



PHYSICIAN RESOURCE PLANNING (Updated 2015)

The purpose of this policy statement is to identify the key elements required to properly undertake physician resource planning to support the delivery of appropriate medical care to all Canadians. A sustainable health care system requires effective physician resource planning and training that ensures an appropriate specialty mix that is responsive to population needs. CMA supports the need for the establishment of a coordinated national approach toward physician resource planning and an appropriately responsive undergraduate and postgraduate education system. CMA supports supply- and demand-projection models for health human resources using standardized approaches. National specialty societies should be actively engaged in physician resource planning for their respective discipline. Governments must work cooperatively with the medical profession to meet the needs of the population they serve in an affordable manner including funding the necessary infrastructure to support the appropriate number and mix of physicians.

Recommendations:

1. Physician resource planning requires a pan-Canadian supply and needs-based projection model.
2. Infrastructure and resources as well as physician resources need to match the needs-based projection.
3. Strategies should be used throughout the undergraduate and postgraduate training system to address the current challenges matching physician resources to population needs.
4. Changing models of care delivery must be taken into consideration when developing physician resource projection models.

Introduction

The purpose of this policy statement is to identify the key elements required to

properly undertake physician resource planning to support the delivery of appropriate medical care to all Canadians.¹

Ensuring an adequate supply of physician human resources is a major tenet of the Canadian Medical Association's (CMA) Health Care Transformation initiative.² While the number of students enrolled in Canadian medical schools increased by over 60 percent between 2001-02 and 2011-12, some enrollment reductions are now occurring despite significant physician resource issues remaining, affecting patient care delivery across the country.

Currently, four to five million Canadians do not have a family physician. For older family physicians who may retire soon or wish to reduce their practice workload, there may be no colleagues able to take on new patients. Many new family physicians do not take on as large a roster of patients as those retiring. Even where overall supply has improved, recruiting and retaining physicians in underserved areas remains a challenge. Canada continues to license International Medical Graduates (IMGs) with 25% of practicing physicians receiving their medical degree from outside of the country³—the distribution of this group varies throughout Canada.

Physician disciplines in short supply vary by jurisdiction. Some new physicians (especially those dependent on hospital based resources) are finding it hard to secure employment in their discipline.⁴ Concern for the future has spread to postgraduate residents and medical students. Completing fellowships, to make physicians more marketable, are now commonplace. A major contributor to underemployment in some specialties is a lack of infrastructure and related human resources (e.g., operating room time, nursing care).

A sustainable health care system requires

effective physician resource planning and training that ensures an appropriate specialty mix that is responsive to population needs. At present, there is no pan-Canadian system to monitor or manage the specialty mix. Few jurisdictions engage in formal health human resources planning and little cross-jurisdictional or pan-Canadian planning takes place. Currently, few Canadian jurisdictions have a long-term physician resource plan in place, particularly one that employs a supply and needs-based projection model. It has been almost four decades since the federal government has completed a needs-based projection of physician requirements in Canada.⁵

Physician resource planning must consider the population's health care needs over a longer term as the length of time to train a physician can be over a decade long depending on the specialty; this also means that practice opportunities can change during the period of training. The consequences of the lack of monitoring and management of the physician specialty mix can be long-lasting. A 2014 comparison of posted physician practice opportunities across Canada versus the number of post-graduate exits suggests a supply and demand mismatch for both family physicians (more positions posted than post-grad exits) and for medical and surgical specialists (more post-grad exits than available positions posted).⁶

Overall goal and considerations of physician resource planning

The overall goal of physician resource planning is to produce a self-sustaining workforce that will effectively serve the health needs of Canadians by providing an adequate supply of clinicians, teachers,

researchers and administrators.

