD countries (in 2014) identifies Canada in the top per capita spenders, at C$5,543 per person (the U.S. remains the highest at C$11,126).[6] Spending in the U.K. is C$4,896 and in the Netherlands C$6,505.[7] In 2016, CIHI projected overall total health

1 Canadian Institute for Health Information, *National Health Expenditure Trends*.
2 Ibid.
3 Ibid.
4 Ibid.
5 Ibid.
6 Ibid.
7 Ibid.

Barriers to PA integration remain—with one of the most significant being a stable source of funding and remuneration.

expenditure to reach $228.1 billion, or $6,299 per Canadian (11.1 per cent of Canada's GDP), compared with the OECD average of $4,463 (9 per cent of GDP).[8]

The health workforce implications of these economic realities are significant. Canada ranks third in the world in the average number of physician visits per capita, ahead of the other case countries.[9] In 2015, Canada's physician density per 1,000 population was 2.28[10] compared with the OECD average of 3.3.[11] In the past nine years in Canada, the number of physicians and physicians per population has steadily increased and is expected to continue for the next several years.[12]

Interprofessional and collaborative care teams can help meet heightened demand for services, help control costs, and reduce wait times. PAs are employed in a wide variety of settings across the care continuum, both within Canada and internationally. Since the turn of the century, PA expansion has been widespread. However, barriers to PA integration remain—with one of the most significant being a stable source of funding and remuneration. This report will consider civilian funding models only.

Canada's decentralized financing and delivery of health care services results in significant variation in funding for PAs. Canadian funding for PAs is derived from provincial governments (initially through pilot and demonstration projects in Alberta and Ontario,[13] career start programs, and targeted clinical services funding), block funding[14] (such as through academic specialty groups), direct funding from physicians and institutions (e.g., hospitals), and health delivery structures (e.g., Alberta's primary care networks and regional health authorities).[15]

8 Ibid.

9 Canadian Medical Association, *Physicians per 100,000 Population*.

10 Ibid.

11 OECD, *Health at a Glance 2015*.

12 Canadian Institute for Health Information, *Physicians in Canada, 2015*.

13 Although Ontario's last demonstration project started in 2010 and finished in 2012.

14 CIHI notes that "The majority of APPs [alternative physician programs] funding emergency department, neonatal intensive care units, pediatric and gynecological oncology physician services receive block funding. The block funding is paid to a physician group or association, which is required to set up an internal governance structure that outlines how the physicians will be paid for the services negotiated under the APP contract," Canadian Institute for Health Information, *Physicians in Canada: The Status of Alternative Payment Programs, 2005–2006*, 23. Some places allocate some of this funding to support other things, such as PA salaries.

15 Jones and St-Pierre, "Physician Assistants in Canada."

Each province has its own unique funding approach, especially with models including PAs on Family Health Teams (FHTs), Community Health Centres (CHCs), Primary Care Networks, and Primary Care Teams.

Health care providers in Canada are paid in a variety of ways:

- annual salary
- fee-for-service payment—services provided and billed to the payer either before or after the services are provided. (See "Fee-for-Service Models.")
- capitation—a prospective payment, typically for physicians who are paid a fixed amount for each patient enrolled/attached to their practice, which is often adjusted for risk, age, and sex
- blended/mixed payment—a combination of the previous or other remuneration approaches

Fee-for-Service Models

Funding PAs through *fee-for-service* (FFS) does not occur in Canada. FFS models have their advantages and disadvantages.[16] For physicians, they can facilitate entrepreneurship and greater productivity; however, they also offer disincentives to collaborative practices and instead encourage volume and potentially unnecessary care or over-provision of services. Growing evidence also shows that although capitation may support more collaborative care, it may also encourage under-provision of care and unmet patient needs—or "cherry-picking" (with providers selecting only healthy patients who are less likely to seek care) as providers who are contracted by a health organization to provide defined services may therefore want to keep their cost-per-patient low.[17]

An FFS model could work for PAs if the physician were permitted to bill the government up to a maximum (e.g., a physician billing the government $300,000 per year could bill an additional $130,000 per year for a total of $430,000. This would allow the physician to pay the PA $100,000 and take a supervisory stipend of $30,000). Potential advantages could include improved patient care and productivity, and the physician would not have to pay out of pocket. In this scenario, the government could save money because the PA

16 Goldfarb, *Family Doctor Incentives*.

17 Tholl and Grimes, *Pathways to Better Primary Health Care for All Albertans*.

salary is less expensive than paying an additional physician for similar work. However, many legislators are hesitant to introduce additional FFS models as they are less predictable than salaries, which can be controlled as costs rise.

In Ontario, doctors can bill only the Ontario Health Insurance Plan (OHIP) for work performed by a PA that counts as a quality interaction. They can bill OHIP without seeing the patient if the PA performs a procedure that is included in the OHIP General Preamble as a listed allowable delegated procedure. PAs are permitted to practise without direct supervision.

Although FFS or blended models could enable data-gathering, the generation of comparators, and more concrete measures of impact, quality, and workload, existing limitations have generated little appetite in Canada for new FFS models for other health care providers. Many legislators find remuneration through salaries more palpable. As many models that are not pure FFS also require "shadow billing" to capture the work done, FFS may not necessarily be better than capitation. Careful consideration must therefore be undertaken in evaluating the transferability of existing funding model to PAs.

Sources: Goldfarb; Tholl and Grimes; CAPA 2017 census data.

In Canada, most PAs are remunerated via salary (75.91 per cent),[18] with civilian salaries ranging from approximately $75,000 (or less) to $120,000 (or more) annually,[19] depending on the individual PA's education, experience, scope of practice, and hours worked. Military PAs[20] are paid an average of $85,000 to $95,000.[21] In 2017, PAs became commissioned officers within the CAF.[22] With this change, the average salary range increases from $90,000 to 100,000+.[23] Some civilian PAs hold several part-time positions through contracts (including teaching positions), which depend on the funding model being employed.

18 CAPA 2017 census data. The remaining 24.09 per cent is remunerated via hourly wage. CAPA's data are based on a voluntary census in which 314 PAs participated.

19 Canadian Association of Physician Assistants, *2016 Annual President's Report*.

20 Canadian Forces PAs work across the provinces and territories, respond to domestic disasters, have a long history of good service, return to civilian hospitals for more skill updates, and are well respected by nurses, doctors, and the public. When they transition from military to civilian PA roles in provinces like Ontario, they become unregulated. See Mertens and Descoteaux, "The Evolution of PAs in the Canadian Armed Forces."

21 Confidential e-mail communication.

22 Government of Canada, *Canadian Armed Forces Creates New Officer Occupation for Physician Assistants*.

23 CAPA 2017 census data.

Studies of other health provider groups show that salaries can also sometimes reduce productivity.

Of those who participated in CAPA's 2017 census, 83.44 per cent were employed full time, 6.37 per cent were employed part time, 9.55 per cent were unemployed, and 0.64 per cent had retired. Of the 277 who answered the question regarding simultaneous jobs, 76.17 per cent held one job, 19.86 per cent held two jobs, 3.61 per cent held three jobs, and 0.36 per cent held four or more jobs.[24]

Salaries provide several advantages, such as providing a stable source of income, allowing PAs to be involved in non-clinical activities, and encouraging collaborative care. However, studies of other health provider groups show that salaries can also sometimes reduce productivity.[25] Different funding sources for PAs are explored in greater detail in the subsequent chapter.

24 CAPA 2017 census data.

25 Wranik and Durier-Copp, "Physician Remuneration Methods for Family Physicians in Canada."

CHAPTER 3

Funding Models for Physician Assistant Integration

Chapter Summary

- Remuneration from U.S. federal medical programs for PA services is typically made through an FFS model (at 85 per cent of the physician's fee schedule).
- The U.K. has a centralized PA primary care policy that is integrated to meet local needs and workforce gaps through health authorities.
- The Netherlands has a statutory health insurance system with universally mandated private insurance. It encourages task transfer between physicians and PAs and has changed its tax system to increase PA integration.
- Manitoba employs a centralized process to allocate PAs across the province and is shifting PA funding to physician groups. Ontario provides PA funding support through education, Career Start, and a variety of clinical services funding.

This chapter focuses on four case examples that examine the sources of funding for PAs working in Canada and internationally. The U.S., the U.K., and the Netherlands were selected as good examples of comprehensive and homogenous funding models. For Canada, Manitoba was selected because it has the most experience with PAs and Ontario was included because it employs the most Canadian PAs.

The United States

Health System Overview

In 2016, U.S. per capita health expenditures reached $9,892 or 17.2 per cent of GDP.[1] *The Patient Protection and Affordable Care Act, 2010*[2] (often referred to as ACA) created shared responsibility for health insurance between government, employers, and individuals. It established 10 essential health benefit categories (e.g., hospital services, mental health, maternal and child), with the range of services being determined by each state.[3] As a result, over a five-year period, the uninsured rate fell from 16.0 to 9.1 per cent in 2015.[4] The Act also recognizes PAs as one of three primary care providers, along with NPs and physicians. It allows PAs to lead patient-centred medical teams.

The Commonwealth Fund (a private U.S. foundation whose stated purpose is to "promote a high-performing health care system that achieves better access, improved quality, and greater efficiency, particularly for society's most vulnerable"[5]) reported that health coverage remains fragmented, with uninsured rates varying across the U.S. population of 316 million, within a combination of private (48 per cent

1 OECD, *OECD, Health Statistics 2017.*
2 *Patient Protection and Affordable Care Act, 2010*.
3 The Commonwealth Fund, *2015 International Profiles of Health Systems*.
4 Obama, "United States Health Care Reform."
5 The Commonwealth Fund, *Mission Statement*.

of total health spending), public (33 per cent), or a mixture of sources.[6] In 2014, the private insurance marketplace, regulated at the state level, was created to give more access through income-based premium subsidies for low- and middle-income people. Medicare (seniors and disability care) and Medicaid (low income) are the public programs mostly funded through tax revenue.

In 2014 (the nearest comparable year), both the U.S. and Canada had 2.6 physicians per 1,000 population.[7] In 2011, the U.S. had four doctor consultations per capita.[8] One-third of U.S. physicians were in primary care, in small self or group practices (usually 5 FTE physicians or fewer).[9] U.S. physicians are mostly FFS, although some fall under capitation in private plans.

Experience With PAs

The U.S. is the world leader in integrating PAs into its health system. Each of the 50 states regulates the practice of PAs, and decides who is licensed to practise under a physician. As of 2017, 55 of 56 legislative jurisdictions[10] authorize PAs to practise with physicians in medical teams, regulate PA scope of practice (which includes a wide range of treatment and medical diagnostic activities, as well as prescribing), and are reimbursed for their services.[11]

The American Academy of Physician Assistants stipulates that PA practice laws include licensure as the regulatory term, full prescriptive authority, scope of practice determined at the practice level, adaptable collaboration requirements, co-signature requirements determined at the practice level, and the number of PAs a physician may supervise determined at the practice level.[12] All but four states do not require PAs to be supervised under the same roof as a physician; however, a physician must provide supervision (oversee the activities of

6 The Commonwealth Fund, *2015 International Profiles of Health Systems*.

7 OECD, OECD Health *Health Statistics 2017*.

8 Ibid.

9 The Commonwealth Fund, *2015 International Profiles of Health Systems*.

10 All 50 states, plus the District of Columbia and all U.S. territories except Puerto Rico.

11 Davis and others, “Access and Innovation in a Time of Rapid Change.”

12 American Academy of Physician Assistants, *The Six Key Elements of a Modern PA Practice Act*.

At the end of 2016, 115,547 certified PAs were practising in a wide range of medical specialities.

and accept responsibility for PA services) and be accessible via a telecommunication device.[13] For PAs employed in the federal government (e.g., the U.S. Public Health Service, Department of Defense, Department of Veterans Affairs), physician supervision is not required. Every year, many states improve legislative wording surrounding prescribing narcotics, attending births, etc.[14] The scope of practice across the states is far more similar than different.[15]

As of 2015, clinically active PAs and NPs comprise 20 per cent of the U.S. health workforce,[16] with low attrition rates and high job satisfaction.[17,18] As of 2017, labour market analyses indicate shortages and high demand for both PAs and NPs,[19] with demand for PAs increasing over 300 per cent from 2011 to 2014.[20] Data show that 230 accredited PA education programs train PAs and by 2020, all programs must offer a graduate degree or risk losing accreditation.[21] PA education programs average 27 months in length and include 2,000 clinical rotation hours. The Accreditation Review Commission on Education for the Physician Assistant establishes U.S. education standards. Graduating PAs write the National Commission on Certification of PAs examination.

