



OECD Health Working Papers No. 40

**International Mobility
of Health Professionals
and Health Workforce
Management in Canada:
Myths and Realities**

**Jean-Christophe
Dumont,
Pascal Zurn,
Jody Church,
Christine LeThi**

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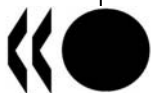
**INTERNATIONAL MOBILITY OF HEALTH
PROFESSIONALS AND HEALTH
WORKFORCE MANAGEMENT IN CANADA:
MYTHS AND REALITIES**

**Jean-Christophe Dumont, Pascal Zurn,
Jody Church and Christine Le Thi**

40

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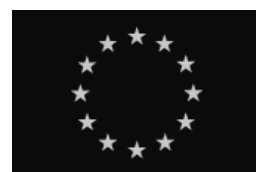


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SUMMARY

This report examines the role played by immigrant health workers in the Canadian health workforce but also the interactions between migration policies and education and health workforce management policies.

Migrant health worker makes a significant contribution to the Canadian health workforce. Around 2005-06, more than 22% of the doctors were foreign-trained and 37% were foreign-born. The corresponding figures for nurses are close to 7.7% and 20%, respectively. Foreign-trained doctors play an important role in rural areas as they contribute to filling the gaps. In most rural areas, on average, 30% of the physicians were foreign-trained in 2004.

Over past decades the evolution of the health workforce in Canada has been characterised notably by a sharp decline in the density of nurses and a stable density of doctors, which is in contrast with the trends observed in other OECD countries. This evolution is largely the result of measures were adopted at the end of the 1980s and early 1990s in order to address a perceived health workforce surplus. During that time, substantial public spending cuts in the health sector, anticipated cuts in medical and nursing school enrolments, and large layoffs of nurses also took place. In addition more restrictive immigration policies were adopted for doctors and nurses between 1986 and 2002 and more stringent registration procedures were introduced for foreign-trained health professionals.

More recently, concerns about health workforce shortages arose and various measures were adopted to expand and strengthen health workforce supply. This includes larger investment in nursing and medical education, the development of new models of care, a set of policies to improve retention, particularly for nurses, increases in the number of residency positions in family medicine, and the development of the Pan-Canadian Health Human Resources Strategy. Also, migration policies for doctors and nurses became more favourable. Between 2002 and 2006, permanent migration of doctors tripled and temporary migration increased by more than 10%, while for nurses, permanent migration increased by almost 40% and temporary migration decreased by 35%. In addition, significant efforts have been devoted at both the federal and the provincial level to address the barriers and facilitate the licensure process of internationally educated health professionals. Over time the origin countries of migrant health workers changed considerably. The United Kingdom has become less important and source countries like South Africa for doctors and the Philippines for nurses have gained importance.

While, a growing consensus is emerging for achieving greater health workforce self-sufficiency, this objective should be interpreted in the light of the role that migration plays in building Canadian society. Building a sustainable health workforce requires long term financial commitments, continuous monitoring of the health labour market, and coordination between all stakeholders and paying particular attention to policy response processes.

RESUME

Ce rapport examine le rôle joué par la migration de personnel de santé dans les effectifs de santé au Canada mais aussi les interactions entre les politiques migratoires, la formation et les politiques de gestion de ressources humaines.

Le personnel de santé recruté à l'étranger contribue de façon significative aux effectifs de santé au Canada. En 2005-06, plus de 22 % des médecins au Canada sont formés à l'étranger et 37 % d'entre eux sont nés à l'étranger. Respectivement pour les infirmières, la part des personnes formées à l'étranger est de 7.7 % et celle des personnes nées à l'étranger de 20%. Les médecins formés à l'étranger jouent un rôle important dans des zones rurales ayant contribué à réduire au manque d'effectif dans les zones rurales. En 2004, dans la plupart des zones rurales, en moyenne 30 % des médecins sont formés à l'étranger.

Au cours des dernières décennies, l'évolution des effectifs de santé au Canada a été marquée notamment par un net déclin de la densité des infirmières et par une densité stable des médecins, ce qui contraste avec les tendances observées dans les pays de l'OCDE. Cette évolution est largement due aux mesures adoptées à la fin des années 80 et au début des années 90 afin de répondre au surplus perçu d'effectif de personnel de santé. Pendant cette période, des restrictions conséquentes des dépenses de santé, des réductions du nombre de places en école de médecine et d'infirmière ainsi que des licenciements massifs d'infirmière ont eu lieu. De plus, entre 1986 et 2002, les politiques d'immigration plus restrictives ont été adoptées en ce qui concerne les médecins et les infirmières et des procédures d'inscription plus contraignantes ont été mises en place pour le personnel de santé étranger.

Plus récemment, des préoccupations concernant les pénuries de personnel de santé sont apparues et diverses mesures ont été adoptées pour étendre et renforcer l'offre de personnel de santé. Ces mesures comprennent un investissement plus important dans la formation d'infirmières et de médecins, la mise en place de nouveaux modèles de soins, un ensemble de politiques pour améliorer la rétention particulièrement pour les infirmières, l'augmentation en internat du nombre de places en médecine générale ainsi que la mise en place du cadre de planification concertée des ressources humaines de la santé à l'échelle pancanadienne. Les politiques migratoires concernant les médecins et les infirmières ont été également plus favorables. Entre 2002 et 2006, la migration permanente de médecins a triplé et la migration temporaire a augmenté de plus de 10 % alors que pour les infirmières, la migration permanente a augmenté de près de 40 % et la migration temporaire a diminué de 35 %. De plus, des efforts conséquents ont été fournis aussi bien à un niveau fédéral que provincial pour faciliter la procédure d'inscription de personnel formé à l'étranger. Les pays d'origine du personnel de santé étranger ont peu changé au cours du temps. Le Royaume-Uni est devenu moins important alors que la part de personnel de santé originaire de pays comme l'Afrique du Sud pour les médecins et les Philippines pour les infirmières s'est accrue.

