PHYSICIANS AND SURGEONS

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Suggested Citation:
Hedden, L., Fuad, A., & Bourgeault, I.L. (2023). Physicians and Surgeons. Optometrists. In I.Bourgeault (Ed.), *Introduction to Health Occupations in Canada.* (p.361-392). Ottawa: Canadian Health Workforce Partners, Inc.

Physicians and Surgeons

Introduction

Focused on improving the health and wellbeing of individuals, families and communities, physicians are one of the most readily recognizable health-care practitioners. They diagnose and treat injuries, illnesses and impairment, and also counsel patients on how to maintain and improve their health.

Physicians have a long history in Canada, with regulation and licensing first occurring in Ontario in 1865. By the late 19th century, medicine had become the dominant health-care profession in Canada; however, the 1962 Saskatchewan doctor's strike and the rise (and regulation) of other health professions have since tempered the dominance of the physician profession *(Coburn, Torrence & Kaufert, 1983)*.

Physicians are trained in stages, beginning with a generalized medical degree followed by post-graduate training in one or more specialty areas. Family physicians are usually a patient's first point of contact with the Canadian health-care system. They also coordinate additional health-care services patients may require, such as specialized services *(Health Canada, 2011)*. Medical and surgical specialists focus on specific diseases, certain patients, or methods of diagnosis and treatment. They generally treat patients who have been referred to them by a family physician.

Physicians in Canada practise in a variety of settings, including solo or group practises, hospitals, long-term care or rehabilitation facilities, public or community health centres, and laboratories or academic research centres. Many are independent contractors who are paid on a fee-for-service basis, although other forms of payment, such as salary or sessional fees, are increasingly common.

The number of physicians in Canada is growing rapidly. In 2020, there were more than 92,000 active physicians practising across the country, just over half of whom are family physicians *(Canadian Institute for Health Information (CIHI), 2021)*.

This chapter introduces the practise of medicine in Canada and focuses on the following topic areas:

- The history of the profession;
- Branches of medicine (specialties and subspecialties);
- Education and training for physicians;
- Regulation and standards for medical practise;
- Physician payments and income;
- Supply and demographics of Canada's physician population; and
- Topical issues related to the physician profession.

Historical Timeline

- **1818:** First medical board established
- **1820:** First Canadian medical school established (Montréal Medical Institution, which would become McGill University)
- **1865:** Self-regulatory licensing legislation passed
- **1867:** Canadian Medical Association founded
- **1869:** College of Physicians and Surgeons of Ontario established
- **1871:** Women granted admission to medical school
- **1912:** *Canada Medical Act* passed, creating national medical licensing standard, establishing the Medical Council of Canada and restricting the number of providers
- **1929:** Royal College of Physicians and Surgeons of Canada established
- **1954:** College of General Practise of Canada founded
- **1962:** Saskatchewan establishes medical insurance plan for physician services, resulting in a 23-day doctors' strike
- **1964:** Royal Commission on Health Services recommends national health insurance for physician services
- **1966:** *Medical Care Act* proclaimed, provides cost-sharing for provincial/territorial medical insurance plans
- **1972:** All provinces have medical insurance plans with federal cost sharing
- **1984:** *Canada Health Act* passed, preventing user fees and extra billing by physicians

History of the Profession

Physicians in the 18th and 19th centuries

Prior to Confederation, medical practise in Canada was essentially unregulated; physician training was based on apprenticeship rather than formal education and there were no standardized competency assessments *(Medical Council of Canada (MCC), 2014a)*. The practise of medicine was shared between physicians and other providers, such as homeopaths and eclectics (early naturopaths) *(Gidney & Millar, 1982)*, and was generally done in patients' homes rather than clinics or hospitals, which were reserved to shelter the impoverished and treat the dying.

Beginning in 1795, several failed attempts were made to pass legislation to license physicians, creating a medical monopoly and preventing non-physician practitioners from treating patients. It wasn't until 1818 when the first medical board in Upper Canada (Ontario) was created. This board established the first procedure for physician certification *(Coburn et al., 1983)*. The first Canadian medical school was then established in 1820: the Montréal Medical Institution, which eventually became McGill University *(Coburn et al., 1983; Gidney & Millar, 1982)*.

The Specialization of Medicine

In Canada, the medical profession started as a single homogenous occupation, with medical students first being trained through unregulated apprenticeships. In 1929, the Royal College of Physicians and Surgeons of Canada was founded and offered two specializations: general medicine or general surgery. Today, the College formally recognizes 67 specialties, subspecialties, and special programs as well as 22 areas of focused competence (AFC) *(Royal College, 2022)*. This dramatic increase in specialization can be problematic for patients, fragmenting their care and making it challenging to navigate the health system *(Goldbloom, 1978)*. Increased specialization can also bring improvements to patient outcomes, particularly those related to surgical procedures and the volume-outcome relationship *(Chowdhury, Dagash, & Pierro, 2007)*.

Self-regulatory licensing legislation was passed in 1865 and then revised in 1869 with the founding of the College of Physicians and Surgeons of Ontario *(Coburn et al., 1983)*.[1] The Canadian Medical Association (CMA), a national advocacy group for physicians, was founded in 1867 as the first national medical body in Canada *(CMA, 2014)*. The CMA would become a forum for interpreting developments affecting the medical profession (such as the health insurance movement) and formulating a unified response from the physician profession *(Coburn et al., 1983)*.

Women in the medical profession

As a result of the movement led by Emily Howard Stowe and Jennie Kidd Trout, women won the right to be admitted to medical school; however this didn't occur until 1871, a full 51 years after the first medical school was established. This achievement was then followed by the founding of the Ontario Medical College for Women (eventually affiliated with the University of Toronto) in 1883. Women remained a minority in medicine, comprising less than 4% of the workforce until the early 1960s.

Physicians in the 20th century

The national *Medical Care Act* was passed in 1912, creating a uniform standard for physician assessment across all provinces to be administered by the newly formed Medical Council of Canada (MCC) *(MCC, 2014a)*. Despite this uniform standard, the regulation of physicians remained a provincial and territorial function.

The MCC created a credential that provinces could accept as the basis for granting licences; however, it was not until 1992 that provincial licensing bodies, medical schools and the MCC all endorsed a national standard for portable eligibility for licensure.

Government-administered health insurance

Early in the 20th century, there were calls for increased government involvement in health care—and specifically for national health insurance. Despite a 23-day doctors' strike in protest, in 1962 government-administered health insurance covering physician services was established first in Saskatchewan. The strong opposition to universal health coverage was driven by physicians who viewed government-administered insurance schemes as a serious threat to their incomes and professional autonomy *(Naylor, 1986)*. The strike ended with the signing of the *Saskatoon Agreement*, a compromise between physicians and the provincial government that granted physicians practise autonomy and fee-for-service remuneration—in exchange for the provision of universal, publicly administered health services *(Marchildon, n.d.; Naylor, 1986)*.

In 1966, the *Medical Care Act* was introduced, allowing each province to establish universal health insurance and mandating 50-50 cost sharing for health care between the federal and provincial governments, which extended to physician services *(Health Canada – Strategic Policy Branch, 2011)*. By 1972, all provincial and territorial hospital insurance plans had been extended to include coverage for physician services.

1 Prior to the passing of self-regulatory licensing, a university degree conferred the right to practise medicine (Coburn et al., 1983).

The Rise and Fall of Medical Dominance

Coburn and colleagues (1983) argue that medicine rose to dominance in the late 19th and early 20th centuries, essentially creating a medical monopoly by weeding out other 'paramedical' professions and establishing medicine as a homogenous, regulated occupation. Pharmacists agreed to a ban preventing them from counter-prescribing medications, making them effectively subordinate to medicine by the early 20th century *(Coburn et al., 1983; Gidney & Millar, 1982)*. Shortly after, chiropractic and osteopathy moved into Canada, but attempts at passing legislation that would increase their power and access were unsuccessful. Midwifery was gradually outlawed. Other professions, such as physiotherapy, occupational therapy and others are relatively new and "were born under medical control" *(Coburn et al., 1983; Gidney & Millar, 1982)*.

By the post-Second World War period, the medical profession was at the height of its power, with its dominance enshrined in legislation, institutionalized and embedded in law and statute *(Alford, 1977)*. Members of the profession exerted influence through lobbying as well as "formal and informal organizational channels with governments and state bureaucracies" *(Coburn et al., 1983)*.

The decline of medical hegemony began with the Saskatchewan doctor's strike of 1962, in which the profession lost the unilateral right to define its own fee schedule and was forced to negotiate this with the government. Other health-care providers—nurses, pharmacists, dentists, optometrists and others—began seeking and establishing their own autonomy, which also "chip[ped] away at medical authority" *(Coburn et al., 1983)*.

Although medicine has lost some of its power and autonomy since the Second World War, it still remains the most powerful and influential health occupation in Canada. Additionally, many of these laws and statutes, created when the health-care division of labour looked very different, are still in effect today. This has been described as the 'structural embeddedness of medical dominance' in regulatory and funding policies (Bourgeault & Mulvale, 2006).

Preventing the rise of a two-tiered system

In 1979, Justice Emmett Hall conducted a review of health services in Canada. His report, *Canada's National-Provincial Health Program for the 1980s*, noted that the use of extra billings by doctors as well as hospital user fees were creating a 'two-tiered system' that threatened accessibility *(Hall, 1980)*. This report led to the development and passing of the 1984 *Canada Health Act*, which prevents physicians from charging user fees or extra billing for insured services—and cemented Canada's health system as (primarily) publicly funded and privately delivered *(Deber, 1998)*.

Challenges to Medicare

Medicare has recently faced legal challenges from certain physicians fighting to have for-profit clinics play a larger role in the Canadian health-care system. The first, Chaoulli v. Québec, was a 2005 Supreme Court of Canada decision which found that prohibiting the purchase of private insurance when waiting times for some services covered by provincial health insurance were long violated the *Québec Charter of Rights and Freedoms (Flood, 2006)*. The second challenge, led by Dr. Brian Day, owner of the for-profit Cambie Surgery Clinic in British Columbia, sought to strike down provincial health legislation that limits for-profit delivery of medically necessary services on the grounds that this violates the *Canadian Charter of Rights and Freedoms* (*Canadian Doctors for Medicare, 2020)*. The high-profile, multi-year case was dismissed by the Supreme Court of British Columbia on July 15, 2020 (Weisgarber, 2020).