Physician resource planning should recognize the following considerations:

- Physicians in training have a dual role of learner and clinical care provider.⁷
- Shifts in service delivery can occur with the development of new technologies, the changing prevalence of some disease states, the emergence of new illnesses and shifting public expectations (see Appendix A: The impact of emerging health technologies and models of care on physician resource planning).
- Rural and remote communities possess unique challenges of not only attracting physicians but also in the nature of skills required to provide services.
- Physicians are required for services to patient populations who fall under federal jurisdiction including members of the Canadian Armed Forces, First Nations and Inuit, refugees and refugee claimants, veterans, and prisoners in federal penitentiaries; this includes consideration of how they are attracted and the skills they require.
- The full use of national medical services should be utilized instead of outsourcing to other countries. In instances where outsourcing of medical services occurs, Canadian training and certification standards must be met.
- The emphasis from governments and the public for 24/7 access to a wide scope of physician and health care services must be balanced with the possibility of more fragmented care from multiple physicians involved in the care of a single patient.
- There is a need for more clearly defined scopes of professional activity and optimal interactions among primary care physicians including family physicians who acquire enhanced/advanced skills to meet community needs, general specialists and subspecialists, particularly in the large urban areas where these three broad groups co-exist.
- It is also relevant to define the role and most appropriate interactions of physicians with other healthcare professionals, including but not limited to physician assistants, specially trained nurses, dieticians, therapists and pharmacists.
- The current shift to alternate payment plans and collaborative care models may, increase or decrease the non-clinical portion (e.g., research, teaching) of a physician's workload and thus increase the need for additional physicians.
- The scheduling for the provision of after-hours care can have an effect on the use of physician resources (See CMA's policy statement on *Management of Physician Fatigue* for more information).
- High tuition fees affect the social demographic mix of those seeking medical degrees while higher debt loads and the opportunity to practice in various models of care can influence specialty choice.⁸ Similarly, advice from supervising faculty role models, negative/positive experiences during training, perceived lifestyle of the discipline, personal finances and earning potentials of medical disciplines all influence a medical student's specialty choice and in turn what health services will be available to future populations.

Reliable and valid information on the current and future needs of the Canadian population can help trainees to make evidence-based decisions that allow them to select careers that match the needs of their patients.

- Patterns in the transition of retiring physicians' practices need to be identified.

It is essential to project not only the number of physicians but also some measure of their likely level of professional activity. Practice patterns may vary in response to changes in lifestyle among physicians, changing health technologies, group practices, interdisciplinary care models, and increased specialization of many generalist specialists and family physicians.

Training

The academic sector must ensure the provision of high-quality undergraduate, postgraduate and continuing education programs, and remain internationally competitive in the recruitment and retention of a first-class teaching and research community.

Structured mentorship programs and formal career counseling should be a required component of all undergraduate and postgraduate curricula in Canada.⁹ Teaching institutions and postgraduate accreditation authorities need to recognize the risk in requiring students to make critical career choices before exploring all the options and should develop strategies to mitigate those risks, which may include tools for assessing aptitudes. Formal career counseling throughout medical education and training can boost employment success. Results of supply projection models should

also be readily available to students and advisors so an informed choice can be made.

There is a need to ensure flexibility at the undergraduate, postgraduate, and re-entry levels of medical education, with the recognition that the requirements for specialist services may change. It also allows room for standardized transfers of residents between programs and locations and for the integration of international medical graduates (IMGs). CMA recommends that a ratio of 120 postgraduate training positions per 100 medical graduates be re-established and maintained. Canadians studying medicine abroad and other IMGs who are permanent residents or citizens of Canada must be explicitly factored into the planning for the capacity of the post-MD training system. CMA supports measures to facilitate the acculturation of IMGs.

The objective of seeking reasonable self-sufficiency for the full range of physician services must be paramount.¹⁰ Self-sufficiency is defined as ensuring that the annual output of the undergraduate and postgraduate sectors of Canadian medical schools meets the medical service needs of the Canadian public. This will reduce the need to attract physicians from countries that face a higher burden of disease whose requirements for physician services exceed those of Canada. It is important to facilitate the retention of physicians who train in the Canadian postgraduate system.

There must be adequate human and physical infrastructure to support physician training. An adequate supply of clinical educators is required to prevent training bottlenecks. Strategies that utilize untapped health infrastructure resources within and

outside the academic community such as satellite or distributive medical education training sites should be considered for not only training reasons but for retention purposes as well.