Bien qu'un consensus grandissant ait émergé pour atteindre l'objectif d'autosuffisance en terme de personnel de santé, cet objectif doit être mesuré au regard du rôle joué par la migration dans la construction de la société canadienne. Se doter de personnel de santé viable requiert des engagements financiers à long terme, un suivi continu du marché de l'emploi du personnel de santé, une coordination entre les parties prenantes ainsi qu'une attention particulière aux politiques apportées en réponse aux problématiques.

INTRODUCTION

1. In last 50 years, the Canadian health workforce has been characterized by cycles of perceived surpluses and shortages, persisting difficulties in addressing maldistribution issues but also clear commitments by federal and provincial governments to build sustainable health human resources. While other OECD countries have faced similar challenges, the nature and the scope of past policy responses have led to a peculiar evolution of the Canadian health human resources, with a relatively stable medical workforce density and a sharp decrease in nursing workforce density.

2. More recently, new policies have been implemented to address some of the main concerns in terms of health human resources and recognition of foreign qualifications of migrant health workers. Evolutions of migration policy have accompanied these changes and, over the past 5 years, increasing migration of doctors, nurses (includes Registered Nurses (RNs), Licensed Practical Nurses (LPNs) and Registered Psychiatric Nurses) and other categories of health professionals have been recorded. In this context, the role of international recruitments has gained more attention and sometimes gave rise to conflicting views.

3. This report aims at better understanding the role played by immigrant health workers in the Canadian health workforce but also the interactions between migration policies and education and health workforce management policies. It will confront some of the conventional wisdom with new evidence taking advantage of the 2006 Canadian census, data provided by CIHI and a large amount of information made available by federal and provincial authorities as well as by professional associations and other stakeholders.

4. The report starts by looking at the evolution of the Canadian health workforce and at health human resources management policy which have been put in place to cope with the current challenges (part I). A closer look is given at the role of migration of health workers and migration policies in Part II. The following sections pay attention to the issue of recognition of foreign qualification (Part III) and labour market integration of immigrant health workers in Canada (Part IV). Part V addresses the question of geographical distribution of the health workforce and analyses the role of foreign-trained doctors and nurses in this context. The last section concludes by raising a number of questions relative to sustainability of the health workforce, regards to shortages, planning and the future role of International Medical Graduates (IMGs).

Main findings

- Over past decades the evolution of the health workforce in Canada has been characterised by :
 - A sharp decline in the density of nurses and a stable density of doctors, which is in contrast with the trends observed in other OECD countries.
 - A significant contribution of migrant health workers. Around 2005-06, more than 22% of the doctors were foreign-trained and 37% were foreign-born. The corresponding figures for nurses are close to 7.7% and 20%, respectively. However, these percentages have declined

since the 1980s, a trend which also differs from what has been observed in most OECD countries.

- Large differences across provinces and territories for most health human resources indicators.
- This evolution is largely the result of policy changes which took place in the 1990s:
 - Substantial public spending cuts in the health sector, a 10% cut in first year admissions in medical schools, large layoffs of nurses and significant out-migration to the United States.
 - More restrictive immigration policies for doctors and nurses between 1986 and 2002 and more stringent registration procedures for foreign-trained health professionals.
- The Canadian health workforce is ageing more rapidly than the Canadian population. In 2006, the average age of physicians was about 49 years (45 years for registered nurses). An increasing number of women are entering the medical workforce. Partly as a result of these demographic trends, the average weekly hours worked per physician on direct patient care is slightly decreasing.
- Since 2000 concerns about a shortage of doctors and nurses have resumed. In 2008, it was estimated that approximately 14 % of Canadian adults (5 million Canadians) do not have a family physician, although 75% of those without their own family doctor do report having a regular place to go if they are sick or need advice about their health.
- Around 2002 several reports called for changes in the management of health workforce, resulting in :
 - Large investments in nursing and medical education. In the last 10 years, enrolment in Canadian medical and nursing schools has increased approximately by 60%.
 - Development of new models of care delivery, with a focus on team-based models, nurses practitioners and an increase in physician assistants.
 - Development of alternative payment models to fee-for-service.
 - Development of a set of policies to improve retention, particularly for nurses.
 - Development of the Pan-Canadian Health Human Resource Strategy.
 - Increases in the number of residency positions in family medicine (2002-06: +90%).
 - Increases in the number of residency positions for IMGs from about 40 in 2000 to 350 in 2008.
- Between 2002 and 2006 permanent migration of doctors tripled and temporary migration increased by more than 10%, while for nurses permanent migration increased by almost 40% and temporary migration decreased by about 35%. Recent changes in migration policies, which have given an increased role to labour market needs, may contribute to fuel the increase in the coming years.

- Competition is increasing between provinces to attract and retain doctors and nurses. Several provinces have announced measures to facilitate the recruitment of foreign-trained health professionals, including easier access to provisional licensure.
- Stocks of foreign-trained doctors and nurses have changed considerably overtime. The stock of doctors and nurses originating from the United Kingdom has dropped dramatically, while the contribution of South African doctors, and Filipino nurses, has gained importance.
- Circa 2000, more than 9% of all nurses and 19% of the doctors were working in other OECD countries were born in Canada. In addition, there was around 1 500 Canadians studying medicine outside Canada and the United States in 2006. For the third year in a row in 2006, the number of physicians returning from abroad (238) has been greater than the number moving abroad (207).
- Several reports emphasise the risk of a shortage of health professionals in the United States over the next decades. This may contribute to undermine the efforts by Canadian authorities to increase the health workforce if large emigration of Canadian trained doctors and nurses to the United States resumes. It would call for increasing cooperation with the US authorities with regard to health human resources issues.
- Physicians are more mobile than average Canadians. Between 2005 and 2006, about 860 physicians (about 1.3% of all physicians) moved from one province or territory to another.
- The gains associated with the migration between provinces and territories are unevenly distributed: provinces that train less benefit more from interprovincial migration and those that lose more through interprovincial migration recruit more internationally.
- In 2006, about 24 % of the Canadian population lived in rural Canada and were serviced by about 9% of the physician workforce.
- Canada has been very active and innovative in developing approaches to address rural health workforce issues. Current focus is on training health professionals with rural background and exposure. Experience shows that only a mix of policies can help to address maldistribution issues.
- In Canada, like in other OECD countries, foreign-trained doctors have contributed to filling the gaps in rural areas. In 2004, in most remote rural areas, on average, 30% of the physicians were IMGs. Provinces facing continuing problems finding physicians to work in rural locations offer provisional licenses to IMGs, with the agreement that they work in a specific location for a fixed term. They may serve as an entry point for IMGs who go on to set up practice elsewhere in Canada when they obtain full registration. This phenomenon tends to supply the dominant East to West interprovincial migration pattern observed for physicians. Recognition of foreign credentials is one of the barriers for the integration of migrant health workers. In 2006, 63% of other doctors trained and born outside the OECD were employed compared to more than 85% for those trained in Canada. In the former group only about 47% were employed as a doctor. In total, less than one out of three doctors trained outside the OECD is employed as a doctor. Other barriers to the integration of internationally educated health professionals include: access to assessment and training programs, fluency in an official language, and access to a comprehensive orientation to the Canadian health care system.
- In the recent years significant efforts have been devoted at both the federal and the provincial level to address the barriers, facilitate the licensure process of internationally educated health