At the end of 2016, 115,547 certified PAs were practising in a wide range of medical specialities, representing 44.4 per cent growth in the profession over a six-year period.[22] The 2016 annual report of the National Commission on Certification of Physician Assistants found that PAs were primarily employed in family medicine/general practice (20.6 per cent), surgical subspecialties (18.5 per cent), and emergency

13 Davis and others, “Access and Innovation in a Time of Rapid Change.”
14 Key informant interview.
15 Davis and others, “Access and Innovation in a Time of Rapid Change.”
16 Isolated PA data not available from this source.
17 Hooker, Brock, and Cook, “Characteristics of Nurse Practitioners and Physician Assistants.”
18 Hooker, Kuilman, and Everett, “Physician Assistant Job Satisfaction”; Hooker, Brock, and Cook, “Characteristics of Nurse Practitioners and Physician Assistants.”
19 Key informant interview.
20 American Academy of Physician Assistants, *What Is a PA?*
21 Accreditation Review Commission on Education for the Physician Assistant, *Accreditation*.
22 National Commission on Certification of Physician Assistants, *2016 Statistical Profile of Certified Physician Assistants*.

A VHA study found that employing PAs in orthopedic settings increased patient volumes by 31 per cent.

medicine (13.2 per cent).[23] U.S. PAs perform a wide variety of roles and practise in 16 different settings, including primary care, hospitals, CHCs, mental health facilities, and more.[24] The top two PA practice settings are office-based private practice (42.2 per cent) and hospitals (38.9 per cent).[25]

In 1974, Kaiser Permanente Northwest was the first to integrate PAs into a team-based setting. According to the *Patient Protection and Affordable Care Act, 2010*, public health insurance employs PAs to improve access and quality of care. The survey was conducted by the Veteran Health Administration (VHA) of PAs and NPs in 118 acute care hospitals and revealed similar caseloads, scopes of practice, and patient–nurse manager satisfaction levels.[26] The first Conference Board PA report also cited several U.S. impact studies. A retrospective 2015 study on collaborative cardiovascular care delivery models revealed that combining physicians with other advanced practice providers (PAs and NPs) could deliver overall outpatient care quality comparable with physician-only models.[27] A 2016 U.S. study showed similar results in primary care.[28] Numerous systematic reviews and other studies support this finding, including community practice and rural region geriatrics.[29,30,31] Another VHA study found that PA productivity was higher in primary care roles than in other specialty areas, but also in rural or non-teaching settings and where their scope of practice allowed significant autonomy.[32] Yet another VHA study found that employing PAs in orthopedic settings increased patient volumes by 31 per cent, and over a one-year period, five PAs were able to manage 28 per cent

23 Ibid.

24 National Commission on Certification of Physician Assistants, *2016 Statistical Profile of Certified Physician Assistants*.

25 Ibid.

26 Kartha and others, "Nurse Practitioner and Physician Assistant Scope of Practice in 118 Acute Care Hospitals."

27 Virani and others, "Provider Type and Quality of Outpatient Cardiovascular Disease Care."

28 Mafi and Landon, "Comparing Use of Low-Value Health Care Services."

29 Lichtenstein and others, "Effect of Physician Delegation to Other Healthcare Providers."

30 Henry, Hooker, and Yates, "The Role of Physician Assistants in Rural Health Care."

31 Halter and others, "The Contribution of Physician Assistants in Primary Care."

32 Moran and others, "Factors Associated With Physician Assistant and Nurse Practitioner Productivity."

of total orthopedic encounters.[33] Research into the optimal use and role delineation of physicians, PAs, and NPs in a variety of settings is ongoing.[34]

Funding Sources

Over the last decade, the U.S has increasingly adopted delivery models such as the patient-centred medical home (with a focus on care continuity and coordination) and accountable care organizations (a network of providers contracted to provide care to a defined population with quality targets). Thus, the health care payment system has also shifted, with 30 per cent of traditional Medicare payments (the federal health insurance entitlement for the elderly) now going through alternative payment models such as bundled payments (i.e., a single payment for all services relating to an episode of care delivered by multiple providers) or accountable care organizations.[35] With this shift comes the need to better determine cost-effectiveness of these new delivery models. A national survey of family medicine practices showed that PA productivity (defined as mean annual patient encounters) exceeds that of NPs and physicians in physician-owned practices, as well as NPs in hospital or integrated delivery system-owned practices.[36] Data supporting PAs and NPs as productive members of primary care teams have led some to advocate for more research, especially in rural and underserved communities, where physician-owned practices are more common.

Practices, hospitals, and PAs are reimbursed for the work PAs do through billing numbers. Between 2000 and 2013, PA wages increased by 40 per cent (compared with the cumulative 35.3 per cent inflation rate).[37] In 2016, the average certified PA salary was US$104,131, with pathology, dermatology, emergency medicine, critical care medicine,

33 Reed and Hooker, “PAs in Orthopedics in the VHA’s Community-Based Outpatient Clinics.”

34 Morgan and others, “Factors Associated With Having a Physician, Nurse Practitioner, or Physician Assistant”; Dehn, Everett, and Hooker, “Research on the PA Profession: The Medical Model Shifts”; Timmons, “The Effects of Expanded Nurse Practitioner and Physician Assistant Scope of Practice.”

35 The Commonwealth Fund, *2015 International Profiles of Health Systems*.

36 Essary, Green, and Gans, “Compensation and Production in Family Medicine.”

37 Quella, Brock, and Hooker, “Physician Assistant Wages and Employment.”

Revenues generated by PAs in rural settings can create employment opportunities, wages, salaries, and benefits for staff.

and surgery subspecialties paying the most.[38] Within the care delivery models, physicians are not remunerated every time a PA sees a patient. For example, in Washington state, PAs may be out in a rural area seeing patients, but billing for their services takes place centrally within a physician's office or the hospital that owns the clinic. If a PA sees a federally insured (e.g., Medicare or Medicaid) patient without a physician supervisor (such as in a rural setting), compensation is provided at 85 per cent of the visit. Reimbursement rates are higher if the physician is on-site and sees the patient along with the PA. These billing fees go to the physician or hospital corporation, from which the PA salary is then paid. As a result, in family medicine, PAs may return insurance revenue of 2.5 times their salary.[39] In this scenario, PAs are allowed to bill, but the physician or corporation is actually doing the billing, so PAs are not sole entrepreneurs. Remuneration from public payers (i.e., Medicare or Medicaid) for PA services is typically provided through an FFS model, at 85 per cent of the physician's fee schedule (using the same billing code). Nearly all private payers cover PA services at a similar rate.[40]

A 2017 study revealed that approximately 13.5 per cent of certified U.S. PAs worked in two or more clinical positions. Of these, 44 per cent did so to supplement earnings from their principal clinical position, 26.5 per cent did so because they enjoyed working in a variety of clinical settings, 18.1 per cent did so to gain experience in a different aspect of clinical care, 2.1 per cent did so because they were not offered full-time work in their principal clinical position, and 9.3 per cent did so for other reasons.[41]

Revenues generated by PAs in rural settings can create employment opportunities, wages, salaries, and benefits for staff, which in turn are circulated throughout the local economy. Eilrich developed an input-output model to estimate the direct and secondary effects of a rural primary care PA or NP on the community and surrounding area. Through the modelling of two scenarios, we see that a rural PA or NP can have an employment effect of 4.4 local jobs and labour income

38 National Commission on Certification of Physician Assistants, *2016 Statistical Profile of Certified Physician Assistants*.

39 Key informant interview.

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

41 Jeffery and others, "Physician Assistant Dual Employment."

of $280,476 from the clinic. If a community has a hospital, the total employment effect increases to 18.5 local jobs and $940,892 of labour income.[42] Another recent study in Washington State showed that 18 of the 39 rural hospitals now staff their emergency departments with PAs and NPs.[43]

Considerations for Canadian jurisdictions based on the U.S. experience include exploring different funding models to employ PAs based on setting (i.e., primary or secondary care) and source of funding (i.e., private or public payer), leveraging cost-effectiveness results of new team-based primary care models to determine which provide the best value for money and quality, employing a critical mass of PAs to facilitate wider acceptance and knowledge of the PA role, enhancing the value of PAs by employing them in more rural/remote and Indigenous settings, regulating PAs to allow them to work as autonomous providers, remunerating PAs through a salary model, and financing the funding for PA services from public payers through a discounted FFS model.

The United Kingdom

Health System Overview

The English NHS centrally oversees England's health system, with the Department of Health overseeing stewardship of this universal health system for 64 million people. NHS England manages the budget, 209 local Clinical Commission Groups, and ensures that mandate goals are met.[44] Local government authorities manage public health spending by establishing health and well-being boards. England is divided into 13 local areas and each area is given flexibility for its local budget, although it must meet centrally determined objectives. In 2016, U.K. health spending per capita was $4,192, or 9.7 per cent of GDP, with approximately 84 per cent financed through public sources (general taxation and a payroll tax).[45]

42 Eilrich, "The Economic Effect of a Physician Assistant or Nurse Practitioner in Rural America."

43 Nelson and Hooker, "Physician Assistants and Nurse Practitioners in Rural Washington Emergency Departments."

44 The Commonwealth Fund, *2015 International Profiles of Health Systems*.

45 OECD, *OECD Health Statistics 2017*.

The number of physicians in the U.K. increased by over 50 per cent between 2000 and 2012, and reached 2.8 physicians per 1,000 population in 2016.[46] This is due to a rise in the number of graduates from programs within the U.K. to reduce its reliance on foreign-trained physicians. Like Canada, primary care physicians act as gatekeepers to secondary care,[47] with two-thirds acting as private contractors. Payment is a mixture of capitation for essential services (60 per cent) and FFS for additional services, such as vaccines. Some pay-for-performance occurs for chronic illness care coordination and evidence-based clinical interventions.[48] There has been an increase in the number of general practitioners (GPs) being employed as locums, now at 20 per cent.