Effectively matching supply to societal needs

Residency training positions should reflect current and emerging population needs and if possible, job availability at the national level. Mechanisms should be in place to assist medical training programs to adjust to changing health needs in a timely manner.

Physician resource planning can benefit from enhanced evaluation of community health needs, as established by thorough determinations of health status, epidemiological studies, input from communities and other needs assessments.

In recent years, attention has been given to augmenting the provision of care to properly respond to Canada's growing seniors' population. This will require an assessment of physician resource trends among specialties that focus on seniors' care including the capacity to deliver quality palliative end-of-life care throughout Canada.

To address geographic maldistribution, programs should train physicians in the wide spectrum of practice that is required for underserved communities—both rural and urban—as well as incorporate the involvement of the communities throughout the medical trainee life cycle. Programs to attract and retain physicians, including those from rural and underservice areas, need flexible incentives to address the professional and personal needs of

physicians. Financial incentives, locum support, spousal employment, children's education and support from other specialists are key factors that need to be addressed. Also, the attraction and retention of physicians to underserved areas requires the presence of adequate technical equipment and personnel.

Exposure to patterns of community practice—including generalist training—outside large urban tertiary/quaternary centres may help attract individuals into specialties best suited for rural and regional centres. CMA encourages family physicians to maintain their skills in comprehensive family medicine, while supporting their choice to acquire additional skills that will better serve the needs of their community.

It is important to strive and budget for a critical mass of physicians required to deliver basic services to given populations to permit reasonable life-style management and the avoidance of professional isolation. Coercive measures that restrict physicians' choice of location and subsequent geographic mobility are not supported.

Concentrated efforts are needed to assist new graduates of Canadian residency programs and established physicians find optimal employment in their discipline within Canada. The issue of facilitating the mobility of physicians among provinces and territories (including locum work) requires dialogue with and cooperation from individual provincial and territorial licensing authorities.

CMA supports supply- and demand-projection models for health human resources using standardized approaches. Physician human resource plans should be

reviewed on an ongoing basis, examining current supply and attrition patterns to determine if new policies are required or changes are needed to the undergraduate and postgraduate complement.

Collaborative approach to physician resource planning

Physician resource planning is complex, requiring the involvement of provincial/territorial medical associations, national specialty societies, the Royal Canadian Medical Service (Canadian Armed Forces), special medical interest groups, the medical education sector, the health care facilities sectors, governments, other health care professionals and other key stakeholders.

CMA is committed to promoting a collaborative and respectful interaction among all the disciplines within the medical profession and recognition of the unique contributions of each to an efficient, high-quality and cost-effective health care delivery system. Governments must work cooperatively with the medical profession to meet the needs of the population they serve in an affordable manner including funding the necessary infrastructure to support the appropriate number and mix of physicians. National specialty societies should be actively engaged in physician resource planning for their respective discipline.

CMA supports the establishment of a coordinated national approach toward physician resource planning and an appropriately responsive undergraduate and postgraduate education system. The recruitment and retention policies available at the provincial level can play a significant role in health human resources distribution

and evolution. The federal government in conjunction with the provincial Deputy Ministers and Deans of Medicine, should continue to fund a pan-Canadian supply based planning model as laid out by the Physician Resource Planning Taskforce and extend its support to the second phase which is a comprehensive needs based planning model that will be accessible to governments and the profession.

Given the importance of a planned, open and professional approach to physician resource planning, the CMA encourages all stakeholders to permit researchers, policy planners and other relevant organizations access to their physician resources database at the national and jurisdictional level while protecting the privacy of individual physicians. The CMA will continue to seek input into the design and structure of any such national databases.

Appendix A: The impact of emerging health technologies and models of care on physician resource planning

As in the past, a number of technological developments¹¹ will alter the future demand for medical services and how medicine is practiced. Examples of such technological developments include: health information technologies (HITs); technologies to support distance care and self-monitoring (e.g., telemedicine, implantable or wearable sensors); surgical robotics; advanced diagnostic testing; genomic technologies; integrated care teams; and new funding models. It is important to consider how these developments will affect future supply and training (i.e., skill sets) of physicians as part of physician resource planning.