professionals, increase access to information on the recognition of foreign credentials as well as to provide direct support and assistance to recent immigrants in integrating into the labour market.

- Despite the recent increases in postgraduate training capacity for IMGs, getting access to residency places seems to remain the main hurdle to enter the Canadian education pipeline. Only 16% of the foreign-trained applicants obtained a position in CaRMS in 2006.
- While investing in education and training is one of the main approaches to shape the health workforce, it is also essential to have policies in place to improve retention of health personnel and to reach a better balance between physician specialties, including family medicine. Initiatives such as the Health Human Resources Strategy, International Educated Health Professional Initiative and the Foreign Credential Recognition Program are important components of a comprehensive approach to the issue of health human resources in Canada.
- On-going efforts to develop collaborative pan-Canadian health human resources planning will be crucial to build a sustainable health workforce. In the context of increasing competition between provinces to attract and retain health professionals, this would help to avoid replicating some of the disruptive migration movements that have been observed at international levels.
- While, a growing consensus is emerging for achieving greater health workforce self-sufficiency, this objective should better take into account the role that migration plays in building Canadian society.
- Building a sustainable health workforce requires long term financial commitments, continuous monitoring of the health labour market, coordination between all stakeholders and paying particular attention to policy response processes.

I. HEALTH WORKFORCE DEVELOPMENTS AND POLICY RESPONSES

5. The evolution of the Canadian health workforce over the past decades shows a number of features that have been observed in other OECD countries but is also characterised by specific trends. Its evolution has been largely affected by cost-containment policies implemented in the beginning of the 1990s and by measures adopted during the same period to address a perception of having enough doctors. A decade later growing concerns about perceived health workforce shortages led to the development of policies and measures aimed at increasing the health workforce supply and improving recruitment and retention.

6. What have been the main evolutions in the Canadian health workforce since the 1980s? To which extent has it responded to policy changes? What are the main developments in health human resources management? To which extent interprovincial migration of health professional is contributing to shape the health workforce?

Canadian health workforce: context and some basic facts

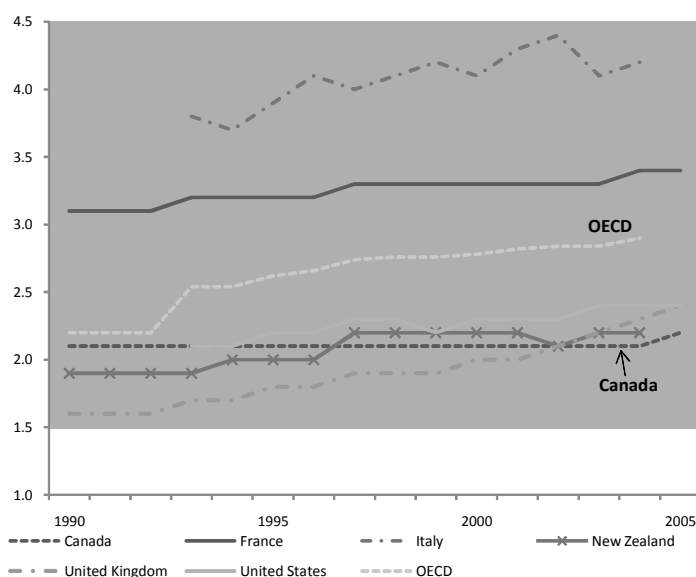
7. To understand health workforce developments in Canada, it is also important to contextualize the health system itself. Canada has a predominantly publicly financed health system. The federal government, the ten provinces and the three territories all have key roles to play in the health care system. As results, the administration of health services in Canada is highly decentralized. The federal government's responsibility for health care include setting and administering national healthcare principles for the health care system through the Canada Health Act¹ and delivering health care services to federally mandated populations. The federal government is responsible for the delivery of primary and supplementary services to certain groups of people, including First Nations and Inuit people living on reserve, members of the Canadian Forces and the Royal Canadian Mounted Police, eligible veterans and federal inmates. The federal government also plays a role in the delivery of public health programs.

8. Provincial and territorial governments are responsible for the management, organization and delivery of health services for their residents. Provincial and territorial governments have jurisdiction over the regulation of skilled trades and most professions, and have delegated authority to regulate most professions, including determining licensing and certification requirements, through provincial and territorial regulatory bodies. For non-regulated occupations, individual employers have ultimate responsibility for recognizing the credentials, work experience and competencies of internationally trained and educated workers.

9. The evolution of the medical workforce in Canada diverges from most OECD countries. As depicted in Chart 1, between 1990 and 2005, physician density has remained stable -- around 2.1 practising physicians per 1 000 population whereas the OECD average increased from 2.2 to 2.9. While the United Kingdom, New Zealand, and the United States had lower medical densities in the beginning of the 1990's than Canada, these countries have now higher medical densities.

¹ Under the Canada Health Act (CHA), criteria and conditions are specified that must be satisfied by the provincial and territorial health care insurance plans in order for them to qualify for their full share of the federal cash contribution, available under the Canada Health Transfer (CHT).