Experience With PAs

In the U.K., PAs (called physician associates[49]) are relatively new NHS care providers. In 2003, the U.K. embarked on its first use of PAs imported from the U.S. to augment primary care practices in West Midlands.[50] By 2016, the U.K. had 288 PAs and up to 577 students.[51] PAs, along with other Advanced Clinical Practitioners, have been introduced to combat shortages in primary and secondary care—especially urgent, acute, and emergency care areas. A 2015 NHS primary care study confirmed that PAs can successfully manage a portion of physician clinical workloads. In this case, same-day appointments showed similar outcomes and processes at a lower cost.[52]

PAs are not currently regulated, but NHS Health Education England (HEE),[53] NHS England, and workforce leads from Scotland (NHS Grampian), Northern Ireland, and Wales are working collaboratively

46 Ibid.

47 Secondary care is medical care provided by a specialist or facility upon referral by a primary care physician.

48 The Commonwealth Fund, *2015 International Profiles of Health Systems*.

49 In 2013, physician assistants were renamed physician associates because of NHS salary banding.

50 Key informant interview.

51 Ritsema, *Faculty of Physician Associates Census Results 2016*.

52 Drennan and others, "Physician Associates and GPs in Primary Care."

53 HEE is an executive non-departmental public body of the Department of Health, which provides coordination and national leadership for the public health workforce's education and training in England.

PAs in England are required to recertify every six years.

with the Department of Health, General Medical Council, the Royal College of Physicians Faculty of Physician Associates, and key national stakeholders to progress discussions around statutory registration and an aligned approach toward funding the cost of PA education.[54] Many U.K. doctors feel that current legal limitations are hindering their ability to use PAs to their full potential and "strongly support statutory regulation for PAs as a necessary component for the most effective use of these practitioners within the NHS."[55]

With interest in PA recruitment growing and increasing workforce challenges in general practice, the U.K. government's intention is to develop 1,000 primary care-based physician associates by 2020, to support GPs in their work.[56] However, in 2016 only around 20 per cent of PAs had been recruited into or were working within primary care.[57] By the end of 2016, the U.K. had about 30 programs for physician associates.[58] Based on 2016 enrolment numbers, an estimated 3,200 PAs will have graduated by 2020. To meet the government's 20 per cent target, recruitment of PAs into primary care must increase by 57 per cent.[59] PAs in England are required to recertify every six years. This demonstrates that they have maintained their generalist medical knowledge and can safely change jobs whenever they wish. As one U.K. PA educator notes, alumni do switch fields. Although some program graduates still work in their original post-graduation post, many move specialties as personal, population, or NHS needs change (which is also common in the U.S.).[60]

The PA profession requires an undergraduate qualification, but not necessarily previous clinical training. PA training is split (approximately) 50/50 between theory and clinical practice and is based on the curriculum as specified in the national PA Competence and Curriculum Framework (CCF). The CCF defines the range of academic knowledge

54 Key informant interview.
55 Williams and Ritsema, "Satisfaction of Doctors With the Role of Physician Associates," 116.
56 Key informant interview.
57 Ritsema, *Faculty of Physician Associates Census Results 2016*.
58 Key informant interview.
59 Health Education England, *Proposal*.
60 Key informant interview.

and clinical experience expected of graduating PAs, which includes a minimum of 1,600 hours of practice placement time, across seven clinical areas, with additional time spent in clinical skills simulation training and 300 hours devoted to additional clinical training, which is typically aligned to local workforce needs.[61]

The average tuition fee for PA programs is £18,000 (C$32,426)[62] for two years. HEE is committed to investing in the growth of the PA workforce. Different approaches and models of investment have been applied across HEE local areas in recent years to facilitate this. PAs graduate with either a master's degree or post-graduate diploma (depending on the university), and must complete a national certification exam. The recent supply of new graduates from PA programs was estimated at 89 in 2014, 232 in 2015, and 827 in 2016.[63] In 2017, over 1,000 students are enrolled.[64]

PAs in the U.K. work in a wide range of specialist areas in over 35 different U.K. NHS acute hospital trusts and approximately 35 primary care settings.[65] Most hospital PAs work in general adult medicine, with surgical specialities (mainly trauma and orthopedics) accounting for 20 per cent. Approximately 20 per cent also work in general practice where they conduct face-to-face urgent and non-urgent consultations, review test results, and provide chronic disease management services.[66] In contrast to the U.S. and Canada, there is currently no U.K. military PA role and no defined pathway for veteran medics to enter civilian PA programs.[67]

Funding Sources

HEE's collective aim is to agree to a single investment model that addresses both local needs and the national imperative to increase the PA workforce in primary care. The proposed plan looks to incentivize

61 Department of Health, *The Competence and Curriculum Framework for Physician Assistants*.
62 OECD, *Purchasing Power Parities*.
63 Ritsema, *Faculty of Physician Associates Census Results 2016*.
64 Ibid.
65 Parle and Ennis, "Physician Associates."
66 Ibid.
67 Key informant interview.

PA recruitment in primary care by allowing local teams to target investments based on local priorities. Investment and incentivizing options under consideration include:[68]

- **Training Support Allowance—**to offset student training costs, such as tuition fees and clinical placements to course providers (with a suggested amount of £6,500 or C$11,709[69]);
- **Primary Care Placement Support—**to support placement providers for student-mandated placement time of 180 hours in clinical practice (with a suggested amount of £700 or C$1,261[70]);
- **Secondary Care Placement Support**—like primary care but for secondary care placements (with a suggested amount of £3,175 or C$5,719[71]).

Another intriguing PA investment option discussed in the HEE proposal is the idea of a supervised clinical internship year for first-year PA graduates.

As U.K. PAs are salaried, their compensation is not linked to the volume or type of patients seen. NHS employers typically remunerate PAs in the range of £33,000 to £42,000 per year (C$54,447 to C$75,660).[72] The Agenda for Change is a national pay reform initiative for non-medical staff which feeds into this work. A nationally standardized approach[73] does have its advantages as training funding does not need to be found locally.

A key informant interview revealed communication to be a key ingredient to garner PA support and integration. With increased support from national stakeholders, the PA is increasingly finding a place in the U.K. clinical workforce.[74] With significant differences in the training and clinical skills mix between the PA and Advanced Practice Nurse (APN) professions, the interviewee proposed that both professions

68 Health Education England, *Proposal*.
69 OECD, *Purchasing Power Parities*.
70 Ibid.
71 Ibid.
72 Ibid.
73 Similar to the Manitoba provincial approach.
74 Key informant interview.

be viewed as collaborative and equally necessary parts of any future urgent and acute workforce planning. The interviewee further contends that both professions have an "equally important part to play in the multi-professional clinical workforce of the future."[75]

Acceptance of PAs in secondary care settings also appears to be increasing. A 2016 study by the Royal College of Surgeons of England, which looked at perceptions of training and the potential offered through new team models, found that resistance had mostly dissipated in hospitals using new team models incorporating PAs and APNs.[76] However, some primary care physicians still challenge their acceptance as mandates and roles are less clear.

Considerations for Canadian jurisdictions based on the U.K. experience include employing a funding model designed to address local needs (specifically for primary care and emergency medicine), requiring re-certification every few years, creating quality practice placements with funding support, and employing an effective communications strategy to inform stakeholders of PA roles as collaborative and complementary providers of health care services who are part of a multidisciplinary health care workforce and who can be better leveraged in the system to efficiently and effectively address current and future workforce gaps.

The Netherlands

Health System Overview

The Dutch health system is centrally run. The national government determines and monitors health care priorities, legislation, and quality for a population of almost 17 million. In 2016, health spending was 10.5 per cent of GDP, or $5,385 per capita.[77] Health services are provided through social health insurance (with a basic benefit package financed from general taxation and a reallocation of payroll levies among insurers through a community-based risk adjustment system)

75 Ibid.

76 Limb, "Physician Assistants Can Lighten Doctors' Workload."

77 OECD, *OECD Health Statistics 2017*.

and a compulsory social health insurance system for long-term care.[78] Seventy-eight per cent of curative services are publicly financed. All residents must purchase statutory health insurance from private insurers (primarily from four companies). Insurers and contracted providers engage in strategic purchasing.

Prevention and social support services are financed separately through general taxation (which is not included in social health insurance). In 2015, a national long-term care reform effort held municipalities and health insurers responsible for most outpatient long-term services and all youth care to allow needs at the local level to be better addressed.

In 2015, the Netherlands had 3.5 physicians per 1,000 population, with 8.2 doctor consultations per capita.[79] Medical specialities have risen at differing rates, with overall growth at 32 per cent from 2005 to 2013. Nuclear medicine (a relatively newer speciality) is growing at 61 per cent, whereas internal medicine grew only at 20 per cent in the same time frame.[80]

Experience With PAs

The content in this section is exclusively informed by the key informant interview conducted for the Netherlands experience as many key primary sources are available in Dutch only. There has been a significant increase in the number of PAs in the Netherlands over the past decade (just 4 in 2011 to more than 1,000 in 2016) because of an expected shortage of physicians.[81] Five PA education programs produce 150 graduates per year. In the last decade, the annual intake for training PAs and NPs has increased from 325 to 700, and is expected to increase further.[82,83]

78 The Commonwealth Fund, *2015 International Profiles of Health Systems*.

79 OECD, *OECD Health Statistics 2017*.

80 Capaciteitsorgaan, *The 2013 Recommendations for Medical Specialist Training*.

81 Key informant interview.

82 Van Vught and others, “Implementation of the Physician Assistant in Dutch Health Care Organizations.”

83 Isolated PA data not available in this source.

Patient satisfaction with PAs is comparable to that with physicians.

PAs work in all health care settings, from forensic to academic; however, most are employed in hospitals, followed by primary care.[84] To enter a PA program, an individual must have already secured a position in a hospital. After graduation, some PAs switch specialities. Eligible students must have a bachelor's-level degree in areas such as nursing or physiotherapy, as PA education programs are master's level plus two years of clinical experience. PA training places individuals at the same level as a resident. Most Dutch PAs require little guidance from specialists.[85] Under a work/education model, PAs are employed two days per week under a supervising mentor physician (which helps ensure a job upon graduation). Dutch PAs are not employed in the military.

Dutch legislation covers a multitude of subjects, including reimbursement by insurance companies. PAs can bill insurance companies, as they are considered independent health care providers. However, PAs always work in collaboration with physicians. As indicated in the first report in the PA series, few studies detail the collaborative relationships with PAs. However, a 2015 Dutch study of PAs working in four different care models showed that in hospital wards, direct and indirect patient care differs. In PA-only models, PAs were able to provide the highest provider continuity and spent more time on direct patient care. Another Dutch cross-sectional study on general skill levels showed that physicians and PA students achieved similar history-taking, physical examinations, and communication scores. Most PAs are found within surgical specialities, whereas NPs tend to be used more in psychiatric specialities, long-term care, and nursing themes. In the Netherlands, NPs act as an experienced nurse, whereas PAs deliver medical care.[86] Originally, acceptance among medical specialists was low as they believed PAs were taking their salaries. However, further studies now show that physician salaries have not decreased with the introduction of PAs. Patient satisfaction with PAs is comparable to that with physicians.[87]

84 Timmermans and others, "Physician Assistants in Medical Ward Care."

85 Van der Biezen and others, "Factors Influencing Decision of General Practitioners and Managers."

86 Van Vught and others, "Analysis of the Level of General Clinical Skills of Physician Assistant Students."

87 Meijer and Kuilman, "Patient Satisfaction in the Netherlands."

The Advisory Committee on Medical Manpower Planning ("Capaciteitsorgaan" in Dutch) is a private organization that oversees health workforce planning, including PAs. Its mission is to advise the Ministry of Health and stakeholders every two to three years on the intake of medical graduates in post-graduate training programs for medical specialities. The Netherlands model includes vertical substitution or task transfer of work to PAs and NPs.[88] A recent study on the number of PAs and NPs in the Dutch health system and their labour market characteristics (such as hours worked, age, outflow, and more) has been used to inform a conceptual model and has been disaggregated to medical specializations.[89] Study data show that PA employment differs among medical specialities and regions. The largest increases have been in general practice, gastroenterology, orthopedics, and internal medicine. However, in relative terms, the ratio of PAs to GPs is still low in general practice (0.7 FTEs per 100 FTE GPs) and higher in neurosurgery and thoracic surgery.[90]

Funding Sources

In terms of funding, insurance companies negotiate with boards of hospitals for contracted services. A PA salary is lower, so if PAs can deliver the same service as physicians, then the hospital saves money. Insurance companies do not assign set fees for PAs. However, this is expected to change, with some insurance companies requesting a special fee for PAs (such as .88 of a normal fee).[91,92] Dutch PAs receive a salary from the hospital. The hospital then invoices the insurance company, which then pays the hospital. If care is of a high standard, insurance companies are not particular about the type of provider and PAs negotiate their own salaries. The Dutch Health Care Authority (Nederlandse Zorgautoriteit) determines most provider fees,

88 Ellen Dankers-de Mari (Capaciteitsorgaan), e-mail communication with Gabriela Prada and Kelly Grimes, September 13, 2016.