There is little evidence about whether new technologies increase or reduce working hours.¹² However, the adoption of new technologies can lead to new roles and opportunities for physicians as well as for other staff. New technologies can also lead to a greater role for patients in taking responsibility for their own health. There is extensive evidence that new technologies can improve the quality of patient care, especially when used in addition to existing care rather than as a substitution.¹³

A key factor in assessing the impact of new health technologies on physician resource planning is the rate of adoption and diffusion of new technologies. The rate can vary widely depending on an extensive range of factors including ease of use, safety, cost (both in terms of acquiring the technology and to train the clinician), compatibility and culture/attitudes. Not all new technologies are successfully adopted

or lead to positive outcomes. Moreover, unlike other sectors, the adoption of health care technologies does not often lead to lower costs.¹⁴ The adoption can also be influenced by broader factors such as changing patient needs and the government's fiscal resources.

One key impact of emerging health technologies is a shift in the location where care is received. For instance, less invasive surgery will lead to greater use of community services for follow up care rather than in-hospital care. Likewise, the technologies can support the provision of more specialized services in small and remote communities by family physicians with the appropriate training and support.

Emerging health technologies can also impact the type of care provided. The literature suggests the impact will be felt more in sub-specialty areas with care shifting from one subspecialty to another.¹⁵ Advances in non-invasive surgical interventions will continue to drive practice convergence such as seen with cardiac related procedures.¹⁶

The accelerated use of HITs specifically could have the greatest overall impact on health human resources due to such factors as: the need for increased training to use HITs; and an increased need for health informatics specialists (both medical and non-medical).¹⁵ Automated knowledge work tools will almost certainly extend the powers of many types of workers and help drive top-line improvements with innovations and better decision making.¹⁷

The move to more collaborative care models, particularly in primary care, can be expected in the coming years. Common

characteristics of these models include comprehensive chronic disease prevention, population-based services and programs, full use of electronic medical records, quality monitoring, dedicated time to team building and collaboration, and a wide range of health care providers functioning to their full scope of practice.¹⁸ Multi-disciplinary teams could also involve a wider range of providers such as IT specialists, bio-engineers and genetic counselors. While CMA has previously called for funding models to be in place to allow physicians and other health care providers to practice within the full scope of their professional activities,¹⁹ a significant issue will be how such collaborative care models can be funded by governments on a sustained basis.

Physicians and other health care providers need to be trained to effectively adopt any new technology. The literature is clear that physicians must be engaged in any discussions regarding new and current health technologies to ensure their proper assessment and successful implementation.²⁰ Previously, CMA has called for:

- A flexible medical training system based on informed career choice to accommodate changes in medical practice and physician resource needs;
- A sufficient and stable supply of re-entry positions within the postgraduate training system to enable practicing physicians to enhance their skills or re-enter training in another discipline.²¹
- Recognition that scopes of practice must reflect these changes in societal needs (including the need of the public for access to services), societal

expectations, and preferences of patients and the public for certain types of health care providers to fulfill particular roles and functions, while at the same time reflecting economic realities.²²

References

¹ This policy is to be used in conjunction with CMA's policy statements on *Management of Physician Fatigue* (2014), *Flexibility in Medical Training* (Update 2009), *Physician Health and Well-Being* (1998), *Tuition Fee Escalation and Deregulation in Undergraduate Programs in Medicine* (Update 2009), and *Rural and Remote Practice Issues* (1998).

² Canadian Medical Association. *Health Care Transformation in Canada. Change That Works, Care That Lasts*. Ottawa: The Association; 2010. Available: http://www.hpclearinghouse.ca/pdf/HCT-2010report_en.pdf (accessed 2015 May 04).

³ Canadian Institute for Health Information. *Physicians in Canada, 2013: Summary Report*. Ottawa: The Institute; 2013 Sep.