Chart 1: Practising doctor density in selected OECD countries, 1990-2005

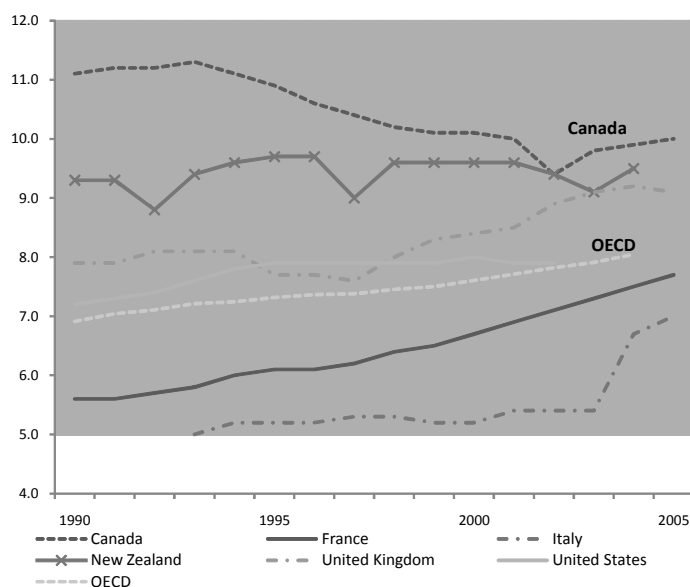


Source: OECD Health Data 2007.

Note. Data refer to physician density per 1 000 population. The OECD unweighted average is calculated for 26 countries.

10. Nursing density in Canada decreased from 11.1 to 10 nurses per 1 000 population between 1990 and 2005, reaching a low point of 9.6 per 1 000 in 2003 (OECD Health Data, 2007). Canada is the only OECD country which experienced such a decrease in the nursing workforce. Nursing density in Canada has remained higher than the OECD average, although the difference has significantly decreased over time as illustrated by Chart 2.

Chart 2: Practising nurse density in selected OECD countries, 1990- 2005



Source: OECD Health Data 2007.

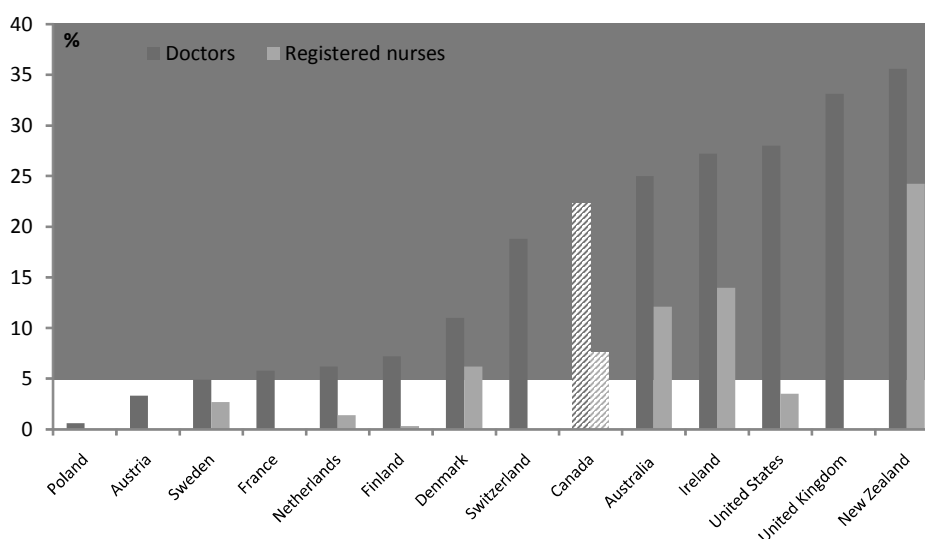
Note. Data refer to nurse density per 1 000 population. The OECD unweighted average is calculated for 20 countries

11. In terms of skill mix, Canada, after Luxembourg and Ireland, has the highest ratio of practising nurses to practising doctors. However, between 1990 and 2005, the ratio of practising nurses to practising doctors decreased from 5.3 to 4.6 (OECD Health Data, 2007). This evolution reflects a general pattern observed in other OECD countries, as on average, the nurses to doctor ratio declined slightly from 3.1 to 2.9 since 2003 (OECD, Health Data, 2007).

12. The health workforce in Canada is also characterised by large differences across the provinces and territories. A detailed presentation of key health workforce indicators is presented for each province in Annex 1. In Canada, more than 60% of physicians are concentrated in two provinces. In Ontario and Quebec which together account for 62.3% of the Canadian population, there were 22,100 and 16,500 doctors respectively in 2006 (CIHI, 2007a). By contrast, Yukon, North West Territories and Nunavut account for 0.3% of the Canadian population and less than 1% of all physicians in Canada with, 70, 48 and 11 doctors respectively, illustrating the difficulties to service large remote territories. In terms of medical density, major differences are observed as well, ranging from a high 2.2 physicians per 1 000 inhabitants in Nova Scotia and 2.3 in the Yukon to a low 0.36 in Nunavut. For nurses, differences are less marked, but still ranges from a high 10.7 nurses per 1 000 inhabitants in Newfoundland and Labrador to a low 6.8 in British Columbia.

13. Immigrants make an important contribution to Canadian health workforce. Circa 2005-06, about 22% of the doctors were foreign-trained and 37% were foreign-born. The corresponding figures for registered nurses are 7.7% and 20%, respectively. An international comparison based on foreign-trained data from professional registers --although it should be considered with some caution-- reveals that Canada is not necessarily an outlier across OECD countries (Chart 3). The share of doctors and nurses educated abroad is indeed lower than in Australia, the United Kingdom or the United States (except for nurses). New Zealand has the highest share of foreign-trained doctors and nurses, with respectively 35.6% and 24.3%, more than 1.5 and 3 times the Canadian figures. Inversely, the contribution of immigrants in shaping Canadian health workforce tends to be bigger than in most non-English speaking European countries, including Switzerland. Part II of this report will look in more details at the evolution of the share of foreign-trained health workers in Canada and its determinants.

Chart 3. Share of foreign-trained doctors and registered nurses in selected OECD countries, 2005



Sources: CIHI for Canada, Dumont and Zurn (2007) for others selected OECD countries

14. While physicians and nurses are the two largest regulated health professions, representing approximately 60% of health professionals, other regulated health occupations also play an important role in the health system. A sizeable increase took place in past decade for dentists, pharmacists and chiropractors both in terms of absolute number and of density (see Table 1). Midwifery is a relatively new profession in Canada, but the increase has been quite significant, although the total number is still low.