89 Ibid. Report available only in Dutch.

90 Key informant interview.

91 Key informant interview.

92 If remuneration changes like this incentivize hospitals to hire PAs to take on physician tasks, PA acceptance among medical specialists may decline and tensions that do not exist within the current funding model could be introduced.

with an average salary of €80,000 (CAD$133,477).[93] In 2012, self-employed general practitioners (GPs) earned an average gross annual income of €97,500 (CAD$175,641).[94] Government representatives have indicated that high GP salaries are incentivizing potential task realignment. (See "Dutch GP Funding.")

Dutch GP Funding

Dutch primary care physicians are paid through a mix of capitation and FFE for core activities (75 per cent in total). In 2015, the Dutch government began a new GP funding model with three segments:[95]

- Primary care services (majority of spending) through a capitation fee per registered patient, a GP consultation fee, and a consultation fee for ambulatory mental health care at the GP practice. Most GPs employ nurses and psychologists on salary with fees negotiated by the Dutch Health Care Authority.
- Program funding (15 per cent of spending) provides multidisciplinary care for diabetes, asthma, and chronic obstructive pulmonary disease, as well as for cardiovascular risk management. These fees are negotiated with insurers.
- Pay-for-performance and innovation (10 per cent of spending) are where GPs and insurers negotiate additional contracts—including prices and volumes.

New GP funding models will impact the development of the PA profession as hospital and insurance companies will look for ways in which PAs could be used to lower costs under the new remuneration system.

Source: Capaciteitsorgaan.

Considerations for Canadian jurisdictions based on the Netherlands' experience include adopting national needs-based workforce planning that emphasizes task transfer, implementing scenario-planning to advise governments based on supply and demand, using strategic purchasing

93 OEDC, *Purchasing Power Parities*.

94 Ibid.

95 Capaciteitsorgaan, *The 2013 Recommendations for Medical Specialist Training*.

with contracted providers based on local needs, and leveraging the tax system to facilitate PA integration and task realignment for self-employed physicians.

Manitoba

Health System Overview

Manitoba's Ministry of Health, Seniors, and Active Living funds health care services provided at five regional health authorities to 1.3 million people. It has additional centralized structures for CancerCare Manitoba and Diagnostic Services Manitoba. The Centre for Healthcare Innovation ensures research and evidence are translated into improved patient outcomes, enhanced patient experiences, and improved access. In 2016, provincial health spending as a percentage of Manitoba's budget was forecast to reach 42 per cent, with per capita growth of 3.9 per cent or $7,120 per person.[96] Provincial priorities include capacity-building, health system innovation, health system sustainability, improved access to care, improved service delivery, and reduced health disparities that improve the health of Manitobans. Manitoba's primary care strategy develops teams around the needs of communities served by the team, so each is unique.[97] The province recently adopted a provincial health leadership initiative that links talent management with health reform.

Experience With PAs

Manitoba has the longest history of regulating PAs in Canada and employs PAs in various models of care. CAPA's 2017 census data show that 13.8 per cent of certified PAs in Canada were employed in Manitoba.[98] They were regulated as clinical assistants (CAs)[99] from 1999 to 2009 and since 2009, as PAs under *The Medical Act*.[100] Manitoba and New Brunswick are the only Canadian jurisdictions

96 Canadian Institute for Health Information, *National Health Expenditure Trends*.

97 Bohm and others, "Experience With Physician Assistants in a Canadian Arthroplasty Program"; Bohm, Dunbar, and Bourne, "The Canadian Joint Replacement Registry."

98 Canadian Association of Physician Assistants, CAPA 2017 census data.

99 CAs are typically International Medical Graduates (IMGs) operating in a physician extender role.

100 *The Medical Act*.

Since 2013, Manitoba family medicine physicians have employed PAs in three practice model pilots.

that regulate this health provider group, although Alberta regulation is expected in 2017–18 as PA inclusion under the *Alberta Health Professions Act*[101] received Royal Assent in the legislature in 2016. In 2014, the 72 Manitoba PAs and CAs organized into one collective bargaining unit.[102] Both are used interchangeably, although routes for education and hiring are different. In 2003, Manitoba first recruited two PAs for cardiac and plastic surgery (one military-trained and the other trained in the U.S.) on the recommendation of a physician who had worked with PAs south of the border.

In 2008, the University of Manitoba established its first education program, producing master's-prepared PAs with admission requirements, including a four-year bachelor's degree. In 2016, it produced 12 graduates. However, demand is greater (approximately 25 positions) than the number of graduates. Manitoba views PAs as a rapidly expanding profession that is well accepted by physicians.[103] In Canada, 11 per cent of PAs graduated from the University of Manitoba and almost 80 per cent of them are employed in Winnipeg.[104] Practice settings now include critical care, psychiatry, rehabilitation, and more. However, most are employed in surgical, emergency, and primary care areas. In the last few years, Manitoba PAs have also been working in community and rural sites.

Since 2013, Manitoba family medicine physicians have employed PAs in three practice model pilots (CHCs, FFS family practice, and hospital-based family medicine), later adding three more sites.[105] The pilot showed early impacts to be most evident in two settings—hospital-based family medicine placements (e.g., where they successfully improved patient satisfaction, increased the number of unattached patients, and facilitated admission and discharge) and over-panelled practices (e.g., where physicians were well established and motivated to meet

101 *Alberta Health Professions Act*.

102 Winnipeg Regional Health Authority, *Physicians and Clinical Assistant Collective Agreement*.

103 Key informant interview.

104 Ibid.

105 Bowen, *Introduction of Physician Assistants Into Primary Care*.

patient needs by changing practice patterns).[106] However, the evaluation noted that more strategies quantifying identified impacts, and identifying impacts specifically attributable to the PA role, are required.[107]

Funding Sources

Until 2015, Manitoba PAs were primarily employed by hospitals and other organizations funded by government on a line-by-line basis to regional health authorities to support PA salary payments. Under this PA funding model, Manitoba centralized its PA allocation with the establishment of a provincial director who worked with the Vice-President Medical at the Winnipeg Regional Health Authority and the Assistant Deputy Minister to decide which programs would receive a PA or CA. The province funded PAs to work in primary care and within the regional health authorities for medical specialty programs or emergency departments. In some instances, academic specialty groups pay PA salaries from within a program budget. Each program made a case for why a PA was needed, as only 12 were funded.[108] A matching process occurred between provincial need and student interests.

With the 2016 change in government, Manitoba shifted PA funding and remuneration from hospitals (or other organizations directly funded by government) to physician groups (that also receive government funding through billings). As funding was provided at the same level as the previous year (no new PA funding was provided in the 2016 budget), the provincial director worked with established programs to reallocate government funding to support new PA positions within the existing program budget for the 12 graduates of the 2016 cohort. Interestingly, program demand for PAs was seemingly unaffected by the lack of new provincial funding, and demand has continued to outpace supply. For example, one key informant indicated that while there were only 12 graduates to fill PA positions, he received approximately 25 proposals. In this instance, PAs were placed in programs that could demonstrate their ability to support a PA position by either redirecting existing

106 Ibid.

107 Ibid.

108 Manitoba Health, *Request for Funding New PA Position Template*.

In many cases, PA salary funding is now completely supported by the physician group and is no longer dependent on government funding.

program funds or recouping costs by way of physician shadow billing. Programs that wanted a PA submitted proposals that not only met the original evaluation criteria, but also demonstrated financial feasibility for supporting the PA. In many cases, PA salary funding is now completely supported by the physician group and is no longer dependent on government funding.

As Manitoba PA salaries range from $75,000 to $110,000 per year, it is important for programs requesting PAs to demonstrate their ability to maintain approximately $100,000 per year to support a PA. In the previous model, overtime and shift differential were covered but there were no bonuses or pay-for-performance. It is unclear if or how similar remuneration elements will be maintained in the absence of government funding or whether physician groups will absorb this responsibility. Before the government change, discussion was unfolding around the sustainability of the previous funding model. The College of Physicians and Surgeons of Manitoba regulates PAs working under supervising physicians. FFS physicians in Manitoba and Ontario are not allowed to charge for patients the PA sees without physician supervision. Supervision may either be direct (e.g., visual observation of the PA during clinical work) or indirect (e.g., direction and management of the PA's clinical work without direct, visual observation).[109] Supervision levels are negotiated between PAs and their supervising physicians on an individual basis and are determined by the particular practice setting, the PA's experience, and the physician's comfort level.[110] The Health Professions Regulatory Advisory Council (HPRAC) noted that although "a general scope of practice may exist, each PA's scope of practice is unique and based on the supervisory relationship, level of autonomy and delegation of various controlled acts."[111]

Although funding has shifted from hospitals and other employers directly funded by the government to physician groups, and additional funding has not been added, the Manitoba government is supportive of PAs because they have consistently demonstrated an ability to increase

109 The Ontario Physician Assistant Initiative, *Roles and Responsibilities of Supervising Physicians*.

110 Health Professions Regulatory Advisory Council, *The Health Profession Assistant*.

111 Ibid., 18.

Manitoba's province-wide tracking system will have an important role in the establishment of a dedicated source of funds for PA employment.

throughput (i.e., more patients seen, more procedures performed annually), especially in areas where waiting lists are long. Dollars are saved around the infrastructure costs, and physician time is also freed up to undertake more complex tasks.[112] A key informant cited a particular clinic as an example, where the physician saw 65 patients and the PA saw 30. This allowed the physician to perform additional tasks, such as going to the operating room, seeing more patients, providing additional education, etc.

Manitoba is considering a province-wide tracking system with a web-based application based on ICD-10 codes (using Typhon Group's PAST Activity Tracking system) to log data on each patient encounter.[113] This model has the additional advantage of more accurately tracking the activities performed by PAs, which will support better planning, forecasting, and research. Although identifying and adapting the best funding models for PAs in Canada is challenging, PAs in primary care are bringing important benefits, including improving access and care quality, reducing waiting times, and improving the quality of physician work life.

