

Canada's Physician Shortage: Effects, Projections, and Solutions

Main Conclusions

- In 2003, more than 1.2 million Canadians were unable to find a regular physician.
- In 2002, Canada had many fewer physicians per capita than most other developed nations that have universal access health insurance programs.
- Higher physician-to-population ratios are related to reductions in premature mortality, all-cause mortality, heart disease mortality, and infant and perinatal mortality, and increases in life expectancy at age 65.
- Canada's shortage of physicians arose because of government intervention.
- Without a significant addition of foreign-trained doctors, the Canadian physician-to-population ratio will decline between now and 2015.
- The solution to Canada's physician supply problem is to allow qualified Canadian students to acquire the education and training necessary to become physicians able to practice in Canada and to remove restrictions on the volume of services they are able to deliver.
- Allowing physicians to employ international medical graduates in training (as apprentices), and other qualified health professionals to assist in the expansion of the volume of services delivered, and permitting physicians to remain in the work force into their later years would help alleviate the current shortage in the near term.



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Too few physicians

In recent years, Canadians and their governments have been paying a significant amount of attention to the supply of physicians in Canada. For example, the Canadian Medical Forum (an association of national medical organizations representing physicians in Canada) have undertaken two national examinations of physician supply, the second of which was undertaken in partnership with governments and other medical professional associations (Task Force Two, 2006). Reports and comments on the issue of physician supply also appear regularly in the nation's news media. The Commission on the Future of Health Care in Canada also discussed the supply of physicians in Canada at length in its final report (Romanow, 2002).

Most discussions and studies have come to the conclusion that there are too few physicians practicing in Canada today. That conclusion is supported by the available evidence on Canadians' unmet health care needs and the relative supply of physicians in this country. For example, in 2003 more than 1.2 million Canadians were unable to find a regular physician (Statistics Canada, 2004b). Statistics also show that Canada had many fewer physicians per capita in 2002 than most other developed nations that have universal access health care insurance programs (Esmail and Walker, 2005).

This *Fraser Alert* looks at three dimensions of Canada's physician shortage. It begins with a short review of the literature examining whether or not a greater supply of physicians provides benefits other than easier access to care. The next

section considers how Canada's physician supply has evolved over time and what factors have helped determine that evolution. The final section closes with a consideration of what is ultimately driving the physician shortage in Canada and provides a sensible solution to the problem.

The beneficial effects of greater physician supply

A lack of access to physicians in Canada can have two impacts. First, and most obvious, it inconveniences those in need of treatment. This alone may be sufficient justification for policies encouraging an increase in physician supply. However, a doctor shortage has a second important consequence: an increase in the supply of physicians will improve the health of Canadians. This conclusion has been borne out by a number of studies examining physician supply and the health of a population.

In an examination of mortality rates and their determinants in developed nations over the last 25 years, OECD researcher Zeynep Or found that "increasing doctor numbers have been strongly and significantly associated with lower mortality, after allowing for other determinants of health status for which we have data" (2001). More specifically, Or found that an increase in the physician-to-population ratio results in reductions in premature mortality, increases in life expectancy at age 65, and reductions in infant and perinatal mortality (Or, 2001).¹

A more recent study by Starfield *et al.* (2005) published in the

scholarly journal *Health Affairs* similarly concluded that the number of physicians in a population is strongly related to lower mortality rates. However, this study went one step further and found that the supply of primary care physicians is more important than the supply of specialists. More specifically, Starfield and her colleagues examined mortality rates and physician-to-population ratios at the county level in the United States (one level of government below the state level) and controlled for a large number of factors that could also affect health outcomes including income, education levels, unemployment rates, elderly populations, the prevalence of poverty, location inside or outside a metropolitan area, and racial differences between counties. The authors determined that lower rates of all-cause mortality and lower rates of heart disease mortality were related to higher primary care physician-to-population ratios. They found no such relationship between specialist supply and mortality.

Most importantly, the findings from both Or and Starfield *et al.* are consistent with those from other studies and with reviews of the literature on physician supply and mortality (Starfield *et al.*, 2005). These examinations have all found significant improvements in mortality rates resulting from increases in physician-to-population ratios. Thus, it can be concluded that any restriction in the physician-to-population ratio will result in higher mortality rates and a greater loss of life. Yet, this is precisely what Canadians face.