Table 1. Number and density of selected health occupations, 1995-2004, Canada

	1995		2004	
	Number	Density per 100 000 pop.	Number	Density per 100 000 pop.
Dentists	15,589	52.8	18,287	56.9
Pharmacists	22,197	75.2	28,537	88.8
Medical Laboratory. Techno.	19,190	65.0	19,401	60.4
Medical Radiation Techno.	14,414	48.8	15,693	48.8
Chiropractors	4,350	14.7	6,892	21.5
Physiotherapists	12,577	42.6	15,607	48.6
Midwives	118	0.4	513	1.6

Source: Health personnel trends in Canada, 1995-2004, CIHI

Public health expenditure and cost containment issues in the early 1990s

15. The Canadian health workforce was affected by substantial public spending cuts in the health sector around the beginning of the 1990s, a time characterized by a recession in Canada (Marchildon, 2005). Cost cutting was accomplished in part through reducing the number of beds and health providers. Hospitals were closed converted or consolidated into larger units. Salaried health workforce, particularly nurses, was directly affected. These changes were accompanied by a structural reorganisation through regionalisation. Regional health authorities were created and made responsible for the allocation of resources as well as for health personnel recruitments. Although cost-containment was also a serious issue in other OECD countries at that time, the scope of the reduction in public health expenditures appears to be more marked in Canada as illustrated in Chart 4. In Canada, public health expenditures as a share of GDP went from a high 7.3% in 1992 to a low 6.2% in 1997, before increasing again and reaching almost 7% in 2005 (OECD Health Data, 2007). This decrease in public health expenditures as a share of GDP was not compensated by a corresponding increase in private health expenditures (OECD Health Data, 2007)².

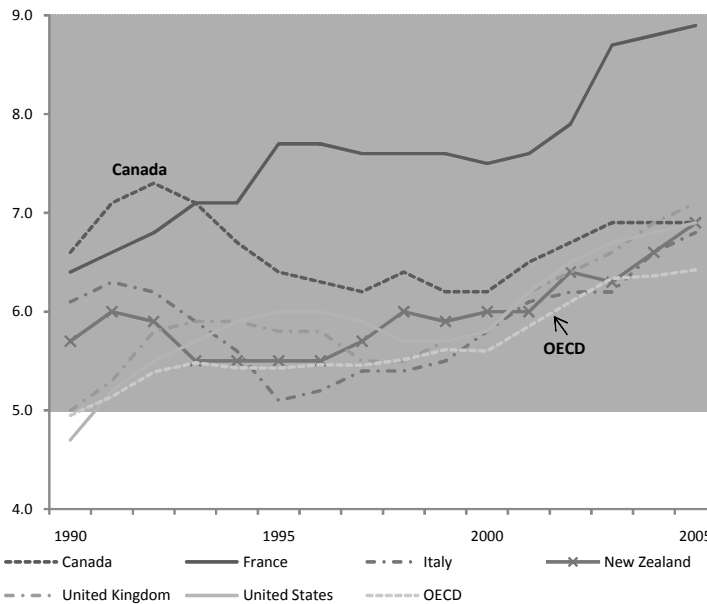
16. In other countries including Australia, France, the United States and New Zealand public health expenditures -- as a share of GDP -- have increased much more significantly and almost continuously. The share of public health expenditure in GDP in Canada has remained higher than the OECD average, although this difference has substantially diminished over time.

17. At the end of the 1980s and beginning of the 1990s, a perception of having enough doctors -- even a fear of future surplus -- and concerns of an inefficient way to deliver care led to the adoption of policies that contributed to a drop in the supply of physicians. A key element in the discussion at that time was the Barer-Stoddart report published in 1991. This report, made at the request of the Federal/Provincial/Territorial Conference of Deputy Ministers of Health, reviewed issues and policy options for assuring an adequate and appropriate supply of medical services. One measure particularly associated with the report was the recommendation of a 10% cut in first-year medical school admissions which was implemented in 1993-94. Another indirect consequence was to put a halt on international

² According to OECD health data 2008, between 1980 and 1992 private spending represented about 25% of total health expenditures. It increased to 30% in the 1990s due to increasing payments via private insurance (CIHI, 2005b), but remained stable since.

recruitments, reduce access to residency positions for IMGs and adopt more stringent approaches for registration of foreign-trained doctors (Dauphinee and Buske, 2006).

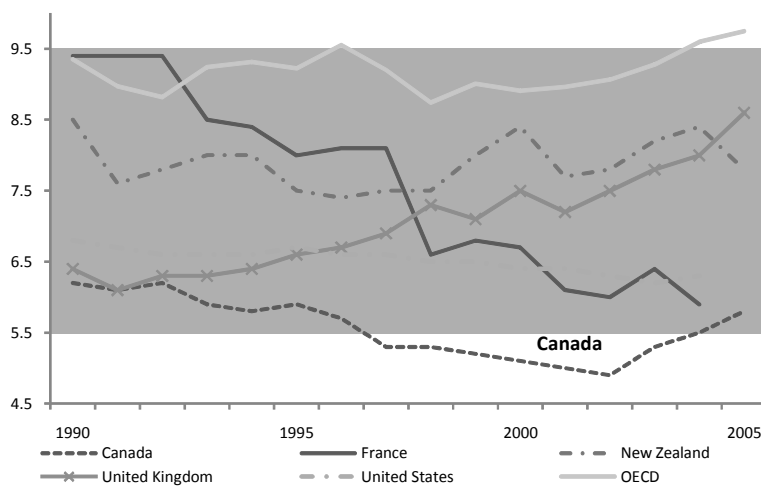
Chart 4: Public health expenditures as a share of GDP, 1990-2005



Source: OECD Health Data 2008
 Note: OECD average is calculated for 26 countries

18. Between 1990 and 2005, graduation rates in Canada had been consistently below the OECD average and the difference even increased over time (Chart 5).