⁴ College of Family Physicians of Canada, Canadian Medical Association, Royal College of Physicians and Surgeons of Canada. *National Physician Survey 2013. Backgrounder*. Available: http://nationalphysiciansurvey.ca/wp-content/uploads/2013/10/OFFICIAL-RELEASE_NPS-2013-Backgrounder_EN.pdf

⁵ The last federally commissioned study, the *Report of the Requirements Committee on Physician Manpower to the National Committee on Physician Manpower*, was published by the Minister of National Health and Welfare in 1975.

⁶ Research conducted by the Canadian Medical Association. Fall 2014.

⁷ National Steering Committee on Resident Duty Hours. *Fatigue, risk and excellence: Towards a Pan-Canadian consensus on resident duty hours*. Ottawa: Royal College of Physicians and Surgeons of Canada. 2013.

⁸ Canadian Medical Association. *Tuition fee escalation and deregulation in undergraduate programs in medicine* (update 2009). Ottawa" The Association; 2003 June. Available: <http://policybase.cma.ca>

⁹ The Canadian Association of Internes and Residents. *CAIR Position Paper on Mentorship*. June 2013. http://residentdoctors.ca/wp-content/uploads/2014/12/CAIR-Position-Paper-on-Mentorship_June-2013_en.pdf (accessed 2015 Apr 29).

¹⁰ Self-sufficiency is a key principle of the Federal/Provincial/Territorial Advisory Committee on Health Delivery and Human Resources' Framework for Collaborative Pan-Canadian Health Human Resources Planning. Federal/Provincial/Territorial Advisory Committee on Health Delivery and Human

Resources. 2009. *How Many Are Enough? Redefining Self-Sufficiency for the Health Workforce: A Discussion Paper*. The policy is also consistent with the World Medical Association and the World Health Organization (*The WHO Global Code of Practice of the International Recruitment of Health Personnel*). http://www.who.int/hrh/migration/code/code_en.pdf?ua=1

¹¹ Definition of Health Technologies (World Health Organization): "The application of organized knowledge and skills in the form of devices, medicines, vaccines, procedures and systems developed to solve a health problem and improve quality of lives."

¹² Evidence Centre for Skills for Health, *How do technologies impact on workforce organisation?* Bristol (UK): The Centre. Available:

www.skillsforhealth.org.uk/index.php?option=com_mt_ree&task=att_download&link_id=101&cf_id=24 (accessed 2015 Feb 02).

¹³ Evidence Centre for Skills for Health, *How do technologies impact on workforce organisation?* Bristol (UK): The Centre. Available:

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¹⁴ Skinner J. "The costly paradox of health-care technology". *MIT Technology Review*. 2013 Sep 5.

¹⁵ Anvari M. Impact of information technology on human resources in healthcare. *Healthcare Quarterly*, 10(4) September 2007:84-88.

¹⁶ Social Sector Metrics Inc., Health Intelligence Inc. *Physician resource planning: a recommended model and implementation framework*. Final report submitted to the Nova Scotia Department of Health and Wellness. 2002 Jan 31. Available:

www.doctorsns.com/site/media/DoctorsNS/PhysicianResourcePlanning-finalreport.pdf (accessed 2015 Feb 2).

¹⁷ McKinsey Global Institute, *Disruptive technologies: Advances that will transform life, business, and the global economy*. McKinsey & Company 2013.

¹⁸ Social Sector Metrics Inc., Health Intelligence Inc. *Physician resource planning: a recommended model and implementation framework*. Final report submitted to the Nova Scotia Department of Health and Wellness. 2002 Jan 31. Available:

www.doctorsns.com/site/media/DoctorsNS/PhysicianResourcePlanning-finalreport.pdf (accessed 2015 Feb 02).

¹⁹ Canadian Medical Association. *The Evolving Professional Relationship Between Canadian*

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²⁰ Steven A. Olson et al., Healthcare technology: Physician collaboration in reducing the surgical cost. *Clinical Orthopaedics and Related Research*. (2013) 471:1854-64.

²¹ Canadian Medical Association. *Flexibility in Medical Training* (update 2009) Ottawa: The Association; 2009.

²² Canadian Medical Association. *Scopes of practice*. Ottawa: The Association; 2002.