The evolution of Canada's physician supply

In 2002, the most recent year for which comparable data are available, there were 66,289 doctors in Canada (OECD, 2004), or 2.1 physicians per thousand people. After accounting for the fact that most other developed nations have a greater proportion of their population over age 65, and thus a greater demand for health care services (nations with younger populations naturally require fewer health services), Canada's physician-to-population ratio ranked 24th among the 27 nations for whom data was available (table 1) (Esmail and Walker, 2005). This fact, when combined with the evidence on the number of Canadians unable to find a family physician and evidence suggesting that increased spending on physicians has previously been related to reduced waiting times for treatment in Canada clearly suggests that there are too few physician services being delivered in Canada to meet the demand for services (Statistics Canada, 2004b; Esmail, 2004).

In order to understand how the current shortage arose, it is important to look at how the physician supply has evolved over time and how government policy has affected that evolution. It is also important to examine the likely future evolution of the physician supply in order to understand how the current policy regime will affect supply in the near term.

Table 1: Age-Adjusted Comparison of Doctors per 1,000 Population for Selected OECD Countries

Rank	Country	2002
1	Iceland	4.2
2	Greece (2001)	3.9
3	Italy	3.8
4	Czech Republic	3.6
5	Belgium	3.5
5	Switzerland	3.5
7	Denmark	3.3
7	Netherlands	3.3
9	Austria	3.2
10	France	3.1
10	Hungary	3.1
12	Finland	3.0
12	Germany	3.0
12	Norway (2001)	3.0
15	Ireland	2.9
15	Portugal (2001)	2.9
17	Australia (2001)	2.8
18	Luxembourg	2.7
18	Sweden (2000)	2.7
20	Poland	2.6
20	Spain	2.6
22	Korea	2.4
22	New Zealand	2.4
24	Canada	2.3
25	United Kingdom	2.0
26	Japan	1.7
27	Turkey	1.3

Note: The ratio for Turkey was not age-adjusted due to a remarkably low proportion of the population over age 65. The proportion is not conducive to meaningful adjustment.

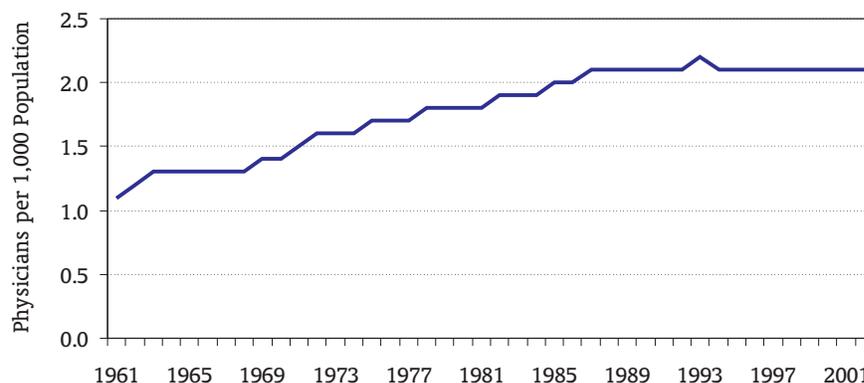
Source: Esmail and Walker, 2005.

Graduation rates and physician supply: from past growth to a present shortage

In the early 1970s, Canadians enjoyed one of the highest physician-to-population ratios in the developed world (OECD, 2004). Such generous relative access to doctors was, in light of recent evidence, unquestionably beneficial for Canadians. Unfortunately, some government officials voiced concern about the generous and growing number of physicians in the early- to mid-1980s and recommended that governments reduce the number of medical school admissions and training positions available (Tyrell and Dauphinee, 1999). While their calls for reform were not met with a specific policy on physician supply, medical school admissions were reduced slightly in the years that followed (Tyrell and Dauphinee, 1999; Ryten *et al.*, 1998).

In the early 1990s, however, specific policies on physician supply were introduced following the publication of what has come to be known as the Barer-Stoddart report. In 1991, researchers Morris L. Barer and Greg L. Stoddart published a discussion paper for the *Federal/Provincial/Territorial Conference of Deputy Ministers of Health*. Their report recommended, among other things: reducing medical school enrolment by 10 percent in order to approximately maintain the physician-to-population ratio in Canada; reducing the number of provincially-funded post-graduate training positions by 10 percent to meet the needs of students graduating with MDs in Canada; and reducing

Figure 1: Canadian Physician-to-Population Ratio, 1961 to 2002



Source: OECD, 2004.