Manitoba's province-wide tracking system will have an important role in the establishment of a dedicated source of funds for PA employment, as the tracking system will determine if creating subsidized PA billing codes for specific tasks is feasible in a new model. The activity tracker may illuminate whether a one-size-fits-all funding model will facilitate or hinder the movement of PAs into the programs where they are most needed. Indeed, different care settings may necessitate unique funding models, in which case PA funding models would vary depending on the clinical setting. A key informant noted that, in many aspects, a shift to employers funding PAs may help push the profession toward the fundamental and systemic change that is needed to realize the full value of PAs within the health care system. Experimentation and consideration of methods and models from the U.S. and Ontario may play a significant role in defining the future of PA funding in Manitoba.

112 Bohm, Dunbar, and Bourne, "The Canadian Joint Replacement Registry"; Dies and others, "Physician Assistants Reduce Resident Workload and Improve Care."

113 Key informant interview; Typhoon Group, *About Us*.

Some considerations for other Canadian jurisdictions based on the Manitoba experience include adopting a centralized process to allocate PAs across the province based on identified program and/or community needs, enabling physicians to bill the funder an FFS for tasks undertaken by a PA, but at a reduced rate that reflects the supervisory role assumed by that physician, and installing province-wide tracking or monitoring systems to provide an understanding of where and how PAs work and their impact on patient outcomes and system efficiency.[114]

Ontario

Health System Overview

The Ontario health care system is a complex network of various health care organizations working together to meet the health care needs of 13.9 million Ontarians.[115] In 2016, provincial health spending as a percentage of Ontario's budget was forecast to reach 41 per cent, with per capita growth of 1.1 per cent, or $6,144 per person.[116] The Ministry of Health and Long-Term Care (MOHLTC) acts as the organizing body for the system. MOHLTC plays an integral role in setting the overall direction and provincial priorities for the health system; developing policies, legislation, regulation, and directives to support those provincial priorities; monitoring the overall performance of the system; and establishing levels of funding for the health system.[117] Formed in 2006, the 14 Local Health Integration Networks (LHINs) are the local administrative bodies for the system. They are responsible for health care services planning and funding in their regions, including hospitals, long-term care homes, Community Care Access Centres, community support services, CHCs, and addictions and mental health services under the *Patients First Act 2016*[118] and could potentially play a role in organizing PA positions. It is important to note that LHINs are not

114 Tracking of PA work and contributions to patient health and to the health care system should be integrated into a larger health care workforce monitoring system.

115 Statistics Canada, *Population by Year, by Province and Territory*.

116 Canadian Institute for Health Information, *National Health Expenditure Trends*.

117 Health Care Tomorrow, *Ontario Health Care System*.

118 Government of Ontario, *Ontario Passes Legislation*.

responsible for the funding of physicians,[119] public health, ambulance services, or provincial networks. Also, as they are not involved in mandating where physicians can work, PA positions would require innovative means for physician supervision.

Experience With PAs

Twenty-six health professions are regulated under Ontario's *Regulated Health Professions Act, 1991* and health profession Acts (i.e., *Medicine Act, 1991*).[120,121] However, PAs remain unregulated in Ontario as HPRAC concluded in 2012 that the practice of the PA profession did not pose a substantive risk of harm to the health and safety of Ontario patients and that "public safety and quality of care are sufficiently upheld at this time through the delegation model and a regulatory registry."[122] HPRAC proposed a compulsory PA registry and recommended that the College of Physicians and Surgeons of Ontario (CPSO) provide governance and oversight.[123] Medical care provided by PAs must be supervised by a physician registered with CPSO and follow a process of delegation. CPSO establishes the process for delegation of controlled acts that physicians should follow when working with any non-physician practitioners, including a PA.[124] As of 2017, most of Canada's practising PAs were located in Ontario.[125]

Education Programs

Ontario houses two of the three civilian education programs and has the majority of Canada's medical providers. In 2008, McMaster University's first cohort of PA students started their studies, followed in 2010 by

119 Except for physicians who work under a salaried funding model, most often as part of Family Health Teams in a CHC setting; in this instance, LHINs provide funding.

120 *Regulated Health Professions Act, 1991*.

121 Regulated health professions include audiology and speech language pathology, chiropody and podiatry, chiropractic, dental hygiene, dental technology, dentistry, denturism, dietetics, homeopathy, kinesiology, massage therapy, medical laboratory technology, medical radiation technology, medicine, midwifery, naturopathy, nursing, occupational therapy, opticianry, optometry, pharmacy, physiotherapy, psychology, psychotherapy, respiratory therapy, and traditional Chinese medicine and acupuncture. *Medicine Act, 1991*.

122 Health Professionals Regulatory Advisory Council, *The Health Profession Assistant*, 38.

123 Ibid.

124 College of Physicians and Surgeons of Ontario, *Delegation of Controlled Acts*.

125 CAPA 2017 membership database.

the first cohort of Consortium of PA Education Program students (the Consortium is a collaboration between the University of Toronto, The Michener Institute of Education at the University Health Network, and the Northern Ontario School of Medicine). Both programs are accredited by the Canadian Medical Association Conjoint Accreditation process and annually graduate approximately 50 PAs. The CAF PA program (although more of a "national" than provincial program) is also accredited by the Canadian Medical Association. Its 2017 graduate cohort is 15, although it has produced roughly 20 to 25 graduates per year in the past. Outsourcing the PA program has been discussed.

Funding Sources

Funding sources that enable the integration of PAs in Ontario function as a patchwork of different mechanisms that depend on a variety of factors that affect most other health care providers (e.g., the PA's employment setting, experience and skills, relationship with supervising physician, the physician's funding model, and resources to access provincial grant programs). In 2007, Ontario funded employers to hire PAs for demonstration project positions. PAs began working in hospitals and, soon after, in CHCs. PAs in the demonstration project worked in physician offices, long-term care homes, and diabetes care settings. In the final phase, PAs were hired by additional hospital emergency departments and family health teams. Evaluations commissioned by the Government of Ontario found that employing PAs in a variety of settings reduced wait times, improved patient satisfaction, increased supervising physicians' daily billings, increased home and long-term care referrals, reduced acute-care stay lengths, and reduced long-term care residents' alternate level-of-care days.[126] Funding for the demonstration project positions ended in September 2015.

As of 2017, MOHLTC continues to provide time-limited funding to support the transition of new PA graduates into the health care system through the PA Career Start program (PA CSP). PA CSP supports the employment of Ontario PA education program graduates "in areas of

126 Fréchette and Shrichand, "Insights Into the Physician Assistant Profession in Canada"; Ministry of Health and Long-Term Care, *Ontario Physician Assistant Implementation*.

Only employers that meet specific criteria may be approved to receive financial supports through PA CSP.

high priority … in a variety of settings including emergency departments, primary care and internal medicine."[127] Employers may apply for a PA CSP grant of up to $46,000 per year[128] to assist them with costs such as recruitment, salary/benefits, overhead, start-up, orientation, and integration. There is a 50/50 cost share split between the employer and MOHLTC. Eligible employers in Northern and rural communities or in communities with an Ontario Medical Association Rurality Index for Ontario (RIO) score of 40+, or a Northern Urban Referral Centre (Timmins, North Bay, Sudbury, Thunder Bay, Sault Ste. Marie) may receive funding ($46,000) for two years.[129] An additional $10,000 incentive is offered to PA graduates who complete one year of service with employers who qualify for two years of funding (i.e., rural sites).[130] Other eligible employers may receive grant funding for a period of one year.

Only employers that meet specific criteria may be approved to receive financial supports through PA CSP. For instance, employers must demonstrate a commitment to integrate and sustain the PA position beyond CSP funding. Employers receiving PA CSP grants must intend to employ the PA after CSP funding ceases and provide assurances that they have secured necessary finances to supplement the grant funding before receiving the grant.[131] HealthForceOntario's Marketing and Recruitment Agency monitors the applicants and conducts surveys for an additional year once funding ceases. In the forthcoming *Ontario Physicians Assistants and Local Health Integration Network 2016* report, of the 115 PAs surveyed, 23.5 per cent cited funding challenges and 15.7 per cent cited the elimination of the position as the reason they had to change jobs.[132] (See Chart 1.)

127 HealthForceOntario, *2017 Physician Assistant Career Start Program Guidelines*.
128 Ibid.
129 Ibid.
130 HealthForceOntario, *2017 Physician Assistant Career Start Program Guidelines*.
131 Ibid.
132 O'Leary and Kohout, *Ontario Physician Assistants and Local Health Integration Networks*.

Chart 1
Reasons for PA Job Changes
(n = 148; per cent)

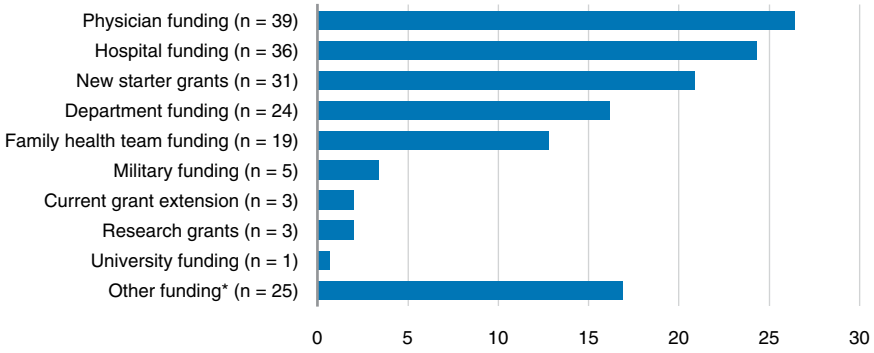
*Reported sub-catagories include researcher role (n = 1), non-clinical PA role (n = 1), and lack of PA role understanding in location (n = 1).
Source: O'Leary and Kohout.

Since 2012, integrating PAs into new and existing models of care and clinical services funding has been under way. As a result, PAs are funded by clinical service in primary care and hospital settings across Ontario. For example, permanent PA positions are funded annually in select family health teams and CHCs. Ontario also funds PA positions to increase neurosurgery human team capacity. Other Ontario PAs are employed by hospitals either through the CSP or hospital budgets. (See Chart 2 for a funding breakdown of surveyed Ontario PAs.)

The *Patients First: Action Plan for Health Care*[133] exemplifies Ontario's commitment to put people and patients at the centre of the system by focusing on putting patients' needs first. To that end, MOHLTC is looking to undertake initiatives that focus on building a whole health workforce that is truly responsive to the needs of patients, whoever they are and wherever they may be in the province. MOHLTC recently established a Physician Assistant Integration Working Group to support and

133 Ontario Ministry of Health and Long-Term Care, *Patients First*.

Chart 2
Funding Sources for PA Positions, 2016
(n = 148; per cent)



Note: The instrument return rate was 43.7 per cent (136 respondents for 311 Ontario PAs).
*Identified subcatagories include no LHIN funding, not working as a PA, community health centre, pay for performance, foundation, private community donation, private industry, and unsure.
Source: O'Leary and Kohout.

implement initiatives that improve population health with the integration of more PAs into Ontario's health workforce. Ongoing research supports the expansion of PAs in Canada's health workforce to improve access, quality of care, and health system navigation in a variety of health settings.[134]

Comparison of PA Funding Models Across Case Examples

The U.S. has the most experience in PA integration in states and various large government administrative operations. Collectively, PAs and NPs now account for 20 per cent of its health care workforce and the number of annual graduates exceeds medical school graduates.[135] While PA use is more recent in the U.K. and the Netherlands, it too is spreading rapidly to accommodate health reform priorities. The three international case examples highlight a variety of strategies for policy-makers, researchers, and decision-makers about furthering PA integration in Canada.

134 McCutchen, Patel, and Copeland, "Expanding the Role of PAs in the Treatment of Severe and Persistent Mental Illness."