Chart 5: Medical graduation rate in Canada and in selected OECD countries, 1990-2005



Source: OECD Health data 2007
 Note: Data on medical graduates rate refer to the ratio of medical graduates per 100 000 population. OECD consistent average is calculated for 17 countries

19. The Barer-Stoddart report is thought by many to have contributed to the current perceived health workforce shortage (Evans and McGrail, 2008). However, the report made more than 50 recommendations covering all aspects of medical training and practice, but very few recommendations were actually acted

upon (Stoddart and Barer, 1999). In addition, it appears that first year medical student enrolments had already fallen by 5.9% between 1983 and 1991 (Evans and McGrail, 2008). In any case, the number of yearly new doctor registrations declined sharply in the early 1990s, as depicted in Chart 6.

Chart 6: Yearly number of new doctor registrations, 1990-2005



Sources: Data were provided by CIHI

Note: The break in the time series of the total new registrations is due to the unavailability of 2003 data for physician registrations in Québec.

20. Other measures also had an impact on the supply of medical doctors (see Chan 2002 for a comprehensive analysis of the main determinants of this evolution). The elimination of the rotating internship in 1993 followed by a lengthening in family residency practice to two years instead of one, contributed to a delay in the entry to practice of an entire cohort by one year. The implementation of retirement incentives such as buyout packages also contributed to limiting physician supply. In addition, cost containment policies such as the introduction of global budget caps for medical spending acted as a push factor for the migration of Canadian doctors to the United States³.

21. As for evolution of the nursing workforce, the large public spending cuts in the health sector in the 1990s appeared to be a determining factor. They had a strong impact on nursing as it is the largest category of workers in the health care system, and nurses' salaries represent a substantial portion of hospital and overall health expenditures (Ryten, 1997). Decreasing labour demand for nursing labour resulted in large staff layoffs, particularly among the youngest nurses (Vujicic and Evans, 2005). In short, similar causes had similar effects as in the case of physicians: a reduction in the number of practising nurses and out-migration of Canadian nurses, in particular to the United States.

22. Budget cuts had also a direct impact on nursing education, as depicted in Chart 7. While the number of yearly graduates was above 8 000 in the beginning of the 1990s, it decreased substantially in the forthcoming years, to reach a low of 4 800 in the beginning of 2000, before rising again to approximately 8 000.

³ In Ontario, for instance, fixed physician fees schedules were negotiated with the provincial fund holding agency, and fees for the following year were adjusted downward if the total volume of services exceeds a defined threshold level (Lomas et al. 1989).

23. Changes in education requirements also contributed to changes in nursing schools outcomes. While in the 1960s and 1970s, many nursing students graduated from two-or-three year hospital programs with a diploma in nursing, by the early years of 2000 most educational programs were either provided by community colleges (3 years) or universities (a four year baccalaureate degree) (Office of Nursing Policy, 2006). The introduction of new nursing programs, however, was not simultaneous across all provinces. While such programs were already introduced in 1998 in the Atlantic provinces, the transition will not be completed before 2009 in the case of Alberta. Some of the drop in graduations would result from this lengthening of the duration of training.

Chart 7: Nursing graduation in Canada, 1990-2006



Sources: Canadian Nurses Association, CNA

Trends affecting the Canadian health workforce

24. Canada is facing similar changes that are affecting the health workforce as most OECD countries. Although, working time has only slightly decreased for the entire physician workforce over the past decade, younger generations seem to favor a more balanced life between work and family. In addition, the feminization of the medical workforce and the ageing of the health workforce are also affecting the supply of doctors and nurses.

Balancing work and family life

25. The majority of family physicians in Canada would prefer to adjust their career in order to have more time with their families or for themselves (Chan, 2002). While physicians still work more hours than the average member of the labour force, the younger generation on average, work less than their elders (Evans and McGrail, 2008). Both Watson et al. (2006) and Crossley et al. (2006) report declines in self-reported average weekly hours of direct patient care by family physicians from national Canadian Medical Association surveys over the last decades. Also, a study for the city of Winnipeg suggested that family physicians in the age group 30-49 years provided 20% less patient visits per year than their same-age peers did 10 years previously (Watson et al., 2004).

26. Furthermore, working time for junior doctors is also affected by regulation on work hour limits for junior doctors in hospitals. Work hour limits vary somewhat from province to province, but typical hours of work are generally comparable to those in the United States. Alberta became the first Canadian province to limit work hours (28 on-call hours maximum) in 1992 (Landrigan, 2006).

Feminization of the medical workforce

27. Feminization of the medical workforce, which is not specific to Canada, is another element which is having an impact on working time as the participation of women is lower during child-rearing ages (Chan, 2002)⁴. Although female physicians represent only 30% of the physician workforce (CIHI, 2007b), a shift in the gender distribution over the past decades has taken place. The number of female and male doctors is very similar among young physicians, and the share of women is becoming higher among new enrollees in medical schools (58% of all enrolments in 2006/07 compared to 42.8% in 1986/87 and 14.3% in 1968/69).

28. This trend is likely to have an impact on the nature of physician supply and practice for years to come (Canadian Labour and Business Center - Canadian Policy Research Networks, 2005): women are increasingly making family medicine their career choice and women tend to work fewer hours than their male counterparts during childbearing years and take career breaks (Swift, 2005), inversely, evidence reviewed by Bloor et al. (2006) suggests that women doctors may be less likely to take early retirement.

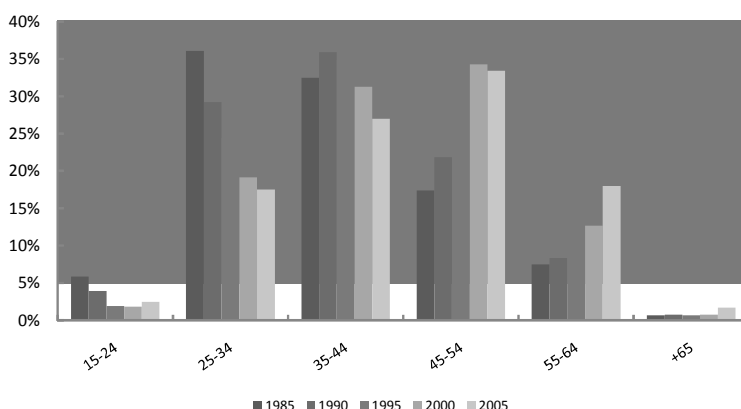
29. While the physician workforce is shifting towards a more gender balanced distribution, this trend is not observed for the nursing workforce, which remains largely a female dominated profession. Although the total number of male registered nurses in Canada almost tripled between 1985 and 2006, from 5 000 to 14 000, their share in the nursing workforce remains relatively low (6% in 2006) (Ryten, 1997; CIHI (2007c). Male participation is particularly important in Quebec as almost half of all male registered nurses in Canada are employed in this province (CIHI, 2006).