Canada's reliance on foreign-trained doctors over time (Barer *et al.*, 1991). Governments responded in 1992 by accepting all three of these recommendations as well as reducing the recruitment of foreign-trained doctors, with the goal of maintaining or reducing the ratio of physicians to the general population (Tyrell and Dauphinee, 1999).

Figure 1 reveals the effect of these decisions: a physician-to-population ratio that increased continuously from the early 1960s to the late 1980s, and then which peaked at 2.2 physicians per 1,000 people in 1993. Since then, Canada's physician supply has been growing just fast enough to maintain a ratio of 2.1 physicians per 1,000 people, now one of the lowest ratios among nations that guarantee their citizens access to health care insurance regardless of ability to pay (table 1). In other words, Canadian government policies have restricted the growth rate of the physician-to-population ratio in order to maintain a level that is now below what other nations provide through

their universal access health programs—and below the current demand for physician services in Canada. The potential health benefits of a higher ratio were also lost as a consequence of these restrictions.

While it is clear that the current physician supply is insufficient, the numbers in figure 1 tell us nothing of the future. According to recent statistics published by the Association of Canadian Medical Colleges, Canadian provincial governments have been increasing the number of medical school admissions significantly over the last 4 or 5 years (table 2). In order to better understand how Canada's physician shortage will evolve over the coming years, it is important to consider the impact of these changes in school admissions on the number of physicians entering the workforce over the next 7 to 10 years (the time it will take for these students to become practicing doctors in Canada). It is also important to consider what will happen to the physician supply over that time in

Table 2: First Year Enrolment in Canadian Faculties of Medicine, 1994-95 to 2004-05

Year	Enrolment	% Change from previous year
1994-95	1,651	-1.9%
1995-96	1,613	-2.3%
1996-97	1,598	-0.9%
1997-98	1,577	-1.3%
1998-99	1,581	0.3%
1999-2000	1,634	3.4%
2000-01	1,763	7.9%
2001-02	1,921	9.0%
2002-03	2,028	5.6%
2003-04	2,096	3.4%
2004-05	2,193	4.6%

Source: ACMC, 2004.

Table 3: Location and Professional Activity of 1989 Graduates in 1995-96

Activity	In Canada	Outside Canada	Total
In practice	1,300 (75.5%)	136 (7.9%)	1,436 (83.4%)
In training	216 (12.5%)	55 (3.2%)	271 (15.7%)
Inactive	13 (0.8%)	2 (0.1%)	15 (0.9%)
Total	1,529 (88.8%)	193 (11.2%)	1,722 (100.0%)

Source: Ryten *et al.*, 1998

order to better understand the impact of government controls on medical school admission and post-graduate training in the late 1990s.

Graduation rates and physician supply to 2015

Extrapolating from Canada's medical school graduation rates, it is possible to estimate the number of new doctors who will be entering the workforce in coming years. To estimate the future supply of doctors accurately, however, it is important to take into account the number of physicians currently working in Canada who will die, retire, or leave for employment in other nations, as these physicians must be replaced in order to maintain a constant supply of physicians over time. An article published in the *Canadian Medical Association Journal* sheds some light on both issues.

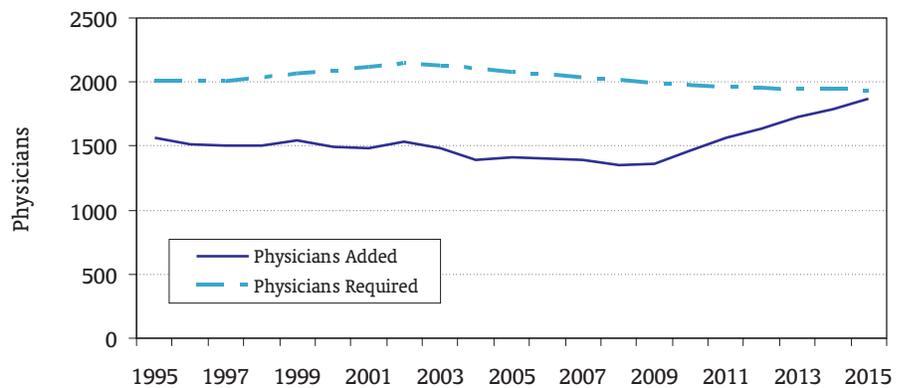
In early 1996, Ryten *et al.* followed up with the 1,722 medical school graduates (from an entry class of approximately 1,780) who received their degree in 1989 (leaving them sufficient time to complete post-graduate medical training). They found that only 1,300 of the graduates were actively in practice in Canada 7 years after graduation. A further 216 were still training to practice in Canada, while 13 students remained in Canada but were not in active practice. Meanwhile, 193 had left the country (table 3). In total, only 88 percent of those who graduated in 1989 were practicing or training to practice as Canadian physicians in 1996.