135 Isolated PA data are not available from this source.

Table 3 is a comparison of case example funding models across several characteristics, including the number of PAs working, general organization of the health system, practice settings, patient population profile, guiding legislation and/or regulation landscape, scope of practice, source(s) of funding for PAs, average remuneration, and other features.

Table 3
Comparison of Funding Model Characteristics—the U.S., U.K., Netherlands, Manitoba, and Ontario

Characteristic	U.S.	U.K.	Netherlands	Manitoba	Ontario
Number of PAs	• 100,000+ PAs across all states • PAs and NPs comprise 20 per cent of the U.S. clinician workforce	• 288 PAs • 577 student PAs • The U.K. government intends to develop 1,000 primary care-based PAs by 2020	• Approximately 1,000 PAs • Five PA programs produce 150 graduates per year	• 81 PAs • One PA program produces 12 graduates per year	• 380 PAs • Two PSE PA programs produce 50 graduates per year
Health system overview	• Per capita heatlh expenditures of $9,892 or 17.2 per cent of GDP • In 2010, the *Patient Protection and Affordable Care Act* (ACA) created responsibility for health insurance among government, employers, and individuals • ACA established 10 essential benefit categories (e.g., hospital services, maternal and child, etc.) • The range of services within essential categories is determined by each state • In 2015, 9.1 per cent of Americans were uninsured	• Per capita heatlh expenditures of $4,192 or 9.7 per cent of GDP • NHS centrally oversees the U.K. health system • The Department of Health oversees stewardship of this universal health system • The NHS manages budget and 209 local Clinical Commission Groups • England is split up into 13 local areas, each area given flexibility for local funding model	• Per capita heatlh expenditures of $5,385 or 10.5 per cent of GDP • The Dutch health system runs centrally—the national government determines and monitors health care priorities and legislation • Health services are provided through social health insurance • 78 per cent of curative services are publicly financed • All residents must purchase statutory health insurance from private insurers	• Per capita heatlh expenditures of $7,120 or 42 per cent of provincial budget • The Ministry of Health, Seniors and Healthy Living provides funds to five regional health authorities • It also maintains centralized structures like CancerCare Manitoba and Diagnostic Services • PA allocation is centralized with the establishment of a provincial director • Physicians provide supervision	• Per capita heatlh expenditures of $6,144 or 41 per cent of provincial budget • MOHLTC provides funding to 14 LHINs • LHINs are responsible for health care services, planning, and funding for hospitals, CACs, community support services, CHCs, and additctions and mental health services • CPSO registers the physicians who supervise PAs and issues policy regarding delegation, medical directives, etc. • PAs are supervised by physicians
Practice settings currently employing PAs	• PAs work in family medicine/general practice, surgical sub-specialties, and emergency medicine • They practise in all 12 settings, including primary care, mental health, and anesthesiology • They primarily work in private practice (39.8 per cent) and hospitals (37.3 per cent)	• PAs are employed across wide range of specialist areas, in over 35 different U.K. NHS acute hospital trusts and about 35 primary care settings • In hospitals, PAs work mostly in general adult medicine and surgical specialties	• PAs work in all health care settings, from forensic to academic; however, most are employed in hospitals, followed by primary care • No PAs are employed in the military	• PAs work in surgery, emergency, primary care, cardiac sciences, internal, pediatric, education, psychiatry, rehabilitation, oncology, and critical care • They primarily work in private practice or are hospital-based	• PAs work in family medicine, primary care, emergency medicine, orthopedic surgery, general surgery, cardiology and cardiac sciences, critical care, general surgery, neurosurgery, etc. • They primarily work in private practice or are hospital-based

(continued …)

Table 3 (cont'd)

Comparison of Funding Model Characteristics—the U.S., U.K., Netherlands, Manitoba, and Ontario

Characteristic	U.S.	U.K.	Netherlands	Manitoba	Ontario
Patient population profile	• Population of 316 million • 2.6 physicians practising per 1,000 population • 4 average physician visits per capita	• Population of 64 million • 2.8 physicians per 1,000 population	• Population of almost 17 million • 3.5 physicians per 1,000 population • 8.2 average physician visits per capita	• Population of 1.3 million • 2.04 physicians per 1,000 population	• Population of 13.9 million 2.2 physicians per 1,000 population
Guiding legislation and/ or regulation	• Integrated since 1974 • In 2010, the ACA recognized PAs as primary care providers • PAs can lead patient-centred medical teams • Most states do not require PAs to be supervised under the same roof as a physician; however, a physician must be named	• PAs are not currently regulated • In 2003, the U.K. introduced U.S.-trained PAs to augment primary care practices; the profession has grown with U.K.-trained PAs since then • NHS HEE, NHS England, and workforce leads from Scotland (NHS Grampian), Northern Ireland, and Wales are working collaboratively with the Department of Health, General Medical Council, the Royal College of Physicians Faculty of Physician Associates, and key national stakeholders to progress discussions around statutory registration	• Legislation for PAs is the most advanced worldwide • Legislation also covers reimbursement by insurance companies • PAs are regulated as independent health care providers	• PAs were regulated as clinical assistants (CAs) from 1999 to 2009 • Now they are regulated as PAs under the *Medical Act* • PAs operate in a physician extender role with direct supervision • PAs are Associate Regulated Members of the College of Physicians and Surgeons of Manitoba • All PAs require an approved *Practice Description and Contract of Supervision* before being allowed to practise medicine	• Ontario PAs are unregulated • PAs are overseen by supervising physicians according to medical directives • The Patients First: Action Plan for Health Care provides guiding principles • The Canadian Medical Association's 2012 Toolkit provides useful resources
Scope of practice	• Scope of practice is determined at the practice level by physicians, as stipulated by the American Academy of Physician Assistants • PA practice laws include licensure as the regulatory term, full prescriptive authority, adaptable collaboration requirements, chart co-signature requirements determined at the practice level. The number of PAs a physician may supervise is determined at the practice level. • Scopes of practice across states are similar	• Scope of practice is similar to a junior physician • PAs cannot prescribe or order CT or x-rays • PAs can complete patient history and physical examination to determine diagnosis, develop a patient management plan on behalf of supervising physician, provide clinical management of a patient on behalf of supervising physician, and request and interpret diagnostic studies • They can provide patient education, counselling, and health promotion	• Scope of practice reflects the PA's specialty; PAs choose their specialty at the outset of their education and work under a supervising physician in a work-study model throughout their training • PAs conduct low or moderately complex medical tasks within certain specialties, both in primary and secondary care • PAs are authorized to indicate and perform predefined medical procedures and prescribe medications without supervision • PA scope of practice will be re-evaluated in 2017	• Scope of practice mirrors that of their physicians with permission to perform restricted acts, provide prescriptions, or write medical orders established by regulations and provincial law • PA scope of practice includes diagnoses, obtaining medical histories, performing physical exams, ordering and interpreting diagnostic studies, providing therapeutic procedures, prescribing medications, and educating and counselling patients	• PA scope of practice mirrors that of supervising physicians, including obtaining medical histories, performing medical exams, ordering and interpreting diagnostic studies, providing therapeutic procedures, prescribing medications, and educating and counselling patients

(continued …)

Table 3 (cont'd)

Comparison of Funding Model Characteristics—the U.S., U.K., Netherlands, Manitoba, and Ontario

Characteristic	U.S.	U.K.	Netherlands	Manitoba	Ontario
Source(s) of funding for PAs	• Remuneration from payers for PA services is typically through FFS model, often 85 per cent of physician's fee schedule • PA billing fees go through the physician or hospital corporation with whom they work; they are not sole entrepreneurial PAs • The salary comes out of these billings • Nearly all payers cover PA services	• PA salary funding comes from NHS employers • Because local clinical groups can allocate their funding as they choose, HEE is looking to incentivize PA recruitment in primary care with local teams able to target investments based on local priorities	• PAs receive a salary from the hospital • The hospital invoices the insurance companies which then pay the hospital • Insurance companies negotiate with boards of hospitals for contracted services • PAs can bill insurance companies directly • Currently, there are no set fees for PAs by insurance companies	• Recently, the government shifted salary funding for PAs from hospitals to physician groups, which are now responsible for funding PA positions • Previous funding covered 12 new positions each year through regional health authorities • Physician groups may recoup costs for the PA by shadow billing or redirecting preexisting program funding	• Demonstration projects existed (until 2011) • Ministry funding is provided for select family health teams, community health clinics, and other primary care enrollment models • Other funding comes from physician salaries/ practice overhead • The government provides Career Start Program grants of up to $46,000, for one (regular) to two (Rurality RIO score of 40+ or a Northern Urban Referral Centre) years, with an additional $10,000 incentive • Clinical service funding is provided in primary care and hospitals
Average remuneration	• Salaried • US$95,000 median salary from 2000 to 2013 • Wages increased by 40 per cent compared with cumulative inflation rate of 35.3 per cent	• Salaried • Not linked to volume or type of patient seen • Typical remuneration ranges from £33,000 to £42,000 per year	• Salaried • Each PA negotiates his or her salary • The Dutch Health Care Authority (Nederlandse Zorgautoriteit) determines most provider fees, with €80,000 as the average annual salary • In 2012, self-employed GPs earned an average gross annual income of €97,500	• Salaried • $75,000 to $120,000 per year • PAs and CAs organized into one collective bargaining unit	• Salaried • $75,000 to $120,000 per year
Other features	• Revenues generated by PAs in rural settings can create employment opportunities and wages, salaries, and benefits for staff, which are circulated through economy • An increasing number of rural hospitals are choosing to staff PAs and NPs • Critical mass of PAs facilitates general population acceptance and knowledge of PA role	• Uniquely among U.K. clinical professions, PAs are required to re-certify every six years, retaking their final exams	• A 2015 change in the tax system has facilitated the integration of PAs; medical specialists are typically considered independent health care contractors and are able to deduct practice expenses (40 per cent of gross income) • To keep this tax-deducting privilege, these specialists need to hire other health professionals to form health care teams	• The province will be rolling out a province-wide tracking system to log data on each patient encounter • This system will log every task and interaction and PA undertakes • The tracking system will produce a data set to assist in planning, forecasting, and research	• A Physician Assistant Integration Working Group was formed to help integrate PAs into Ontario's health workforce

Source: The Conference Board of Canada.

CHAPTER 4

Ontario PA Funding Experiences by Practice Setting

Chapter Summary

- The personal experiences of nine Ontario PAs working in primary care, emergency medicine, endocrinology, and orthopedic surgery provide insight into some of the opportunities and challenges associated with PA funding.
- A lack of stable funding is one of the main factors limiting the integration of additional PAs in the health workforce.
- Potential funding solutions include governments or LHINs providing permanent PA salary funding or the introduction of special PA billing codes in an FFS model.
- If emerging patterns continue, much of the demand for PAs will remain or be expanded in the settings of emergency medicine and primary care.

To gain a greater understanding of some of the opportunities and challenges associated with PA funding experiences in Canada, the Conference Board interviewed nine Ontario health professionals (PAs and those with direct experience in funding PAs) working in primary care, emergency medicine, endocrinology, and orthopedic surgery.

Written questionnaires and funding documents (e.g., hospital remuneration agreements and applications for government funding) also provided supplementary data. In some cases, the personal perspectives, opinions, and experiences of these interviewees speak to the broader issues PAs in other jurisdictions are also facing. This second round of interviews allowed for a richer context in which to compare successes from Manitoba, the U.S., the U.K., and the Netherlands with Ontario's variable funding experience.