Education and Training

The process for becoming a physician in Canada is outlined in Figure 1 *(Canadian Medical Association, 2015)*.[2] Depending on specialty, training can last nine to 12 years, following the completion of high school and ending with the successful completion of a residency-training program before starting medical practise.

Medical school

In Canada, there are presently 17 faculties of medicine[3]. Admission into medical school is generally based on eligibility requirements such as an undergraduate degree with specific basic science courses. Good academic performance is valued and is usually based on grade point average (GPA) and for some schools, the results from the standardized Medical College Admission Test (MCAT). Medical schools in Quebec, the University of Ottawa and the Northern Ontario School of Medicine do not require applicants to complete the MCAT exam because it is not offered in French. McMaster University does not require applicants to complete the exam, either. Other important factors for admission include autobiographical sketch, a personal statement, reference letters and a panel interview or Multiple Mini Interview (MMI) (AFMC, 2021). 12 schools are now requiring the Computer-Based Assessment for Sampling Personal Characteristics (CASPer), a situational judgment test aimed at evaluating key professional and personal characteristics (Take Altus, 2022).

Competition for spaces

Medical school application pressure in Canada is very high. In 2018/19 there were over 14,000 applicants for under 2,900 positions (Association of Faculties of Medicine of Canada, 2019). Ontario medical schools consistently have some of the highest application pressure (Figure 2). Some faculties of medicine have residency requirements that reserve the majority of their spaces for residents of their own province.

The cost of education

Medical school tuition fees vary widely by province, ranging from $3,053 to $26,652 per year in 2022. Universities in Québec offer Québec residents reduced rates of an average under $4,500 per year. Universities in Ontario charge the highest tuition, all over $23,000. International applicants are subject to higher fees, which reach $144,790 per year at some universities *(Association of Faculties of Medicine of Canada, 2021*)*.

Duration of study

Medical school is a four-year program, with the exception of programs at McGill University and the Université de Montréal (which offer a preparatory year) and at McMaster University and the University of Calgary (which offer compressed three-year programs). For McGill University and Université de Montréal, students who complete the preparatory year are automatically admitted to the full four-year Doctor of Medicine (MD) program, although the preparatory year is not required *(Association of Faculties of Medicine of Canada, 2013)*.

The first two years of medical school are typically spent learning the fundamentals of medicine, including physiology, anatomy, genetics, pharmacology and pathology, the social determinants of health, epidemiology, and legal aspects of medical practise. Teaching methods vary by university, but usually include a combination of didactic lecturing and problem-based learning, combined with patient simulations. The remaining years are typically spent on a rotating clerkship, where students work with patients while being supervised by physicians and residents. Rotations include family medicine, internal medicine, obstetrics and gynecology, pediatrics, psychiatry, surgery and emergency medicine. Some universities offer additional rotations, allowing students to explore specialties of their own interest.

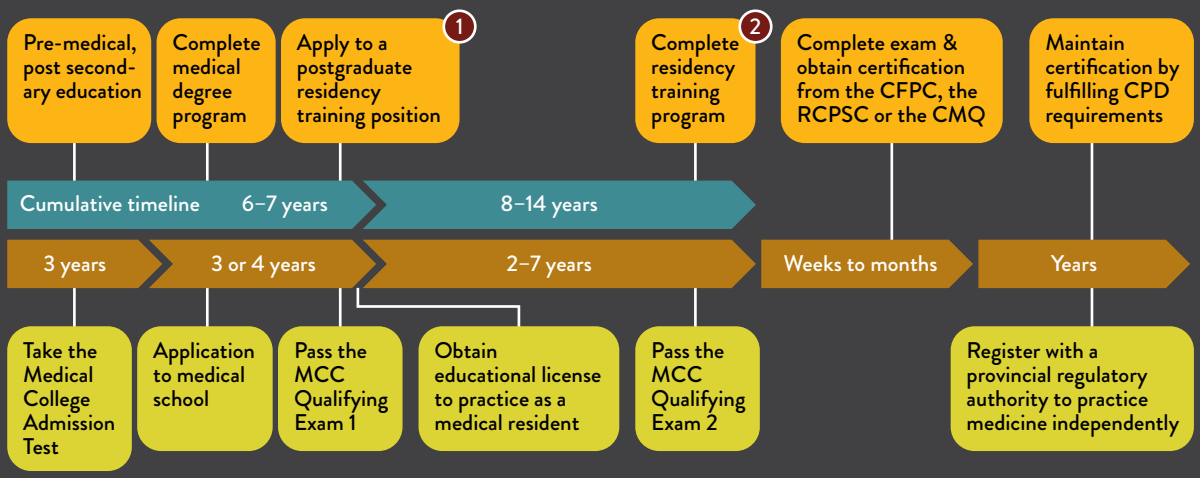
The three-year accelerated programs offered by McMaster University and the University of Calgary are exceptions to this learning path. These schools use problem- rather than lecture-based learning, which is case-based and conducted in small groups. Students also focus on clinical skills and professional competencies for the entire program rather than the final years only.

* https://www.afmc.ca/sites/default/files/pdf/2021_admission-requirements_EN.pdf

2 Graduates of medical schools outside of Canada do not follow the same licensure process. This specific process is outlined in this chapter's section on international medical graduates.

3 A new medical school at Toronto Metropolitan University will begin accepting students in 2025.

Figure 1: Becoming a physician or surgeon in Canada/Canadian medical graduate route



Acronyms & symbols	
MCC	Medical Council of Canada
CFPC	College of Family Physicians of Canada
RCPSC	Royal College of Physicians and Surgeons of Canada
CMQ	College des médecins du Québec
CPD	Continuing Professional Development Involvement with a faculty of medicine

1 Canadian medical graduates applied to 11 programs in 2 different disciplines on average in 2009. Applicants are contractually bound to fulfill the training program assigned by the match provider even if it is not their first choice.

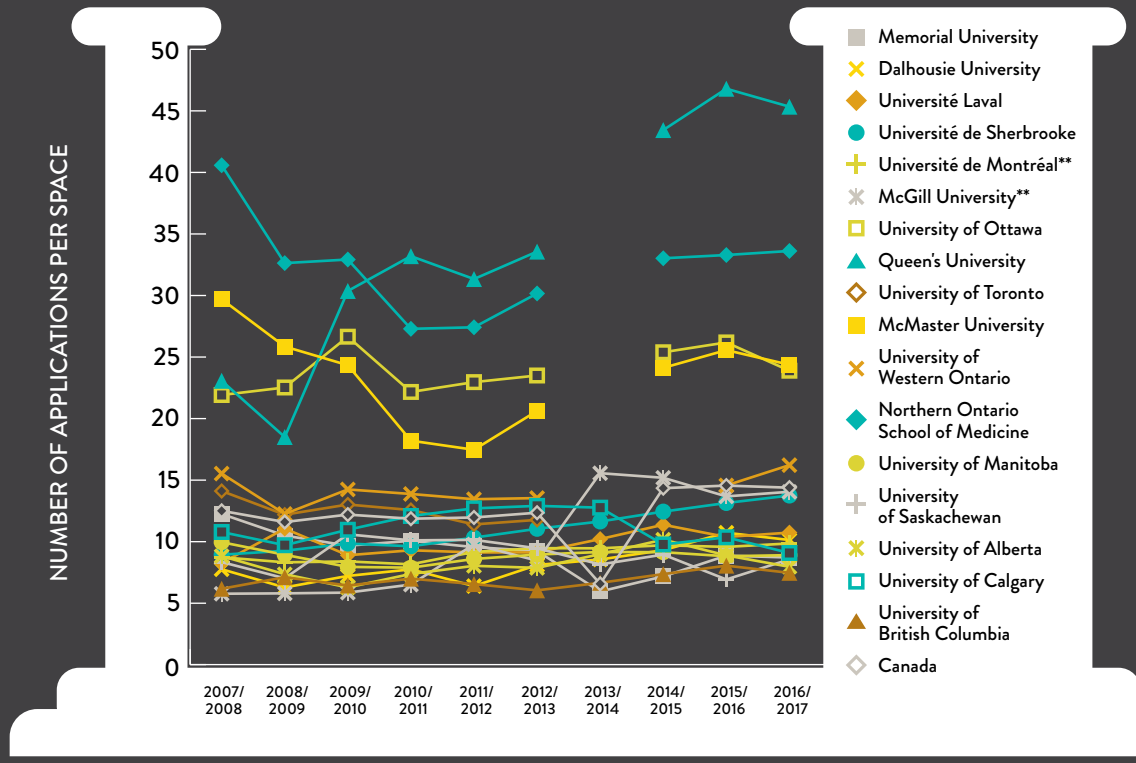
2 Example training programs	
Family medicine	2 years
Internal medicine	4 years
Psychiatry	5 years
Obstetrics & gynecology	5 years
General surgery	5 years
Cardiac surgery	6 years
General surgical oncology	7 years

Source: AFMC 2022. Admission requirements.

Canadian Faculties of Medicine/Health Sciences

Memorial University
Dalhousie University
Université Laval
Université de Sherbrooke
Université de Montréal
McGill University
University of Ottawa
Queen's University
University of Toronto
Toronto Metropolitan University
(will accept students in the fall of 2025)
McMaster University
University of Western Ontario
Northern Ontario School of Medicine
University of Manitoba
University of Saskatchewan
University of Alberta
University of Calgary
University of British Columbia

Figure 2: Ratio of applications to available medical school spaces, 2007/08–2016/17



Source: Association of Faculties of Medicine of Canada, 2017

Examinations and post-graduate training[4]

After successfully completing medical school, candidates must write the Medical Council of Canada's Qualifying Examination (MCCQE). A one-day test that assesses the core competencies of graduates before they enter post-graduate residency training programs, the MCCQE covers important knowledge, clinical skills and attitudes outlined as part of the Medical Council of Canada's objectives.