Ageing of the health workforce

30. In Canada as in most OECD countries, the health workforce is ageing as the 'baby boom' generation of health workers begins to reach retirement age. Ageing is particularly important among nurses. In 2006, the average age of a registered nurse was 45.0 years (44.5 in 2003). Between 1985 and 2005 in Canada, there was an upward shift in the number of registered nurses (RNs) within the age group of 35 and higher, whereas the number of nurses in the 20-34 age range had declined, as shown in Chart 8 (CIHI, 2007d). One issue of particular concern is the fact that nearly one third of the RNs in the workforce are aged 50 years or older and an increasing proportion of RNs are retiring early (O'Brien-Pallas et al., 2003).

⁴ In 2004, the national physician survey found that female doctors were working on average seven hours less than men (47 hours a week compared to 54 hours) (Kermode-Scott, 2004)

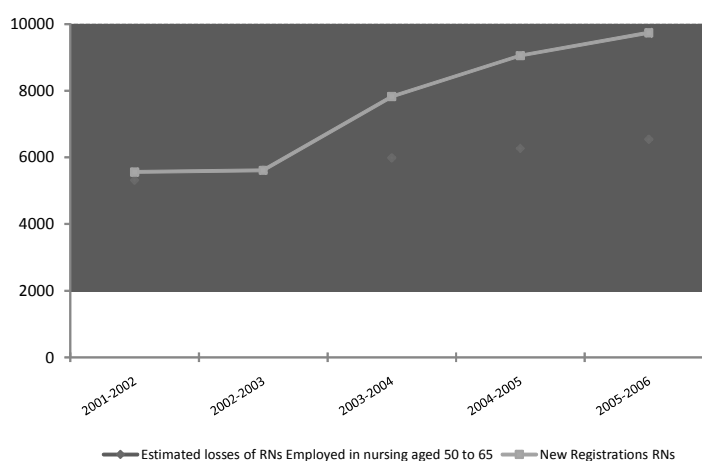
Chart 8: Age distribution of Registered Nurses, 1985-2005, Canada



Source: Data provided by CIHI

31. O'Brien-Pallas et al. (2003) estimated that, between 2001 and 2005, about 29 700 RNs retired, accounting for 13% of the 2001 workforce. This figure which assumes that nurses retire at age 65 is lower than the new registrations during this period. Assuming an average retirement age of 55 years of age generates higher retirement flows (about 64 200) (Chart 9). Health workforce ageing also has an impact on the type of work performed, as older nurses are less able to undertake physical demanding tasks and more exposed to musculoskeletal injury which is an important cause of disability among nurses (Shamian, 2003).

Chart 9: New registration and retirement of registered nurses, 2001-2005

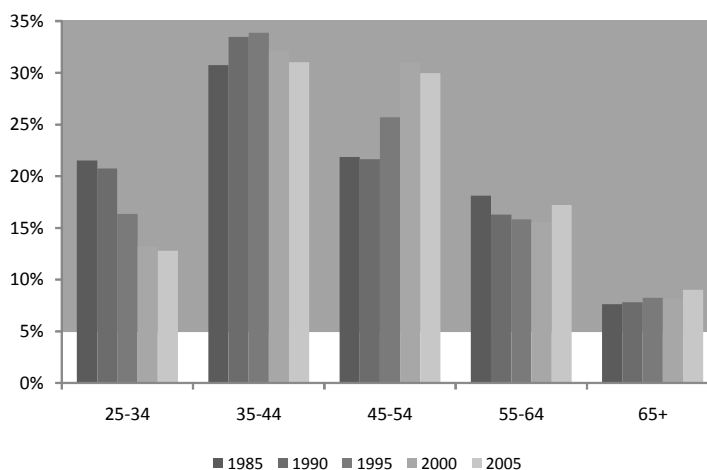


Sources: Data on retirement are from "Bringing the future into focus, projecting RN retirement in Canada", O'Brien-Pallas L., Alksnis C, Wang S. (2003) CIHI. Data on registrations were provided by CIHI.

32. The physician workforce is also ageing as depicted in Chart 10. In 2006, the average age of the physician workforce was 49.2 years whereas it was 48.4 for family medicine physicians and 50.0 for specialists (CIHI 2007a). The proportion of physicians in the age group 21-35 declined between 1985 and 2005 from 21.6% to 10.5% whereas the age group 55-64 increased from 18.1% to 21.0% (CIHI, 2008). Already, retirements have risen steadily over the past decades, from 300 in 1981 to more than 800 in 2000 (Canadian Labour and Business Center - Canadian Policy Research Networks, 2005), corresponding to a

retirement rate of 1.2% in 2000. Figures are even higher when considering physicians' intentions for retiring (Canadian Labour and Business Center - Canadian Policy Research Networks, 2005).

Chart 10: Age distribution of practising physicians, Canada, 1985-2005



Source: Data were provided by CIHI

33. While the number of physicians retiring will inevitably increase due to the ageing of the health workforce as discussed above, available evidence also suggests that physicians tend to work longer than the average Canadian worker, and that many older physicians wish and choose to remain in practice, though not necessarily maintaining the same level of activity (Pong et al., 2007).

Main developments in health human resources management since the late 1990s: rebuilding the health workforce

34. The lower enrolment in medical and nursing schools over the past decades, the lengthening of the period of study, the older age of students when they enroll and a trend towards earlier retirement, as well as the pending retirement of the baby boomers all contribute to the raising concerns about future shortages.