Primary Care

In 2015, 13,442 physicians worked in family medicine in Ontario (98 per 100,000 population).[1] As of July 2017, about 100 PAs (or about one-third of Ontario's PAs) were working in family practice.[2] In the primary care setting, PAs consulted for this work reported working within CHCs and FHTs, or were hired privately by physicians.[3] CHC and FHT PAs are interprofessional team members alongside a variety of health care providers (e.g., physicians, dietitians, nurses). FHTs were first introduced in Ontario as part of primary care reform a little over 10 years ago from FFS family medicine practices. Since 2005, 184 FHTs have been operationalized, and these teams serve over 200 communities.[4]

1 Canadian Medical Association, *Family Medicine Profile*.

2 Association of Family Health Teams of Ontario, *Physician Assistants*.

3 This section highlights the funding experience perspectives of the PAs/supervising physicians selected to participate in the interviews and is not necessarily representative of all PAs working in these settings.

4 Ontario Ministry of Health and Long-Term Care, *Family Health Teams*.

A total of 74 CHCs serve approximately 500,000 people, with 250,000 of these accessing primary care services.

Ontario's 184 FHTs employ 33 PAs[5] to deliver acute care as well as chronic disease management.[6] Originally funded through pilots and Career Start funding, MOHLTC added PAs to the list of providers permitted to be funded through FHTs. In turn, these programs can use existing funding to add new PAs to the complement of staff.

The number and types of health providers in an FHT is dependent upon the business and operational plans submitted for approval. In turn, the number relies upon the number and characteristics of patients served by that FHT.[7] FHT non-physician service providers, including PAs, are salaried. A total of 74 CHCs serve approximately 500,000 people, with 250,000 of these accessing primary care services.[8] CHCs have an expanded scope of health promotion, outreach, and provide community development services with the employment of interdisciplinary teams.

As Ontario demonstration projects ended in 2011,[9] to justify a new PA position, the FHT or CHC (for MOHLTC or LHIN funding) needs a business case that shows how patients will benefit. Without other funding structures in place, CHC budget or FHT position funding often requires rostering more patients or having physicians pay and determine how to be reimbursed for PAs. Our consultations showed that PAs were more likely to have secured funding if they were part of a CHC or FHT. Province wide, there are approximately seven CHC PAs.[10] Within a CHC, some LHINs flow money to select CHCs for an approved PA position. These PAs are paid a salary that is funded through their respective LHIN as a permanent provider.

5 CAPA 2017 membership database. As an unregulated profession, tracking, validating, or accurately reporting where PAs are working across Canada can be difficult. While voluntary, CAPA's membership and census data provide the most accurate information available.

6 Fernando Tavares (Acting Program Manager, FHT Unit, Ministry of Health and Long-Term Care), telephone interview by Kelly Grimes, November 4, 2016.

7 Dinh, *Improving Primary Health Care Through Collaboration: Briefing 1*.

8 Association of Ontario Health Centres, *CHC Fact Sheet*.

9 The PA role was announced in May 2006 with the launch of HealthForceOntario, the government's health human resources strategy. The PA initiative was co-led by MOHLTC and the Ontario Medical Association. The PA role was introduced to the Ontario health care system through a series of demonstration projects in different care settings (hospitals, primary care, diabetes, and long-term care). Funding for PA roles through the demonstration projects ended in March 2011.

10 CAPA 2017 membership database.

As part of the demonstration projects, employers understood that funding from Ontario was time limited. After the demonstration project funding ended, it was the employer's decision whether or not to hire the PA as a permanent employee. Some LHINs ended up extending PA funding multiple times before deciding to provide permanent funding for a PA after the initial demonstration project concluded. Sustained funding for PAs in the CHC and FHT settings provides a high level of job security and allows PAs to be fully integrated in the health care teams. As numerous studies indicate strong support for PAs among both health care providers and the public,[11] many CHC and FHT health providers would like to see additional lines of stable support to fund more than one PA per centre.

Emergency Medicine

Over the past seven years, annual Emergency Department (ED) visits in Ontario have increased by 13.4 per cent (over double the province's 6.2 per cent population increase).[12] In 2014–15, Ontario EDs dealt with approximately 5.9 million patient visits. In 2015, Ontario had 305 physicians working in emergency medicine (2.2 per 100,000 population).[13] As of July 2017, 50 PAs are working in emergency medicine.[14] In Ontario, there are about 7 FFS ED physicians and 137 Alternate Funding Arrangement (AFA) ED physicians. Consulted PAs reported working both in large academic hospital settings and in small community hospitals as front-line providers in the ED. In an academic hospital, PAs may take part in clinical activities in the emergency room of more than one hospital within the same network. In this setting, PAs may work with more than 80 physicians across multiple sites. Emergency medicine PAs conduct both clinical and non-clinical tasks. Non-clinical activities may include participating

11 See Dunlop, "A Team Designed to Meet Patient Needs"; Taylor and others, "Qualitative Study of Employment of Physician Assistants"; Doan and others, "The Role of Physician Assistants in Pediatric Emergency Medicine"; Nanos Research, *Physician Assistants Project Summary*; Doan and others, "Canadians' Willingness to Receive Care From Physician Assistants"; Doan and others, "Parents' Willingness to Have Their Child Receive Care by Physician Assistants in a Pediatric Emergency Department."

12 Health Quality Ontario, *Under Pressure*.

13 Canadian Medical Association, *Emergency Medicine Profile*.

14 CAPA 2017 membership database.

Physician salaries are not part of the hospital global budget, yet PA salaries are.

in or leading patient improvement committees, or being involved in an academic scholarship, including research, clinical supervision of PA students, and university teaching.

Physician salaries are not part of the hospital global budget, yet PA salaries are. Under the ED Ontario demonstration project and Career Start programs, PAs were/are hospital employees, and the source of the salary may be the hospital (global budget or grants), the physicians (billings or department funds), or a blend. In the community hospital setting, the PA salary and benefits were supported by the hospital's budget.[15] Overall, PAs in this context reported feeling a relatively high level of job security, but also noted that their funding was never ironclad, as all hospital employees could be subject to unexpected hospital budgetary cuts.

Similarly, in an academic hospital setting, the informant PAs reported feeling relatively secure in their positions, despite the fact that grant-funding is not intended to be a permanent salary source. In this setting, the interviewed PAs described the importance of departmental support and commitment to securing an annual departmental budget line for PAs. The interviewed PAs felt their role was valued and enjoyed a higher level of job security than PAs working under FFS physician-funding models. At the same time, however, the interviewees expressed reservations surrounding the long-term sustainability of funding provided through a physician's Alternative Payments Program.

While the interviewed PAs in hospital emergency medicine settings believed they enjoyed relative job security compared with PAs in other sectors, they still identified significant challenges to the sustainability and predictability of their current funding sources since there is no direct or guaranteed funding source for PAs or other non-physician employees. The PAs saw opportunities for funding stability under a model like the one used to compensate physicians with whom they work (e.g., under a FFS PA funding model, the PA would bill at a subsidized rate similar to that in the U.S.). The emergency medicine PAs advocated

15 Key informant interview.

for sustainable funding models across clinical settings. It is important to note that different funding envelopes mean that PAs cost the hospital directly, whereas ER physicians do not.

Endocrinology

Approximately 193 physicians worked in endocrinology/metabolism in Ontario in 2015 (1.4 per 100,000 population).[16] As of July 2017, at least eight PAs were working in endocrinology.[17] The informant PA in this field reported working in a private practice specialist group with a multidisciplinary team, including physicians, dieticians, nurses, chiropodists, diabetes educators, and pharmacists. These specialist groups focus their services on a specific patient population (e.g., diabetic patients). In this setting, the PA reported taking patient histories and performing physical exams, treating diabetic patients alongside their supervising physician; reviewing lab and diagnostic imaging; alerting the supervising physician or contacting the patient with lab results; conducting ongoing education with other PAs; and acting as sub-investigators on medical trials within their clinic. The PA reported working under medical directives that were first developed during a PA pilot project in the clinic. Each year the medical directives are reviewed and modified to fully reflect the diabetology PA role. Upon annual modification, the medical directives are reviewed and signed by the supervising physicians.

This endocrinology specialist group practice has two different ways of supporting a PA salary. The initial salary source included a CSP grant and the supervising physician's FFS income, as part of the practice overhead. To ease the financial burden, a PA's salary may be shared among several practice physicians. The PA had monthly targets for the number of patients needed to be seen with his supervising physician to ensure that the position was cost-equalizing for the practice. This example demonstrates the success of the CSP grant option. The PA was able to prove to the physician employers that he was able to meet

16 Canadian Medical Association, *Endocrinology/Metabolism Profile*.

17 CAPA Ontario records.

pre-established benchmarks and demonstrate long-term sustainability. Based on this evidence, the physicians continued funding the PA through revenue generated from FFS.

However, the PA interviewed did not believe that funding was secure in either phase. Under the initial grant, the PA felt no sense of permanence even if patient access increased and clinic flow and care improved. In the FFS funding source scenario, the PA related that his position would be jeopardized if the predetermined monthly patient quota was not met. This PA specifically referenced the U.S. funding model as a viable and sustainable solution to current funding challenges as he would be able to increase patient volume and thus job security. However, PA billing codes like the U.S. model or physicians billing a discount code for the service provided by the PA would also require adjustments to the billing fee legislation governing the Schedule of Benefits.

Orthopedic Surgery

In 2016, 604 physicians worked in orthopedic surgery in Ontario (4.4 physicians per 100,000 population).[18] In an orthopedic surgery setting, the consulted PA reported working in outpatient clinics alongside a supervising physician in an FFS physician-funding model. Barriers in securing hospital privileges have hindered orthopedic surgery PAs in joining their supervising physicians in the pre- or post-op, admitting emergency room orthopedic patients to the hospital, or assisting with operating room or hospital-based fracture clinics. As such, PAs in this setting typically work alongside the supervising physician in their outpatient clinic on non-hospital days.

In orthopedics, supervising physicians typically work in an FFS model, which means they are responsible for funding the PA as part of their staff. A key informant noted that PA positions in private practice are usually advertised at an hourly rate of $40 but, depending on the supervising physician's preference, a salary may be offered in place of an hourly rate. In either case, the PA's funding is included in the physician's practice overhead. The willingness and ability of physicians

18 Canadian Medical Association, *Orthopedic Surgery Profile*.

Interviewees identified lack of funding as the main factor that limits opportunities.

to fund a PA is influenced by how the physician values the PA's contributions to the practice and whether the financial means exist to cover the cost.

CAPA 2017 census data show that 83.44 per cent of Canada's PAs are employed full time, 6.37 per cent are employed part time, 9.55 per cent are unemployed, and 0.64 per cent are retired.[19] Like other health care providers, some PAs work several part-time positions under different physicians to create a 40-hour work week (e.g., a PA may work three weekdays under a primary supervising physician in orthopedic surgery and supplement another two days under a physiatrist or other physician). This arrangement brings both opportunities and complications. On one hand, working multiple part-time jobs is not unique to PAs or the health workforce. Many physicians work in a variety of clinical settings in any given week, which provides new grads with the opportunity to work in various settings and learn from different physicians. A model in which a hospital employee PA also works clinically in a variety of specialties could help divide up the PA's salary cost among different departments. On the other hand, this situation could bring complications surrounding benefits, such as extended benefits and vacation time. The trend toward working several part-time positions was mostly observed among PAs working with physicians in an FFS model, such as orthopedic PAs working in outpatient clinics. PAs in this setting pieced together as many as three different hourly waged positions in separate care settings to generate what would be equivalent to a full-time salary.