Post-graduate residency programs

Entry to post-graduate residency training is facilitated through the Canadian Resident Matching Service (CaRMS). The matching process begins with candidates reviewing descriptions of all programs participating in the match in that year and submitting applications to those they are interested in. Programs interview their selection of candidates and create a rank order list. Candidates create their own rank order. CaRMS uses an algorithm that attempts to place an applicant into his/her most preferred program, providing applicants with their best possible outcome. While the total number of residency spots is slightly greater than the number of students graduating from medical school in a given year, the specific number of spots in a specific discipline or location may vary, leading to a potential mismatch between students' preferences and available training spots.

4 Post-graduate training for graduates of medical programs outside of Canada is discussed in International Medical Graduates section of this chapter.

Indigenous Students, Trainees and Physicians

As noted in the introductory chapter, the Truth and Reconciliation Commission Calls to Action include increasing the number of Indigenous health workers, including physicians. Canada's population is more than 4.5% Indigenous, while less than one per cent of physicians identify as Indigenous according to the 2016 StatCan Census (Ohler, 2018). This means that there is one Indigenous healthcare professional per 2200 Indigenous peoples (Ohler, 2018). Based on the size of the country's Indigenous population, the number of Indigenous medical students in Canada is six times below expectations (Dhalla et al., 2002). Canadian medical schools have enacted policies targeting the recruitment and retention of Indigenous students, and nearly all now have a number of seats reserved for Indigenous applicants; however, recruitment remains a challenge as many reserved spaces go unfilled.

Complementing efforts to increase the number of Indigenous physicians are efforts to address cultural safety and humility in medical practise, including through medical training. The topic of Indigenous health is also being integrated into standard medical school curricula through the efforts of the Indigenous Physicians Association of Canada, which worked with the Association of Faculties of Medicine of Canada to develop and implement a framework for core competencies for Indigenous health (Indigenous Physicians Association of Canada & Association of Faculties of Medicine of Canada, 2009). The 2019 AFMC Joint Commitment to Action on Indigenous Health reports that so far, the implementation of the IPAC-AFMC undergraduate curricular framework is uncertain, and numerous forms of anti-Indigenous racism remain prevalent, even at the most advanced schools *(Association of Faculties of Medicine of Canada, 2019)*. There is currently no data available on the state of the Indigenous health curricula in Canada's medical schools including possible barriers that may have limited implementation *(Association of Faculties of Medicine of Canada, 2019)*. To help address this issue, one of their action statements is: "Medical schools commit to the development and implementation of a longitudinal Indigenous health curriculum with anti-racism/anti-colonialism as the core pedagogical approaches."

The Royal College of Physicians and Surgeons of Canada's established an Indigenous Health Advisory Committee and approved a landmark recommendation making Indigenous health a mandatory component of postgraduate medical education. An Indigenous-led Health Specialty in PGME Steering Committee was set up to support application of the decision. An environmental scan of the 17 faculties of medicine in Canada was done to analyze their current "state of readiness" to integrate Indigenous health in PGME curriculum and programming. This scan showed that while Indigenous health related curriculum and initiatives was a priority, a lack of resources, community relationships and dialogue were frequently noted (Royal College, 2021). The Truth and Reconciliation Commission Calls to Action have been a catalyst for the advancement of content and programming presently available at many universities (Royal College, 2021). Necessary areas of development reported were "direction and additional understanding of culturally inclusive and reciprocating practises to uphold social accountability" (Royal College, 2021). A joint task force with the College of Family Physicians of Canada will implement educational measures, professional development opportunities, and policy and practise advancement in the area of Indigenous Health *(Royal College of Physicians and Surgeons of Canada, 2018)*.

Post-graduate residency programs vary in length based on specialty, from two years for family medicine to as many as six years for several surgical residencies (e.g., cardiac surgery or neurosurgery). Most programs, however, last five years. The College of Family Physicians Canada (CFPC) accredits family practise residency programs, while the Royal College accredits all other specialty residency programs.

Written in the final year of residency, certifying examinations are administered by the CFPC or the RCPSC (depending on whether the residency was in family medicine or another specialty), and consist of written and oral components. Practise licenses are granted by provincial Colleges of Physicians and Surgeons, which act as the medical regulatory authority in each province and territory.

Branches of Medicine

Specialties recognized in Canada cover three categories: family medicine, medical specialties (including both clinical and laboratory specialties) and surgical specialties (Table 1).

Family medicine specialty

Family physicians (previously known as general practitioners) or general practitioners[5]—provide comprehensive and continuous care to patients and families. Family physicians prevent and treat illness and injury, and are also responsible for primary mental health care, maternity care, rehabilitation, palliative care and health promotion *(World Health Organization, 2008)*. The 'gatekeepers' of Canada's health system, family physicians also coordinate other forms of health care for patients, including access to medical or surgical specialists, or to imaging and laboratory testing.

To better meet the needs of their community of patients, some family physicians may include a specialized area of focus in their practise; for example, sports medicine, women's health, mental health, substance abuse treatment and others. Training for these areas of focus ranges from an additional three months to a year *(College of Family Physicians of Canada, 2013)*.

Medical and surgical specialties

Medical and surgical specialists focus their practise on a particular disease category, diagnostic or treatment technique, class of patient or particular body system. Surgical specialties are defined as the areas of medicine where diagnosis or treatment of illness or injury is primarily accomplished through the use surgical techniques. Medical specialties, on the other hand, are generally 'non-operative'.

The Royal College of Physicians and Surgeons of Canada (RCPSC) currently defines the requirements for specialty education across 67 areas (see Table 1) *(Royal College, 2014b)*. Subspecialties, special programs and areas of focused competence allow physicians to further refine their practise activity to a more narrow scope. Subspecialties are defined as areas "with a more focused or advanced scope that builds upon broad-based knowledge defined in a parent specialty" *(Royal College of Physicians and Surgeons of Canada, 2014b)*. Areas of focused competence are even more narrow: "a highly focused discipline… with specific and narrow scope… that does not meet the criteria of a subspecialty" *(Royal College of Physicians and Surgeons of Canada, 2014b)*.

Medical specialists may function as primary care providers and generalists for certain patient populations and/or for patients during certain life stages. For example, pediatricians may be the primary care physicians for young children.

Continuing medical education

To maintain certification, the Royal College and the CFPC require continuing medical education. Called Maintenance of Certification (MOC) and Maintenance of Proficiency (MAINPRO), respectively, both programs consist of earning education credits over a span of five years. Credits can be earned by attending workshops or conferences, teaching, conducting research or publishing papers in peer-reviewed journals.

International Medical Graduates

International medical graduates (IMGs) are graduates of MD programs from medical schools outside of North America. IMGs who have competed their MD but not post-graduate medical training (residency) typically seek out opportunities for residency training upon arrival in Canada *(AFMC, 2014)*. IMGs who have completed both their MD programs and post graduate training at recognized programs internationally search for 'practise eligible' routes that would allow them to begin caring for patients immediately under a full or restricted medical licence *(AFMC, 2014; Walsh et al., 2011)*.

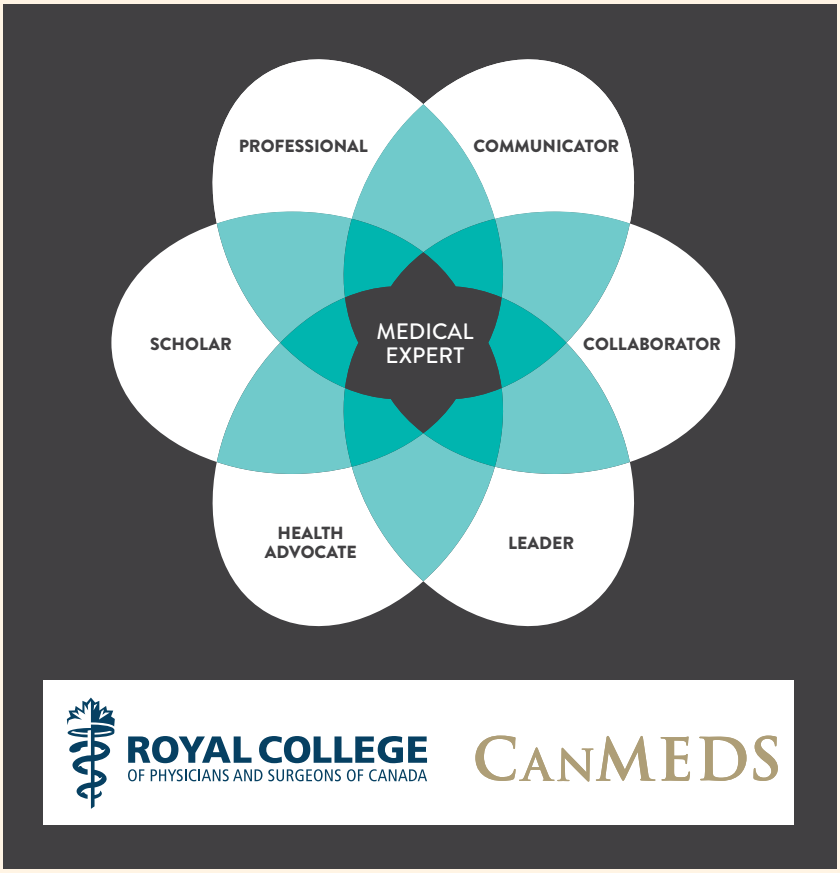
5 General practise has been phased out of physician training. In 1993, the College of Family Medicine of Canada (CFMC) replaced the one-year rotating general practise internship with a two-year family medicine residency program *(Evans & McGrail, 2008)*.