Ryten *et al.* also found that the number of Canadian-trained physicians entering the workforce was insufficient even to maintain the current supply of doctors at that time. In the mid-1990s, the authors estimated that approximately 650 to 750 new physicians would be needed each year in order to keep up with historical rates of population growth (the physician supply must grow with the population in order to maintain a constant ratio). The authors also determined that a further 900 to 1,100 physicians would be needed to replace those who either retired or died, and that roughly 300 to 350 new physicians would need to be added in order to replace those physicians who left the country. In other words, maintaining the physician-to-population ratio in the mid 1990s would require introducing 1,900 to 2,200 new physicians per year into the workforce (between 3.1 and 3.6 percent of the 1996 physician population), which was substantially more than the 1,516 new Canadian-trained additions (who were either in practice or still training to practice in Canada) from the class of 1989.

By applying the proportions determined by Ryten *et al.*, as has been done previously by McArthur (1999a), to the number of students who enrolled in medical schools in Canada and the number of students who were awarded MDs in the late 1990s, it is possible to estimate the number of new Canadian-trained physicians who will be entering the workforce between 2002 and 2015.² As figure 2 shows, if 88 percent of medical school graduates are in the Canadian physician supply 7 years after graduation, and if only 97 percent of those admitted to medical school graduate (as was the case for the class of 1989), then current enrollment and graduation rates suggest that only 1,868 Canadian-trained students will be added to the physician supply in 2015.

Figure 2 also shows the number of new physicians required to maintain the physician-to-population ratio, which exceeds the number of Canadian-trained physicians entering the workforce every year through 2015. This number of physicians required assumes that the number needed to both replace those lost to death, retirement, or emigration, and to keep up with population growth is a constant 3.2 percent of the current physician population over time (which is equal to the addition of 2,000 new physicians in 1996, the low-middle point in the Ryten *et al.* estimates above). It also assumes that only Canadian-trained doctors will be added to the physician supply between 2002 and 2015.³ This replacement rate is a conservative estimate: at present approximately 34.2 percent of Canada's physicians are aged 55 or older (CMA, 2006), which suggests that the number of

Figure 2: New Canadian-graduated Doctors in Practice versus Number of New Doctors Required to Maintain Physician-to-Population Ratio



Sources: ACMC, 2004; McArthur, 1999a; OECD, 2004; and Ryten *et al.*, 1998. Calculations by author.

physicians needed to replace those who retire or die (900 to 1,100 doctors in the mid-1990s) will have to rise significantly in the coming years. In addition, it is important to remember that this is the number of new physicians required to *maintain* the current stock of physicians, which is clearly insufficient to meet current demand and will fall well short of demand in the future as Canadian health needs will increase as a result of the ageing population.

Making one additional assumption—that the Canadian population will continue to increase at its average growth rate since 1990 (1.0%)—allows for the estimation of how the physician-to-population ratio will evolve in Canada in the coming years (figure 3). Clearly, without a significant addition of foreign-trained doctors, the Canadian physician-to-population ratio will decline between now and 2015,⁴ just as it would have through the 1990s if foreign physicians had

not been used to “top up” the shortfall caused by insufficient medical school admissions.

Where to from here?