Opportunities and Challenges

Interviewees identified lack of funding as the main factor that limits opportunities and presents hiring challenges in any given setting or location. Potential solutions include having the provincial government or LHINs provide funding for permanent PA salaries, allowing physicians to bill for a PA under a special billing code, or giving PAs a billing number and allowing these providers to bill at a subsidized rate, similar to that

19 CAPA 2017 census data.

in the United States. The interviewees identified a lack of regulation and legislation as the second-largest challenge that impacts PAs' ability and opportunity to work in a variety of practice settings. Other identified challenges include unclear guidelines about integrating a PA into the practice, skills, training, experience, and government priorities. If emerging patterns continue, much of the demand for PAs will remain in or be expanded in the settings of emergency medicine and primary care.

CHAPTER 5

Conclusion

Chapter Summary

- Although largely an area of untapped potential in most provinces and territories, PAs can help address many service gaps and health system policy goals, including improved continuity care, access, equity, and sustainability.
- PAs can be an efficient extender or complement for designated medical tasks, alleviating demand on physicians' time and improving patient care.
- A comprehensive funding model would enable the expansion of PAs across Canada.
- A tracking system showing evidence of impact within various funding models would help make the business case for the greater integration of PAs across jurisdictions that currently employ them and for consideration in others that currently do not.

Canada's health system consumes a significant portion of the country's economic resources. Population aging and the rise in chronic disease will continue the pressure to spend. Interprofessional and collaborative care teams can help meet heightened health services demand, and PAs can act as an efficient complement, or substitute for designated medical tasks. PAs can help meet a growing demand for medical services by providing additional resources for physicians to work on other tasks (e.g., clinical, teaching, research, or administrative). However, sustainable funding models that support PA employment and integration are lacking in many provinces, and the largest population of PAs remains unregulated in Ontario.

The international PA funding examples from the U.S., the U.K., and the Netherlands reveal that as demand for care increases, new and innovative workforce planning and delivery models emerge to better meet local needs. PAs are an effective and largely "untapped" health provider group that can be part of solutions for needs-based planning. Service delivery approaches must provide high-quality, efficient, and effective (including cost-effective) care. PAs trained in the medical model act as physician extenders in collaborative and interprofessional teams. Optimizing the use of PAs can address many service gaps and health system policy goals in Canada, including improved continuity care, access, equity, and sustainability. PAs can address many of the nation's looming workforce gaps. Paradoxically, PA integration remains largely an area of untapped potential in most provinces and territories.

The insights generated from interviews with several Ontario PAs represent some unique experiences of PAs, including perspectives on funding agreements, regulation, and medical directives. Ontario

The domestic and international funding sources vary widely and no "best practice" funding model approach emerged.

has implemented some successful funding mechanisms, both in its demonstration projects and its CSP. This continues with new clinical services funding in primary care and hospital settings. Although it has not yet developed a long-term sustainable PA funding model, it has established a Physician Assistant Working Group to help the Ministry of Health and Long-Term Care develop and implement initiatives to improve the integration of PAs into Ontario's health workforce for the benefit of patients.

The funding experience of Ontario PAs is a patchwork of funding mechanisms across and within practice settings. The interview perspectives reveal a sentiment that the absence of a provincially mandated funding model is a significant barrier to employment and stability for Ontario PAs. Key informants highlighted the opportunity for PAs to play a significant role in improving quality of care for Ontarians by improving access to care. These opportunities, however, cannot be wholly realized without a sustainable funding model, professional regulation, awareness, and education. Suggested potential avenues for exploration include the implementation of salaried funding and the introduction of a subsidized PA billing code to the physician FFS schedule. The PAs consulted in this work voiced that they would like to see a sustainable funding model for PAs in Ontario to support the longevity and growth of the profession in the province.

Some of the key observations and potential areas for further investigation in future research and in the subsequent report of this series are described below.

Funding Models Need to Better Reflect Context

The domestic and international funding sources vary widely and no "best practice" funding model approach emerged. The context of where the PA is employed, the services the PA is providing, the availability of funds, and the incentives or disincentives resulting from that funding model and how they affect cost-effectiveness and sustainability all impact the type of funding mechanisms countries employ. For example, the U.K. is using PAs to deal with locum issues, especially in rural/remote settings. This strategy may not translate directly to the Canadian context, as physician

services here come from a different funding envelope. The Dutch experience shows that tax changes can be powerful motivators to further PA acceptance and integration among physician groups.

A Salaried Approach for Remuneration Is the Most Common and Likely Way Forward

Salary appears to be the most common approach to PA remuneration, which is set at a rate that is reflective of the PA experience and where they are employed. In the international case examples from the U.S., the U.K. and the Netherlands, and the domestic examples from Manitoba and Ontario, most PAs are salaried; however, remuneration for their services by public payers is often made through a discounted FFS model (85 per cent) back to the delivery model. In Ontario, this funding mechanism would require an adjustment to the Schedule of Benefits for physicians to be able to recoup the costs by being able to bill for the services rendered by their PA.

Monitoring PA Work, as Well as Their Impact, Outcomes, and Efficiency, Is Essential

An appropriate funding model for PA integration must be efficient and sustainable for the health system and meet defined performance and outcome targets. Pilot-testing of various approaches has been done, and Canada needs to start implementing accountability metrics. Manitoba believes that tracking based on either ICD-10 or physician FFS billing codes might be a better method to understand PA tasks and impact. A tracking system would also help build a database to undertake further research on the quantitative impact of PAs in the Canadian health system and to help monitor the ever-growing and evolving practices across the country. This should include where and how they work and how that changes with community needs and infrastructural challenges and opportunities over time. Improved data collection and tracking systems would also benefit employers and funders of PAs. Opportunities immediately arise in collaborative and comparative work models in the U.S., U.K., and the Netherlands to identify efficiencies of service delivery to select populations.

Communication About the Value of PAs Is Important Within a Strained Health Care System

The optimization of the use of PAs in Canada within models requires clear communication with health system administrators, policy-makers, other health care providers, and—most importantly—patients. All Canadians need to regard the role of PAs and the value they bring to the health care system from a population health and efficiency perspective. PAs must be seen to be filling service gaps in the health care system. Evidence of where they can contribute to a system to improve patient demands is needed. Although a number of studies and project evaluation reports have demonstrated the PAs' ability to improve patient access and quality of care, as well as the work–life balance of physicians and other health care providers, more granular research is needed.[1] While the HealthForceOntario project was the largest and best-designed study of PAs to date, very little promulgation of the vast data gathered has been published.

1 Bowen, *Manitoba Introducing Physician Assistants Into Primary Care*.

APPENDIX A

Key Informant Interviews and Guide for Case Examples

Tables 1 and 2 show the key informants and the additional informants, respectively, that took part in the 45-minute interviews.

Table 1
Key Informants, Using Standardized Interview Guide

Country	Informant
Canada (Manitoba)	Russell Ives, MPAS, CCPA Director (Provincial/WRHA) Physician & Clinical Assistant Program Winnipeg, Manitoba
United States	Roderick S. Hooker, PhD, MBA, PA Independent Health Policy Consultant Adjunct Professor Northern Arizona University
United Kingdom	Matt Aiello Urgent and Acute Workforce Development Specialist, West Midlands, Health Education England
Netherlands	Wijnand van Unen, MPA President Netherlands Physician Assistant Association Utrecht, Netherlands

Source: The Conference Board of Canada.

Table 2
Additional Informants, Using Subsequent Telephone and/or E-mail Communications

Country	Informant
Canada (Manitoba)	Ian W Jones, MPAS, CCPA, PA-C, DFAAPA Program Director; Assistant Professor Master Physician Assistant Studies Max Rady College of Medicine Winnipeg, Manitoba

(continued …)

Table 2 (cont'd)
Additional Informants, Using Subsequent Telephone and/or E-mail Communications

Country	Informant
United Kingdom	Tamara S. Ritsema MPH, MMSc, PA-C Director of U.K. PA Annual National Census Washington, D.C.
Netherlands	Ellen Dankers-de Mari* Physician Assistant en Verpleegkundig Specialist Capaciteitsorgaan Utrecht, Netherlands

Source: The Conference Board of Canada.

Interview Guide Questions

Many thanks for agreeing to take 45 minutes to chat with us. The Canadian Association of Physician Assistants (CAPA) has commissioned The Conference Board of Canada to undertake this project to provide a better understanding of the role and impact that physician assistants (PAs) have had in various health care settings across Canada, as well as a review of funding models that have enabled the successful and sustainable integration of PAs in various health systems. We are collecting data to better understand the various funding models that have been implemented to integrate PAs into health care teams: stand-alone salaries, fee-for-service, as well as fees that are linked to physician compensation. It will identify funding options and recommendations to engage in a practical dialogue toward the future expansion of PAs' role within health care systems across Canada.

To accompany a literature review, information from key informant interviews both in Canada and in other systems with longer experience using PAs are being conducted. Your name was provided by CAPA and/or the advisory committee in our effort to gather perspectives. Would you be willing to have your name and organization cited in this policy report? Any questions before we begin?

Section A: Key Informant Interview Profile

Name of interviewer(s):
Name of interviewee(s), title(s), organization name, and location:
Date of interview:

Section B: Background of the Context

1. Briefly describe the settings in which PAs practise within your health system (i.e., primary care, acute care, long-term care).
2. How long have PAs practised as part of your clinical teams?
3. How many PAs are currently employed in your context (total and by setting)?
4. What roles do they undertake?
5. Are PAs regulated or outlined in legislation within your context? Why or why not? What are their education requirements? What are their scopes of practice?
6. Are you aware of the original impetus in deciding to integrate PAs in your jurisdiction/clinical setting? If yes, what was it? Have your original objectives changed over time?
7. Did you develop a business plan, impact study, or other background documents to make the case for PA integration? If yes, what are your most compelling arguments? Would you be willing to share these materials?
8. What is the general acceptance of the PA role by other members of the health delivery team? What have been some of the barriers and facilitators to acceptance of PAs?

Section C: Funding Model for PAs

9. What is the current funding model being used to integrate PAs into health care teams (i.e., direct from government, regional health authority, physicians, government project)? Is the funding model sustainable in the longer term?
10. How are PAs remunerated (salary, fee-for-service, other)? What is the average annual salary for PAs? Would they be willing to provide the salary grid and the average salary? How do PAs move through the salary grid (i.e., is it annual increments or based on merit)?

11. What are the advantages and disadvantages of this funding and remuneration model?
12. Are there other funding models or considerations that should be emulated in the future expansion of the PA's role in health systems to ensure more effective integration and optimization? Why suggest this (i.e., consider around barriers and facilitators)?

Section D: Impact

13. Have you examined if PAs provide a cost-effective solution to enhance health care services? If so, what have you discovered? Any evidence that PAs enhance physicians' productivity (physician time saved, wait times, length of appointment visit, length of stay, resident workload, physician caseload)?
14. Do you have any other qualitative or quantitative data on the impact of PAs on the organization in terms of outputs and outcomes, especially around access (roster level, number of patients seen per day/week/month, number of office visits per patient, etc.), or outcomes (cost savings, patient satisfaction, employee satisfaction, safety, mortality, indicators of care, etc.). Documentation/evidence that could be shared?
15. Any other advice, reports, or articles you would like to provide on funding models and their potential impacts to better understand the role and impact of PAs?

APPENDIX B

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