TABLE 1: Royal College of Physicians and Surgeons of Canada specialties and subspecialties

Specialties	Subspecialties
Anatomical pathology	Forensic pathology
Anesthesiology	Clinical pharmacology and toxicology Critical care medicine Pain medicine Palliative medicine
Cardiac surgery	Critical care medicine Thoracic surgery
Dermatology	–
Diagnostic radiology	Interventional radiology Neuroradiology Pediatric radiology
Emergency medicine	Clinical pharmacology and toxicology Critical care medicine Pain medicine Pediatric emergency medicine
General pathology	Colorectal surgery Critical care medicine General surgical oncology Pediatric surgery Thoracic surgery
General surgery	Colorectal surgery Critical care medicine General surgical oncology Pediatric surgery Thoracic surgery
Hematological pathology	–
Medical genetics and genomics	–
Medical microbiology	–
Neurology	Pain medicine Palliative medicine
Neuropathology	–
Neurosurgery	–
Nuclear medicine	–
Obstetrics and gynecology	Gynecologic oncology Gynecologic reproductive endocrinology and infertility Maternal-fetal medicine
Ophthalmology	–
Orthopedic surgery	–
Otolaryngology-head and neck surgery	–

Specialties	Subspecialties
Internal medicine or pediatrics	Adolescent medicine (pediatrics only) Cardiology Clinical immunology and allergy Clinical pharmacology and toxicology Critical care medicine Developmental pediatrics (pediatrics only) Endocrinology and metabolism Gastroenterology General internal medicine (internal medicine only) Geriatric medicine (internal medicine only) Hematology (internal medicine only) Infectious diseases Medical biochemistry Medical oncology (internal medicine only) Neonatal-perinatal medicine (pediatrics only) Nephrology Occupational medicine (internal medicine only) Pain medicine Pediatric emergency medicine (pediatric only) Pediatric hematology-oncology Respirology Rheumatology
Physical medicine and rehabilitation	Pain medicine
Plastic surgery	–
Psychiatry	Child and adolescent psychiatry Clinical pharmacology and toxicology Forensic psychiatry Geriatric psychiatry Pain medicine
Public health and preventive medicine	–
Radiation oncology	–
Urology	–
Vascular surgery	–

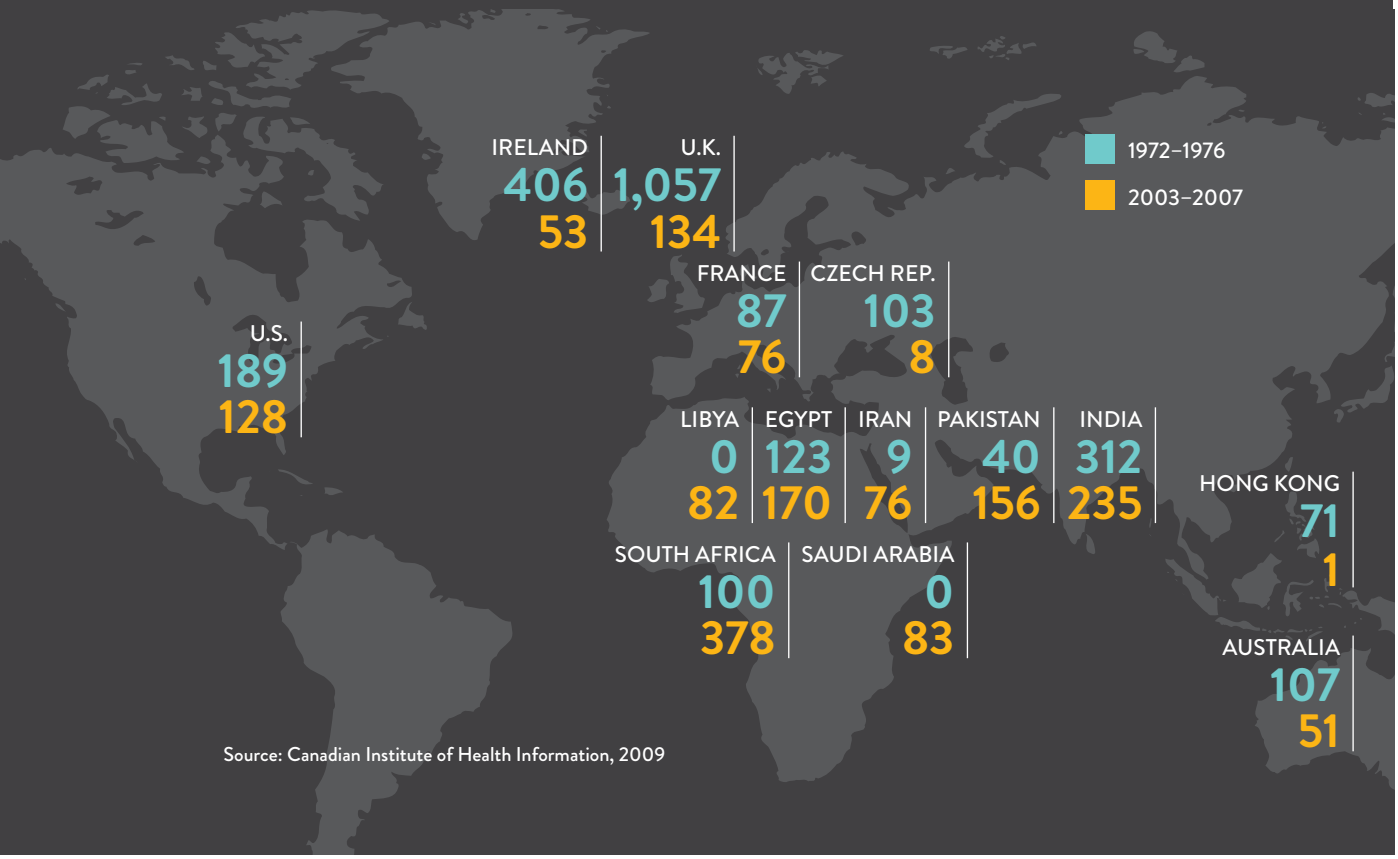
CanMEDS Physician Competency Framework



The CanMEDS is an educational framework used to enhance patient care by improving physician training (Royal College, 2022). It forms the basis for all areas of medical practise by identifying and describing abilities that physicians need to successfully meet societal needs. A capable physician should integrate the competencies found in all seven CanMEDS Roles : medical expert, communicator, collaborator, leader, health advocate, scholar and professional (Royal College, 2022).

The framework defines and describes each role, and outlines a unique set of key and enabling competencies (Frank & Danoff, 2007). Educational standards for post-graduate residency programs, accreditation, resident assessment, examinations and competency maintenance were all revised to incorporate the roles and competencies outlined in the CanMEDS framework (Frank & Danoff, 2007). The CanMEDS framework is routinely used throughout a physician's career, starting in medical school all the way to continuing professional development (Royal College, 2022). In February 2017, the Royal College collaborated with 12 Canadian health care organizations to ameliorate patient care through consistent use of this framework. CanMEDS has also been adapted for family medicine. CanMEDS-Family Medicine (CanMEDS-FM) guides curriculum and forms the basis of the design and accreditation of family medicine residency programs with the ultimate goal of improving patient care (Saucier, 2009). After a three-year process to update the 2005 CanMEDS framework in order to better align the framework with a competency-based approach to medical education, the Royal College released CanMEDS 2015 (Royal College, 2022). It includes new competency milestones for each CanMEDS Role and new competencies about patient safety and quality improvement, resource stewardship and handover (Royal College, 2022). The CanMEDS Consortium is currently working on a multi-year project "CanMEDS 25" to improve and refine the current framework (Royal College, 2022).

Figure 3: Number of new IMGs from select countries, 1972–1976 and 2003–2007



Demographics of IMGs

The distribution of IMGs' countries of origin has changed dramatically in recent years. Since 1996, the number of IMGs who completed their MD degrees in Europe has decreased, while the number who trained in Asia, the Middle East and the Caribbean has increased *(Walsh et al., 2011)*. A much greater proportion of IMGs also originates from South Africa now compared to a few decades ago (see Figure 3, *CIHI, 2009*).

As of 2020, approximately 26% of Canada's physicians graduated medical school internationally (30% of family medicine physicians and 22% of specialists), a slight increase from 24% in 2008 *(CIHI, 2021)*. This marks a change from the consistent decline in the percentage of IMG physicians between 1972 and 2007 *(CIHI, 2009)*.

The distribution of IMGs across Canada is not uniform, with some provinces relying on these physicians much more heavily than others. Saskatchewan (50%) and Alberta (35%) have the largest proportion of IMGs in their workforce, while Québec has the smallest (9%) *(Canadian Institute for Health Information, 2020)*. Physicians in rural locations are more likely to be IMGs than are physicians in urban locations, a phenomenon that is more pronounced among new physicians *(Canadian Institute for Health Information, 2009)*.[6]

Routes to licensure for IMGs

To be eligible for a residency match, IMGs must be graduates of a medical school listed with the World Directory of Medicals Schools; they must also be a Canadian citizen or permanent resident, and be proficient in English and/or French (Canadian

6 This trend is consistent across Canada, with the exception of Ontario and Québec, where physicians in urban locations are more likely to be IMGs than are physicians in rural locations (Canadian Institute for Health Information, 2009).

Resident Matching Service, 2022). IMGs' credentials must be formally assessed by writing and passing the National Assessment Collaboration (NAC) and the Medical Council of Canada Qualifying Exam Part 1 (MCCQE1) before applying through CaRMS (Canadian Resident Matching Service, 2022). This allows them to participate in the match process but does not necessarily make them eligible in all provinces (Canadian Resident Matching Service, 2022). In contrast, Canadian Medical Graduates (CMGs) are not required to write the NAC and the MCCQE1 can be written after the match. They can also advance to residency even when unsuccessful (MacFarlane, 2021).