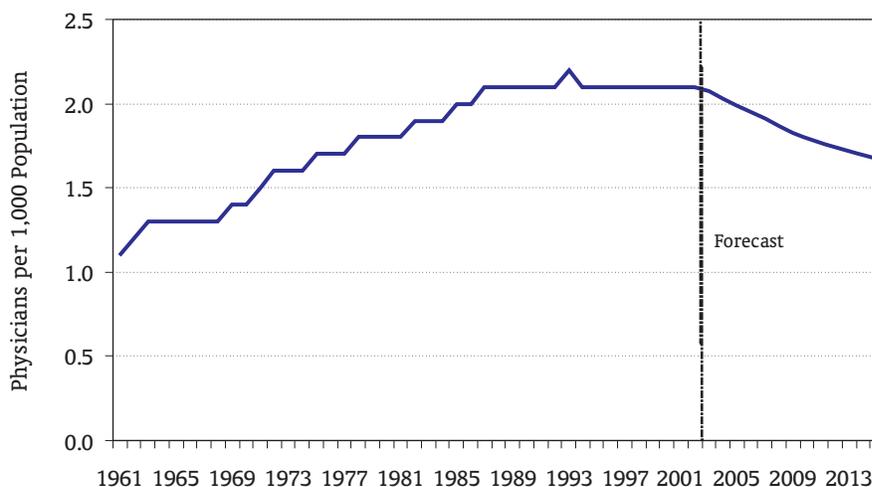
Before determining where Canada must go from here, it is important to understand how the current doctor shortage arose in the first place. Shortages can only occur when prices are not permitted to adjust. Prices will naturally rise in any functioning market where goods or services are in short supply relative to demand, thus encouraging new supply and reducing demand simultaneously. The outcome is equilibrium of supply and demand (no shortage or excess). In the Canadian health care marketplace, such adjustment is impossible because of restrictions on both the prices and supply of medical services.

Put another way, the shortage of physician services in Canada is not the result of a market failure or the

result of happenstance. Rather, it is the direct result of government interventions in the health care marketplace. Without restrictions on extra billing (allowing physicians to charge patients a price above the standard fee set by the provincial health program or to require payments in addition to those set out or provided by the provincial health program), physician activity (such as annual activity limits, billing caps and restrictions, etc.), the training of medical practitioners, and the prohibition of cost sharing for medically necessary services (where patients are required by the provincial health program to pay a fee or portion of the charge for the service consumed), a shortage would simply not have occurred. Within the constraints of the current federal legislation governing Medicare, provinces have simply been unable to encourage more informed use of medical services through user fees,⁵ while physicians are unable to charge additional fees to patients for their services. Provinces have also been reluctant to increase medical fees paid to practitioners and eliminate restrictions on physician practice because of the financial burden of such decisions. The provinces essentially engineered the manpower shortage by actively restricting the number of medical school admissions and publicly-funded, post-graduate training positions since 1993 (described above).

The optimal solution to Canada's shortage is obviously to remove restrictions on training, practice, and pricing, and to introduce user charges. This will have the effect of increasing the supply of services while simultaneously encouraging

Figure 3: Canadian Physician to Population Ratio, 1961 to 2015



Sources: ACMC, 2004; McArthur, 1999a; OECD, 2004; Ryten *et al.*, 1998; and Statistics Canada, 2004a. Calculations by author.

more informed use of medical practitioners' time (thus reducing the demand for treatment overall and improving the allocation of physician manpower and effort). Such a change in policy would bring Canada more in line with some of the world's top performing universal access health care programs (Esmail and Walker, 2005). Unfortunately for Canadians, the introduction of user fees is not permitted under the current federal legislation guiding Medicare. The analysis of policy options below takes the current legislation as given and discusses only the necessary restructuring of the supply of physician services.

Let Canadians treat Canadians

First and foremost, provinces must allow qualified Canadian students to acquire the education and training necessary to become physicians able to practice in Canada and

remove restrictions on the volume of services they are able to deliver.

Abandoning medical school admission and training restrictions would mean that the supply of doctors would be determined by patients' needs, not by provincial funding decisions. By fully deregulating tuitions and postgraduate training admissions, provincial governments would free medical schools and teaching hospitals to determine their own admission levels,⁶ which would leave students to decide whether or not a career in medicine is worthwhile given access to the marketplace without artificial restriction. Thus, doctor shortages would be mitigated in the long run as students would expect sufficient returns on their education (patients with unmet health needs, patients currently seeing an overtaxed primary care physician who may be willing to change doctors, etc.), while excess physician supply will have the opposite effect.

The elimination of restrictions on physician training will resolve the shortfall in the availability of services that Canadians experience, a fact that is not only predicted by theory, but also borne out in practice. According to a recently published OECD report, nations with universal access health programs that have traditionally relied on largely unregulated markets for physician training or who have only recently begun controlling medical training have experienced higher levels and growth rates of their physician-to-population ratios than nations, including Canada, that have controlled intake for many years (Simoens and Hurst, 2006). Put another way, nations that allowed the market to determine the number of domestically-trained physicians have enjoyed greater access to physicians than those nations that, like Canada, have tried to actively manage physician supply.