The R1 Main Residency Match has two different iterations. The first iteration has two separate streams for CMGs and IMGs. However, in the second iteration, the two streams mix where CMGs and IMGs compete for the same residency spots in some provinces *(MacFarlane, 2021)*. Between 1993 and 2004, there were very few dedicated residency slots for IMGs *(Walsh et al.,2011)*. However, the number of IMGs participating in residency programs doubled to 1,915 between 2004 and 2009—representing a 500% increase since 1993 *(Walsh et al., 2011)*. Between 2009/10 and 2018/19, the number of post graduate trainees increased from 4,067 to 4,593, over one quarter of all post graduate trainees (Associations of Faculties of Medicine of Canada, 2019). Despite these increases, however, applications for residency spots continue to far outstrip supply. In the 2022 R1 Match only 439/1,322 IMGs matched (33.2%) in comparison to 2,844/2,953 CMGs (96.3%) (Canadian Resident Matching Service, 2022). To add, the positions available to IMGs tend to be mostly restricted to family medicine, internal medicine, psychiatry and some pediatric positions (MacFarlane, 2021). The current streaming process limits IMGs from vying for 90% of residency positions in (MacFarlane, 2021).

Demographics

Physician supply

As of 2020, there were more than 92,000 physicians in Canada covering more than 93 different specialties and subspecialties, with just over half being family physicians and the remainder being medical or surgical specialists *(CIHI, 2021)*. Although this number was increasing by more than 4% each year, this has since slowed to a 1.8% increase in 2019.

IMGs: A Solution to Rural Physician Shortages?

Rural and remote communities in Canada are facing physician shortages. To address this problem, some provinces and territories have developed policies to recruit IMGs to live and work in these underserved communities (Audas, Ryan & Vardy, 2009). There are two recruitment methods: provisional licences and return of service agreements. IMGs recruited to work under provisional licenses agree to work in the community for a temporary period, at least until they attain their full license to practise (Vardy, Ryan & Audas, 2008). IMGs who complete residency training in Canada are required to work in rural communities as a condition of their admission (Mathews et al, 2022) The goal of these programs is to integrate the physician into the community and establish long-term practises; however, in many cases this has actually created a revolving door phenomenon—physician after physician completes their required service time and then moves to an urban area (Milne et al., 2014). Studies suggest that retention rates for IMGs are no better than—or may actually be poorer than—those for physicians trained in Canada (Mathews, Edwards & Rourke, 2008). The results of the 2013 National Physician Survey found that IMGs are more likely to want to leave a rural community in favour of an urban area (19% compared to 8% for Canadian-trained physicians). Another study found that after five years, fewer than 20% of the physicians working on provisional licences remained in the community where they started (Dove, 2009). IMGs do not present an easy solution to Canada's physician distribution problem, and provisional licensing programs may actually worsen the issue as graduates of these programs—more often than not—end up leaving rural communities in favour of urban areas (Canadian Foundation for Healthcare Improvement, 2013).

Canadians Studying Abroad

Because admission into Canadian medical schools is so competitive, many unsuccessful applicants are now seeking medical training outside of Canada; most (77%) Canadians studying abroad (CSAs) are those who applied to but did not secure entry into Canadian medical programs (Canadian Resident Matching Service, 2010). The majority are also residents of the provinces where medical school application success rates are the lowest: British Columbia and Ontario (Canadian Resident Matching Service, 2010). According to CaRMS, more than 3,600 Canadians are currently studying medicine in 130 schools across 30 countries (Canadian Resident Matching Service, 2014)—enough to fill at least six Canadian medical schools (Born & Dhalla, 2011). These numbers have rapidly increased since 2000 (Canadian Resident Matching Service, 2014; Shepperd, 2011; Walsh et al.,2011), with some of these schools now specifically targeting Canadians (University of St. Andrews, n.d.). According to a 2010 report by CARMs, the cost of medical training is significantly higher for CSAs than for students at Canadian medical schools, with yearly tuition as high as $63,000 (at the Royal College of Surgeons in Ireland). Debt loads upon completion are also much higher for CSAs: median debt for CSAs in 2010 was $160,000 (mode= $200,000) compared to $71,000 for graduates of Canadian universities (Canadian Resident Matching Service, 2010).

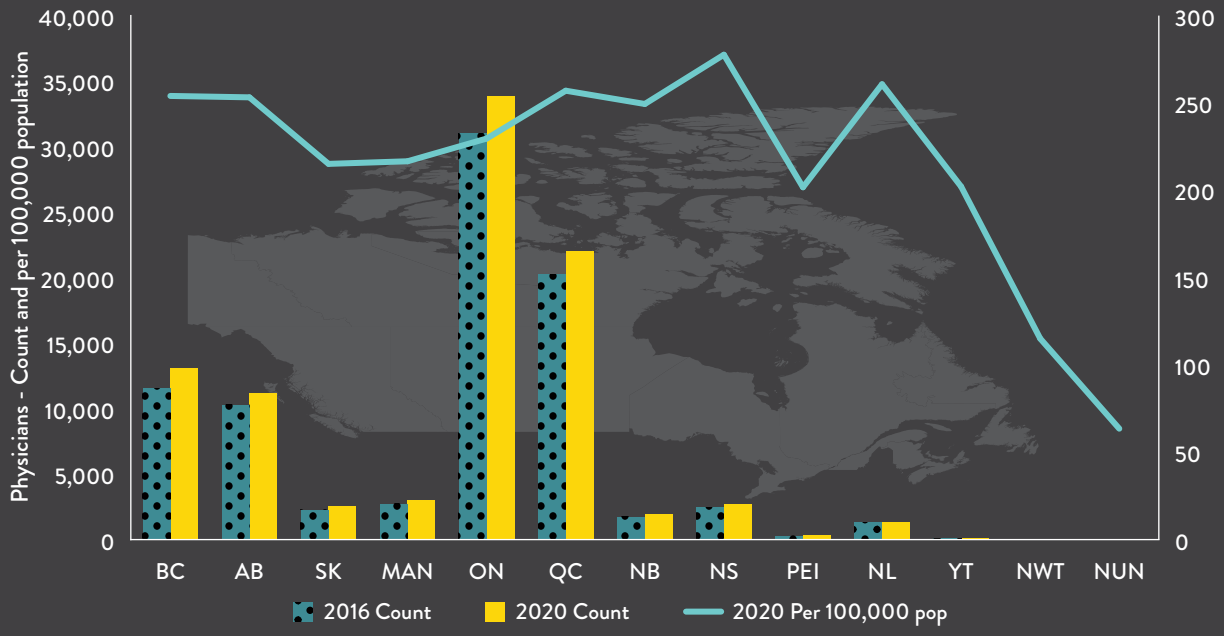
Ninety percent of students who leave Canada to study medicine intend to return for post-graduate training (Canadian Resident Matching Service, 2014); however, the road to medical practise is far from certain. CSAs compete with other IMGs for the less than 13% of the total residency slots allocated to IMGs (British Columbia Ministry of Health, Education & Medicine,2011). They are also required to complete the same qualifying examinations.

Opportunities for post-graduate training in the countries where CSAs complete their medical degrees are also limited. For example, no school in the Caribbean has post-graduate training for international students, while European and Australian schools have very few spaces available (Canadian Resident Matching Service, 2010).

Some evidence suggests that CSAs enjoy a preferential advantage over other IMGs; in particular, their match rates for post-graduate training are higher and they fill more than half of the available first-year residency slots allocated to IMGs, despite making up only 25% of the applicant pool (Mathews et al, 2017; Milne, Doig& Dhalla, 2014; Thomson & Cohl, 2011). That said, this trend may be explained by differences between the CSA and other IMG pools—for example, CSAs are able to complete clinical placements in Canada (Mathews, Ryan & Bourgeault, in press).

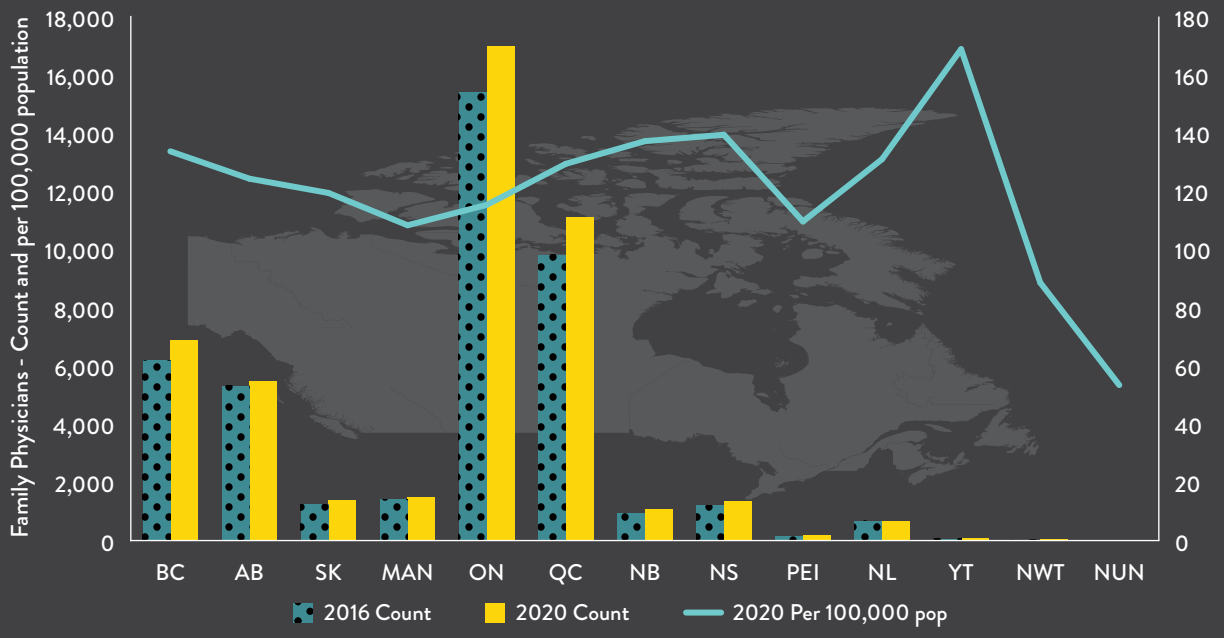
CSAs and their families are frequently unaware of the difficulties they may face in accessing post-graduate training in Canada or abroad (Barer, Evans & Hedden,2014; British Columbia Ministry of Health, Education & Medicine, 2011; Milne et al., 2014). Based on frequent media attention, many assume that Canada is facing a physician shortage and that they will have no difficulty in returning to Canada for post-graduate training (Milne et al., 2014). A recent editorial on CSAs notes that "policy makers in both government and medicine should be crystal clear about the prospects for foreign-trained Canadian physicians expecting to return to Canada to practise. Anything less seems irresponsible and invites understandable backlash from disillusioned students and their families" (Barer et al., 2014).

Figure 4.1: Physicians—count and per population rates in Canadian provinces and territories, 2016–20



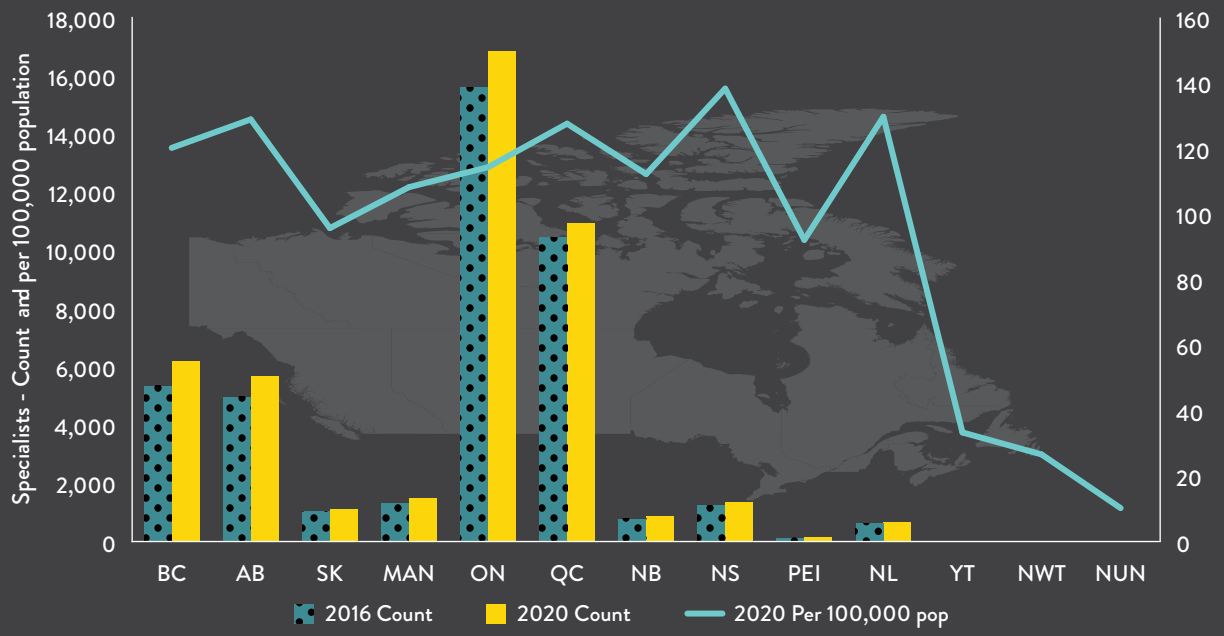
Source: Health Workforce Database, 2022, Canadian Institute for Health Information, Statistics Canada, Demography Division.

Figure 4.2: Family physicians—count and per population rates in Canadian provinces and territories, 2016–20



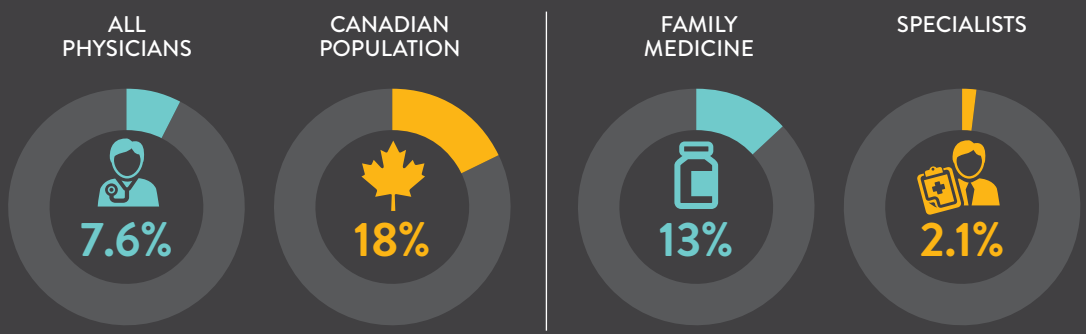
Source: Health Workforce Database, 2022, Canadian Institute for Health Information, Statistics Canada, Demography Division.

Figure 4.3: Specialists—count and per population rates in Canadian provinces and territories, 2016–20



Source: Health Workforce Database, 2022, Canadian Institute for Health Information, Statistics Canada, Demography Division.

Figure 5: Percentage of rural physicians: Comparison of physicians and Canadian population, 2019



Source: Canadian Institute of Health Information, 2020

By province, the number of physicians per capita varies dramatically, from 63 physicians per 100,000 people in Nunavut up to 277 per 100,000 people in Nova Scotia (see Figure 4).

Physician distribution by region

Although 18% of Canada's population lives in rural areas, only 7.6% of physicians practised in these areas in 2019 (see Figure 5, CIHI 2020). A higher proportion of family physicians than specialists are located in rural Canada, 13% versus 2.1% in 2019 (CIHI 2020).

Physician distribution by specialty

The split of family physicians/general practitioners and medical/surgical specialists has remained relatively stable at roughly 50% since the late 1970s (CIHI, 2020). Medical specialties have seen more growth than surgical or laboratory specialties (see Figure 7, CIHI, 2021).

Physician distribution by gender

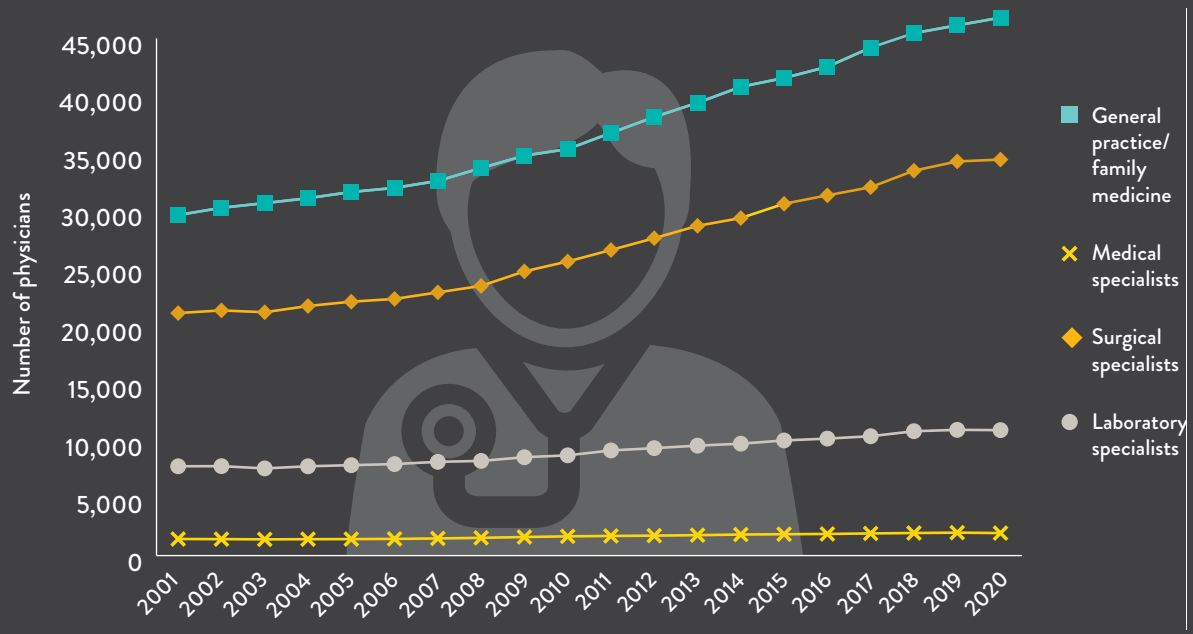
An important demographic shift in the physician workforce is the growing number of women in nearly all specialties (see Figure 7, *Canadian Institute of Health Information, 2017).* In 2019, 47.5% of family medicine physicians and 38.0% of specialist physicians in Canada were women. In general, the number of women physicians in the workforce has increased by 19.2% since 2015, surpassing the 5.8% increase for men in the profession. The province of Québec has the highest proportion of female physicians, just over half.

The increase in women in the profession reflects trends in medical education (see Figure 8, Association of Faculties of Medicine of Canada, 2019).