Allowing the market to determine the supply of doctors requires adjustments to the compensation of those doctors to ensure that a functioning price signal is available to qualified students who may be considering medical school admission and to active physicians. Currently, incomes of both general practitioners and specialists are restricted in a number of ways, including limits on the number of patients who can be treated in certain time periods, and on the total annual billings of physicians. Such restrictions dampen the signals to prospective doctors considering the value of a medical education (by not allowing incomes to rise in step with the demand for services) and reduce the supply of services delivered by

active physicians. Removing all provincial restrictions on the volume of services that are publicly funded would not only allow students to determine where their services are most in need (by observing the relatively higher total incomes of practitioners in undersupplied areas) but would also increase the number of services available to Canadians today from the current stock of physicians.

Don't encourage (or discourage) migration of international medical graduates

It is irresponsible for a wealthy, developed nation with a highly educated population to rely on international medical graduates (IMGs) to deliver health care to the population. First, it is clear that capable Canadian students are being denied this opportunity. Second, *encouraging* the immigration of doctors from poor nations, who are often in greater need of doctors than we, by under-supplying physicians through governmental restrictions and relying on IMGs to fill the gap, has the effect of reducing access to physicians in other parts of the world. Neutrality with regards to IMG entry into Canada and sufficient graduation and training of Canadian students is a far more sensible policy.

In 2002, medical graduates from nations other than Canada made up 23.1 percent of Canada's physician workforce, 43.4 percent of whom came from lower-income countries (Mullan, 2005). Put another way, 1 in 10 physicians practicing in Canada in 2002 was trained in a

lower-income nation.⁷ Clearly, this country's reliance on foreign medical graduates is having a negative effect on the supply of physicians in some lower-income countries, notably South Africa and India (Mullan, 2005).

A policy shift to unrestricted physician supply and training would surely resolve much of the concern over IMGs as Canadians would then be able to fill the unmet demand. However, there would also need to be a change in policy for IMGs.

Again, the laws of supply and demand apply equally to IMGs as they do to every other sector of the economy. Programs that assist IMGs with retraining and certifying that they are up to the standards required are of value both to Canadians in search of physicians and to IMGs who wish to practice in Canada. However, this training and the examination costs must be borne by the IMGs themselves and not subsidized by taxpayers. When taxpayers subsidize these expenses, the costs to doctors of leaving medical practice in poorer nations (including many in Africa, where doctors are already too scarce) are significantly reduced.

Getting from here to there

Moving back to a market-based physician supply regime will not result in new Canadian-trained physicians entering practice overnight. The time it will take to train these physicians means that their introduction into the market is still a few years off. However, the change in policies mentioned above would mean that more physician services would be available to Canadians

almost immediately, both through the unsubsidized entry of IMGs and the increased activities of physicians currently in practice. In order to maximize the benefits resulting from these changes, provinces would need to make additional reforms to the policies regulating the supply of physician services while ensuring that some current proposals are not implemented.

It is important that Canadian governments not institute short-sighted policies with regard to the introduction of IMGs. Though the increasingly popular idea of providing subsidized, expedited training for IMGs may seem attractive, it brings with it an encouragement for physicians in foreign countries to relocate to Canada in the very near term. In addition, policy momentum is likely to keep any such “short-term” program from ending, thus making it permanent and harmful. Slippage in standards to allow for quicker introduction of IMGs is also unacceptable as it can serve as a path to lower standards in the long term. A high standard of testing or achievement for physicians in practice in Canada is vital.

IMGs should, however, be permitted to acquire further training in Canada (at their own expense) under practicing Canadian physicians who would also take the responsibility for overseeing their work. Allowing IMGs to be trained in this manner is no different from apprenticeship programs in other industries, where less skilled workers train under more skilled workers who also take ultimate responsibility for the service delivered.

Canadian provinces should also allow nurses, nurse practitioners, and trainees to play a larger role in a physician’s private practice, at the physician’s discretion. Removing the restrictions on a physician’s ability to treat patients will leave doctors in a position where they can increase output by allocating their time only to those tasks where they are needed. Allowing physicians to employ nurse practitioners, nurses, and medical students for those tasks that are within the abilities and training of these individuals will give them the freedom to employ their resources most efficiently. However, ultimately doctors should be responsible for the treatment of their patients, and so both the use of these helpers and their scope of practice should be at the discretion of the physician.