Physician distribution by age

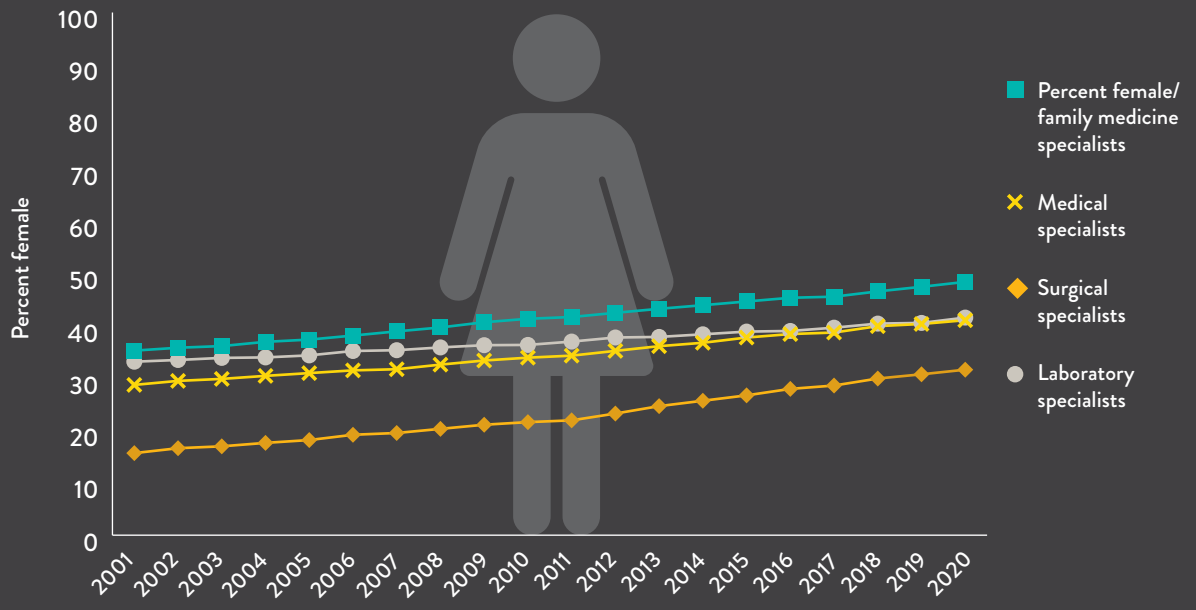
The average age of Canada's physicians has declined slightly from 50.0 years in 2015 to 49.4 years in 2019 (Canadian Institute for Health Information, 2020). There is some variation across the country, with average ages ranging from 48.1 in Alberta and Labrador to 52.1 in Prince Edward Island. In general, specialists are slightly older than family physicians, with average ages of 50.8 and 50.1, respectively.

Figure 6: Number of physicians by specialty, 2001–2020



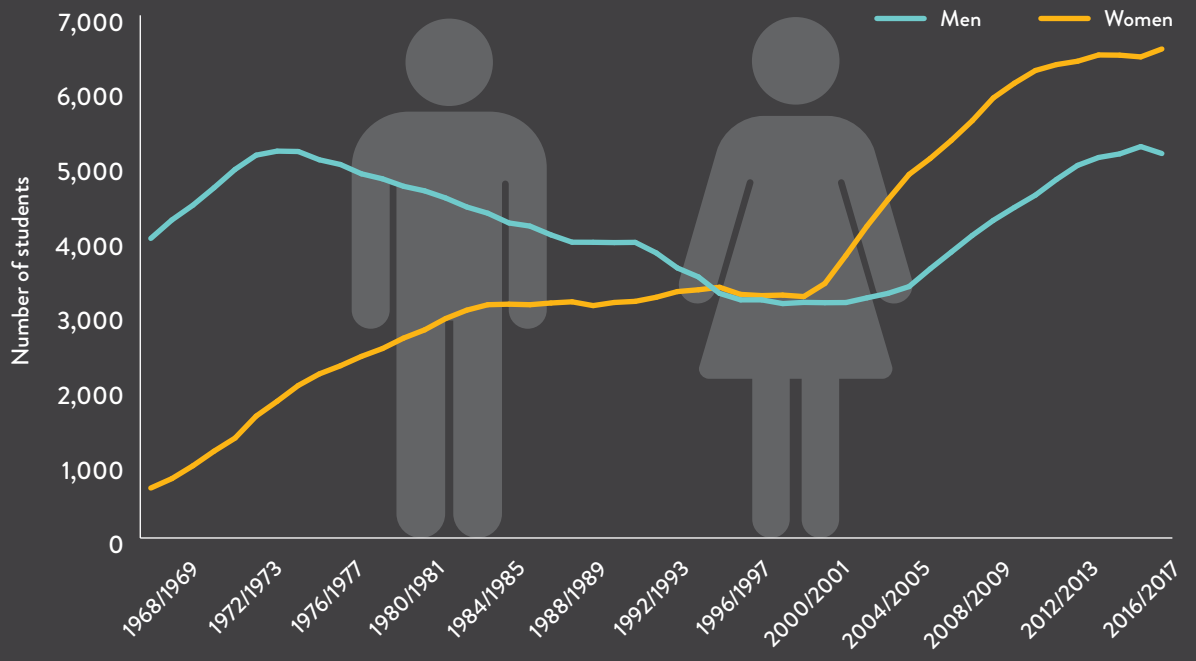
Source: Canadian Institute of Health Information, 2021

Figure 7: Percentage of women by specialty, 2001–2020



Source: Canadian Institute of Health Information, 2021

Figure 8: Enrollment in Canadian medical schools by gender, 1968–2017



Source: Association of Faculties of Medicine of Canada, 2019

Income

2019–2020, the annual average gross clinical payments for services delivered by physicians and surgeons in Canada—representing the majority of physician salaries—was $354,000 per physician, a 2.0% increase over the previous year (*Canadian Institute for Health Information, 2021*).

Physician incomes vary dramatically depending on the physician's province of residence and by specialty. Physicians practising in Nova Scotia have the lowest average clinical payments, while physicians in PEI have the highest. Surgical specialists have the highest annual salaries and family medicine physicians have the lowest annual salaries (*Canadian Institute for Health Information, 2020*).

Payments

For much of their history in Canada, physicians have been paid using fee-for-service remuneration, where they provide a particular service to a particular patient for a set fee. Fees are determined largely by negotiations between provincial professional medical associations and ministries of health. Over the last couple of decades, however, an increasing number of physicians have been choosing alternative forms of payment for some or all of their income. Alternative forms of payment include salary (with and without performance incentives), capitation (annual fees for treating a defined roster of patients) or blended remuneration. Alternative payments have grown and now account for almost 28% of total clinical payments. In 2019–20, alternative payments account for a variable percentage of total clinical payments across provinces, being as high as 59.7% in Nova Scotia and as low as 12.6% in Alberta. At 96.8%, alternative payments account for almost all physicians' clinical payments in the Northwest Territories (CIHI 2021).

Scopes of Practise

A physician's scope of practise defines the "procedures, actions, and processes that are permitted for the licensed individual, as laid out by provincial licensing boards" (Royal College of Physicians and Surgeons of Canada, 2013). Each province and territory has a defined scope of practise statement that covers all practising physicians in that province. Additionally, hospitals and health regions/health authorities define explicit practise privileges for physicians practising within their institutions. Because the different specialties create variability in the roles of physicians, these statements are not itemized lists of what a physician is permitted to do but are rather descriptive and lay out what physicians do, helping the public and other health professionals understand physicians' scope of practise. For example, the following is the scope of practise statement for Physicians and Surgeons in British Columbia (Health Professions Council & British Columbia Ministry of Health, 1998):

> *The practise of medicine is the assessment of the physical or mental condition of an individual or group of individuals at any stage of the biological life cycle; the prevention and treatment of physical and mental disease, disorder and condition; and the promotion of good health.*

Evolution of physicians' scopes of practise

Physicians' scopes of practise have evolved over time and now frequently overlap with those of other medical professions. In Ontario, for example, pharmacists can now perform vaccinations and paramedics can provide home care for seniors; in Manitoba, nurses can order diagnostic testing. Also, the scope of practise for family medicine has expanded into some specialty areas due to the availability of the Special Interest or Focus Practise program, which allows family physicians to gain credentials in one of several clinical areas *(Royal College of Physicians and Surgeons of Canada, 2013)*:

- Addiction medicine;
- Family practise anesthesia;
- Cancer care;
- Child and adolescent health;
- Chronic pain;
- Dermatology;
- Developmental disabilities;
- Emergency medicine;
- Enhanced skills surgery;

- Global health;
- Health care of the elderly;
- Hospital medicine;
- Maternity and newborn care;
- Mental health;
- Occupational medicine;
- Palliative care;
- Prison health;
- Respiratory medicine; and
- Sport and exercise medicine

Regulation and Standards

The physician profession in Canada is self-regulating. Within each province, a College of Physicians and Surgeons acts as a medical regulatory authority (MRA) that is responsible for the licensure and registration of physicians, and ensures all members are qualified and competent practitioners who follow defined standards. Guided by provincial health professions Acts (see Table 2), MRAs rely on assessment processes to ensure that each physician has the knowledge, skills and professional behaviours necessary for safe practise *(Walsh et al., 2011)*. The MRAs also handle patient complaints and any disciplinary action that may be required.

All physicians must hold a valid licence through their province's College to legally practise. Oversight is also provided by provincial Ministries of Health, which have the authority to oversee physician performance and quality of care.

TABLE 2: Provincial regulatory bodies and legislative framework

Jurisdiction	Provincial MRA	Legislative and regulatory framework
British Columbia	College of Physicians and Surgeons of British Columbia	*Health Professions Act*
Alberta	College of Physicians and Surgeons of Alberta	*Health Professions Act, 1999*
Saskatchewan	College of Physicians and Surgeons of Saskatchewan	*The Medical Professions Act*
Manitoba	College of Physicians and Surgeons of Manitoba	*The Regulated Health Professions Act*
Ontario	College of Physicians and Surgeons of Ontario	*The Regulated Health Professions Act, 1991* *The Medical Act, 1991*
Québec	Collège des médecins du Québec	Chapter C-26, Québec Professional Code
New Brunswick	College of Physicians and Surgeons of New Brunswick	*The Medical Act*
Nova Scotia	College of Physicians and Surgeons of Nova Scotia	*The Medial Act*
Prince Edward Island	College of Physicians and Surgeons of Prince Edward Island	*The Regulated Health Professions Act*
Newfoundland and Labrador	College of Physicians and Surgeons of Newfoundland and Labrador	*Health Professions Act*
Yukon	Yukon Medical Council	*Medical Profession Act*
Northwest Territories	Health and Social Services	*Medical Profession Act*
Nunavut	Department of Health and Social Services	*Medical Profession Act*

In response to the Canada Free Trade Agreement, which enables unrestricted mobility for health professionals between provinces, there is currently a movement toward the coordination of provincial licences (*Silversides, 2009)*. The Federation of Medical Regulatory Authorities of Canada has developed an agreement establishing a Canadian standard for licensure in all jurisdictions. The Canadian standard for full licensure includes a medical degree from an approved institution, licensure with the Medical Council of Canada, satisfactory completion of approved post-graduate training, and certification from the RCPSC or CFPC.

Topical Issues in Medicine

Physician burnout

Burnout, a well-documented mental state that includes feelings of emotional exhaustion, low personal accomplishment and depersonalization *(Jackson, 1981)*, is common among physicians. Physicians and surgeons have highly demanding, stressful careers. Patient emergencies, night calls and demanding patients are factors associated with elevated stress levels among physicians, which can lead to burnout *(Leiter, Frank & Matheson, 2009)*. Burnout occurs when physicians feel that their emotional capacity has been depleted due to the stresses and demands of their profession *(Jackson, 1981)* and can lead to lower job satisfaction *(Balch, Shanafelt, Sloan, Satele & Freischlag, 2011; Ozyurt, Hayran & Sur, 2006; Weng et al., 2011)* and decreased mental health *(Asai et al., 2007; Shanafelt et al., 2011)*. This then leads to decreased productivity *(Dewa, Loong, Bonato, Thanh & Jacobs, 2014)* and reduces the time spent on—as well as the quality of—patient care *(Klein, Grosse Frie, Blum & von dem Knesebeck, 2010; Shanafelt et al., 2010)*. Burnout hinders physicians' ability to provide quality care to patients and threatens both the sustainability of the physician workforce and the efficacy of the health system as a whole.

The prevalence of burnout

Burnout across all physician specialties has been documented both internationally and domestically. In 2017, the CMA conducted a national physician

National Licensure

Presently, each of Canada's 13 provinces and territories have their own set of physician licensing requirements and fees. This limits physicians' ability to provide care in different jurisdictions without going through a distinct licensure process for each province/territory (Tepper, Hinds & Ho, 2020). This is also argued to be a costly and time-consuming process that can hinder access to care (CMA, 2019). One of the potential benefits of the implementation of national licensure is the potential of increasing physician access to underserved and remote communities (Tepper, Hinds & Ho, 2020). Many medical organizations, such as the Society of Rural Physicians of Canada (SRPC), the Canadian Medical Association (CMA), Resident Doctors of Canada (RDoC), and the Canadian Federation of Medical students (CFMS) approve of the implementation of a national medical license in some form (Tepper, Hinds & Ho, 2020). In fact, the 2019 CMA Physician Workforce Survey showed that nine in 10 physicians support national licensure with three-quarters agreeing that it will better access to care for Canadians (CMA, 2019). However, while many agree with the idea of national licensure, the possibility of implementing it is difficult. According to Dr. Linda Inkpen, president of the Federation of Medical Regulatory Authorities of Canada (FMRAC), the fate of medical regulators is tied by Canada's constitution since professional regulation is a provincial responsibility: other partners are needed to deal with the national licensing issue (Vogel, 2019). In the meantime, the FMRAC is looking into the establishment of different licensure agreements (Tepper, Hinds & Ho, 2020). One is a Fast Track License for physicians looking to hold a full license in another jurisdiction. This would be a faster, cheaper and simpler application process (Tepper, Hinds & Ho, 2020). The second one is License Portability that would enable physicians to work temporarily in another jurisdiction (Oetter, 2019). Finally, FMRAC is examining the possibility of implementing a single licence to support telemedicine across all jurisdictions in Canada (Oetter, 2019).

survey and 30% of physicians were considered to be in high burnout. (CMA, 2018). Women had 1.23 higher odds of experiencing burnout than men and residents had 1.48 higher odds of experiencing burnout than physicians. (CMA, 2018). When the CMA conducted a 2021 update of the National Physician Health Survey, the results showed an increase from 30% in 2017 to 52%. Some of this difference can be explained by the impact of the COVID-19 pandemic (see box below).

COVID-19 Impact on physicians and surgeons

The COVID-19 pandemic has left a significant mark on the healthcare system, including physicians caring for Canadians. As the pandemic progressed, many challenges emerged such as longer work hours, less vacation time, and changes in the methods of delivering care (Statistics Canada, 2022).

In the early days of the pandemic, there was a lack of planning and management of emergency supply stockpiles among federal and provincial/territorial governments which caused a widespread undersupply of personal protective equipment for healthcare workers and unstable distribution of supplies like ventilators (CMA, 2021b). Physicians were put in difficult situations such as treating patients without adequate protection and risk of contaminating their families and deciding on allocation of life-saving interventions (CMA, 2021b).

During the first wave of COVID-19, physicians were providing virtual care where possible while only offering in-person care in urgent situations (CIHI, 2021). CIHI reported that all physician activity including visits, consults, psychotherapy, deliveries and procedures offered by family physicians, medical specialists and surgeons, saw a drop during the first wave of the pandemic in the spring of 2020 in comparison to the previous year (pre-pandemic) (CIHI, 2021). At the beginning, surgeons were more affected than medical specialists or family physicians with many planned surgeries being cancelled. Surgeon activity dropped by 41 to 60% (varied by province) in April 2020 compared to April 2019 (CIHI, 2021).

To support physicians' change to virtual care, Ministries of Health and medical associations introduced new billing codes (CIHI, 2021). As a result of the reduction in patient visits, many specialists and family physicians faced income loss and this was aggravated by setbacks in the processing of the new virtual care codes in the medical billing systems (CMA, 2021b). This led to significant uneasiness and uncertainty as to whether physicians could maintain their practise expenses and uphold their current standard of living for their families (CMA, 2021b).

Mental health impact of COVID-19

A 2021 CMA survey examined the impact of the ongoing pandemic on the health of physicians (CMA, 2021a). It revealed that respondents' fatigue increased by 69% in the past year, with 64% reporting anxiety around the pandemic (CMA, 2021a). Contributing factors negatively impacting their mental health have been social restrictions (64%), uncertainty about the future (63%) and concerns related to vaccine rollout (62%) (CMA, 2021a). Similarly, another survey showed that about one in four family physicians were currently experiencing high personal and work-related burnout (Snelgrave et al., 2022). This was also seen in Canadian emergency physicians with 60% reporting high burnout (Mercuri et al., 2022). It's predicted that post-pandemic, psychological trauma will be the longest lasting impact among healthcare workers (CMA, 2021a). These long-term effects will call for systemic changes including effective support systems and models of acknowledgement & understanding to reduce distress not only in eventual crises but in everyday work (CMA, 2021a).

The effects of burnout

Physician burnout affects not just physicians but also patients and populations. At the physician level, burnout has adverse effects on mental and physical health *(Asai et al., 2007; Melamed, Kushnir & Shirom, 1992; Shanafelt et al., 2011)*, which can cause physicians to reduce office hours or leave the profession entirely *(Grunfeld et al., 2000)*. Patients treated by physicians experiencing burnout are less satisfied and experience more medical errors *(Klein et al., 2010; Shanafelt et al., 2010)*. At the population level, the economic impact of physician burnout has been estimated at $213.1 million as a result of early retirement and reduced clinical hours *(Dewa, Jacobs, Thanh & Loong, 2014)*.

To address these demonstrably negative and significant impacts on both physicians and patients, it will be important for policymakers, health authorities, clinics and individual physicians to work together to mitigate the effects of work stress on physicians by instituting policies and/or stress-coping strategies. Building resilience to stress is an important mechanism to prevent burnout, with one Canadian study showing that physicians who had positive attitudes and perspectives, balance and prioritization, a healthy work environment, and healthy relationships were less affected by the stress of the profession and therefore less likely to experience burnout *(Jensen, Trollope-kumar, Waters & Everson, 2008)*. Canada's health system should be built on policies that help physicians maintain a healthy work-life balance and engage in continuing education opportunities, which have been found to help reduce stress and decrease burnout *(Lee & Brown, 2008)*.

Conclusion

The second-largest health-care workforce in Canada, the physician profession has a long and complex history in this country, and has been the dominant health profession since the early- to mid-1800s. Some argue that this dominance has waned since the 1960s, with increases in professional autonomy for several other health professions and the introduction of public health insurance covering physician services.

The workforce has become increasingly specialized since its inception: two specialties (general medicine and general surgery) have been replaced with 79 distinct medical disciplines, each of which are trained and practise differently.

Education for physicians is a long and demanding process that includes a minimum seven (but usually eight) years of post-secondary education, two to six years of post-graduate residency training, and multiple examinations along the way. Internationally trained graduates also face additional hurdles.

Some 3,600 Canadians currently study medicine abroad, with 90% of these hoping to return to Canada for post-graduate training; however, residency opportunities for these students are few. Policy makers have a responsibility to make prospects crystal clear for foreign-trained Canadian physicians so that they are aware of the risks associated with training abroad.

Medical education and post-graduate training is accredited by the RCPSC (for all specialties other than family medicine) and the CFPC (for family medicine). Both organizations use a competency-based framework to set educational standards for post-graduate residency programs, accreditation, resident assessment, examinations and maintenance of competency.

The physician workforce is plagued by supply issues that wax and wane between perceptions of surplus to perceptions of shortage. Current issues facing the workforce include unemployment in some specialties and distribution which is particularly evident with shortages in rural and remote communities, and in particular among Indigenous populations.

Acronyms

CanMEDS-FM	CanMEDS-Family Medicine
CaRMS	Canadian Resident Matching Service
CFPC	College of Family Physicians Canada
CIHI	Canadian Institute for Health Information
CMA	Canadian Medical Association
CSA	Canadian studying abroad
IMG	International medical graduate
MAINPRO	Maintenance of Proficiency
MCAT	Medical College Admission Test
MCC	Medical Council of Canada
MCCEE	Medical Council of Canada Evaluating Examination
MCCQE	Medical Council of Canada's Qualifying Examination
MD	Doctor of Medicine
MOC	Maintenance of Certification
MRA	Medical regulatory authority
NAC	National Assessment Collaboration Exam
RCPSC	Royal College of Physicians and Surgeons of Canada

Acknowledgements

Parts of this material are based on data and information provided by the Canadian Institute for Health Information. However, the analyses, conclusions, opinions and statements expressed herein are those of the author and not necessarily those of the Canadian Institute for Health Information.

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