Physicians near retirement should also be permitted to continue practicing beyond the current retirement age (which is sometimes mandatory). In 2006, 22.3 percent of Canada’s physicians are within 10 years of the retirement age (65), while 11.9 percent of all physicians are actually 65 years of age or older (CMA, 2006). Allowing these physicians to continue treating patients after age 65 will mean more services for Canadians in the near term and will mitigate the impact that the retirement of these physicians will have on the supply of services in Canada in the longer term.

Finally, current discussions on changes to the core structure of how physician services are remunerated—which often accompany proposals for primary health care reform in Canada’s provinces—should be shelved. The current

fee-for-service regime, where physicians are paid for each service or treatment delivered, gives physicians the incentive to provide a higher volume of services than if they were paid an annual salary, or paid on a capitation basis (an annual fee for each patient registered with their practice). Moving away from fee-for-service funding for physician services will necessarily mean fewer services are delivered per physician (Esmail and Walker, 2005), which is the opposite of what is required in Canada today.

Conclusion

The only way for Canadians to ensure that the supply of physician services is able to meet demand in the long term is to deregulate the supply of physician services. Students and physicians must be free to determine their area of training and practice based on the needs of patients. The benefits of such growth in the physician-to-population ratio are many and include better health outcomes for Canadians and better access to the care that physicians deliver.

Notes

- 1 The actual reductions in mortality from a 10 percent increase in the physician-to-population ratio were estimated to be a 3.8 percent decrease in premature mortality for women and 2.8 percent for men, a 5.7 percent decrease in premature mortality from heart diseases for men and 6.6 for women, a 1.8 percent decrease in premature mortality from cancer for women, a 1 percent increase in life expectancy at age 65 for both men and women, a 6.4 percent decrease in infant mortality, and a 5.8 percent decrease in perinatal mortality.

- 2 This estimate uses graduation rates for students awarded MDs between 1996 and 2004 (who, between 2003 and 2011 will be at the same point in their careers as the students studied by Ryten *et al.*), and enrollment rates for students entering medical school between 2001-02 and 2004-05 who will, in general, be at the same point in their medical careers between 2012 and 2015 as the students studied by Ryten *et al.* were in 1996 after graduating in 1989. All graduation and enrollment rates are from ACMC (2004).
- 3 This second assumption may seem questionable since significant numbers of foreign-trained physicians have been added to the Canadian workforce over the last 10 years in order to maintain the existing physician-to-population ratio. However, the precise number of foreign-trained doctors who will be added in the future is difficult to estimate. This assumption does not, though, affect the conclusions of this examination. Since the purpose of this *Alert* is to consider the effect of controls on the supply of Canadian-trained doctors, this simplifying assumption serves to clarify the effect of these training restrictions on the future supply.
- 4 This decline in the ratio is seen in figure 2 as the decline in the number of physicians required to maintain the physician-to-population ratio between 2002 and 2015.
- 5 The user fee described here is the imposition of a fee or charge at the point of use, and not an annual premium payment levied by government. Also, health premiums in the provinces of Alberta, British Columbia, and Ontario are unrelated to health spending or the use of health care services as the revenues raised through these premiums are paid into general revenues and are not sensitive to an individual's use of publicly-funded health services.
- 6 McArthur (1999b) notes that post-graduate trainees can increase the number of services that a facility

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delivers in a cost-effective manner as they are able to deliver (in later years of training) near-physician care at a substantially lower cost than fully trained physicians. He recommends that teaching hospitals be required to pay for all patient care provided, including the care provided by physicians (who currently bill the provincial health plan and are “free” to hospitals, and are thus used more than postgraduates who are paid by the hospital), giving them the

responsibility of determining the allocation of service delivery between lower-cost trainees and higher cost but more capable teaching staff. The outcome of this shift in the financing of teaching hospitals would inevitably be more postgraduate training positions at Canada’s teaching hospitals, some of which might be privately financed. This *Alert* recommends a similar shift in the responsibility for determining the optimal allocation of trainee

resources, but to individual teaching physicians instead of institutions.

7 Though a small number of these doctors may be Canadians who received training in lower-income countries and then returned to Canada (due to restrictions on training at home), entering practice in Canada with medical training from another nation can be difficult, suggesting that the majority are likely to be of foreign origin.

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