35. Following the Romanow Commission "Building on Values: the future of health care Canada" (2002)⁵ and the Standing Senate Committee on Social Affairs, Science and Technology report "The Health of the Canadian - The Federal Role" (2002)⁶, various policies have been implemented, especially those aimed at increasing the number of seats in medical and nursing schools, improving recruitment and retention, and creating new models of health care delivery. The Pan-Canadian Health Human Resource Strategy (HHRS) was also established in 2004 to secure and maintain a stable and optimal health workforce across Canada.

Increasing medical and nursing school enrolment

36. A major policy change relating to the expansion of medical and nursing enrolment at the end of the 1990s was adopted by provincial authorities who are responsible for defining the needs within their jurisdiction and funding the education of health care providers accordingly.

37. The Canadian Medical Forum Task Force One and Task Force Two, a group including both health professionals and lay representatives was created in 1998 to examine the issue of the shortage of

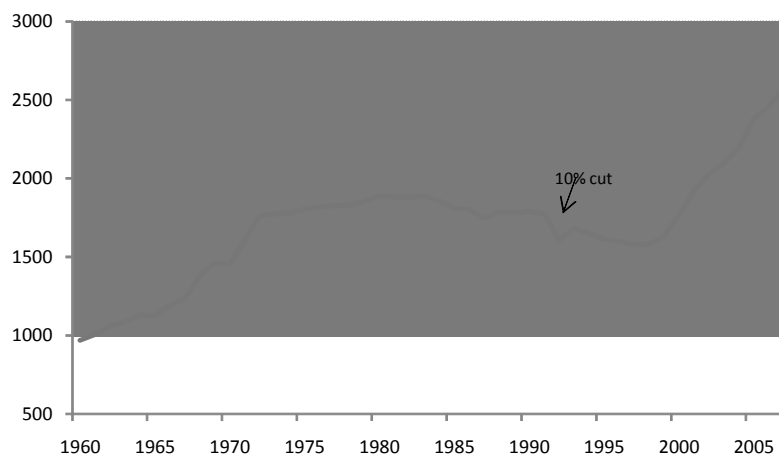
⁵ www.cbc.ca/healthcare/final_report.pdf

⁶ www.parl.gc.ca/37/2/parlbus/commbus/senate/Com-e/soci-e/rep-e/repoct02vol6-e.pdf

physicians in certain disciplines and regions of the country has played an important role in the decision to increase medical student enrolment. Through their reports⁷ to the ministers and deputy ministers of health, their recommendation included a 27 per cent increase in medical school enrolment, with a target of 2 500 seats available in medical schools by 2007⁸.

38. First-year medical student enrolments illustrate the magnitude of the medical education expansion and also provide an insight into future graduation trends. As depicted in Chart 11, first-year enrolment has increased significantly over the past years. In the year 2000, first-year medical school enrolment reached the same level as at the beginning of the 1990s, i.e., around 1700 first-year students. Since then, first-year medical school enrolment has continuously increased to reach 2 300 in 2005, and about 2 500 during the last 2 years. This corresponds to an increase of 6% between 1997 and 2007. This trend mimics the changes observed in other OECD countries like Australia, France or the United Kingdom, whereas in New Zealand and the United States enrolment has remained fairly stable.

Chart 11: Medical school first year enrolment in Canada, 1990-2007



Source: Canadian Medical Education Statistics, 2007, Association of Faculties of Medicine of Canada

39. This rapid increase in medical student enrolment, however, was not necessarily accompanied by a similar growth in the number of applicants. As a result, the number of applicants per position in medical schools decreased from 5 in 1998 to 4.1 in 2005 (Association of Faculties of Medicine of Canada, 2007).

40. While medical graduation rates have increased recently in Canada, large differences are prevalent between the provinces and territories. The number of medical graduates per 100 practising physicians ranges from a high 6.4 in Newfoundland and Labrador to a low 1.5 in British Columbia⁹. Although British Columbia only has still a low graduation rate (6 times less than the OECD average), medical density

⁷ Canadian Medical Forum Task Force One (1999) Task force on physician supply in Canada www.physicianhr.ca/reports/PhysicianSupplyInCanada-Final1999.pdf

Canadian Medical Forum Task Force Two (2006) A physician human resource strategy for Canada: final report www.physicianhr.ca/reports/TF2FinalStrategicReport-e.pdf

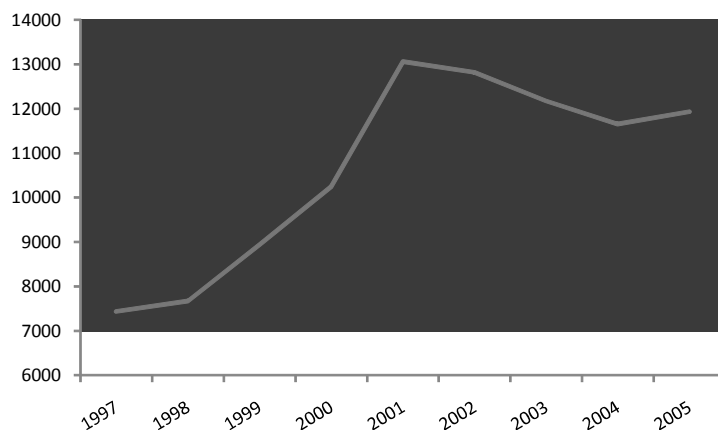
⁸ This coincides with the estimation made by the Association of Canadian Medical Colleges in 2003 and reported by Health Canada (2004a): “The ACMC estimates that, to maintain the existing physician-to-population ratio of 1.9:1,000, Canada needs to increase annual medical school enrolment to 2,500 by the year 2007 from the current level of approximately 2,000. In addition, 500 more international medical graduates (IMGs) are also needed each year to offset exits from the system through emigration and other routes.”

⁹ Results for Newfoundland and Labrador and Nova Scotia are partially explained by the quotas allocated to students from Prince Edward Island and New Brunswick, as both Provinces do not have a medical school.

remains above the Canadian average in this province. Interprovincial migration and international recruitment are critical to understand this apparent paradox. However, British Columbia has recently doubled the number of first time enrolment from 128 in 2003/04 to 256 in 2007/08 (AFMC, 2007). The biggest increases are recorded in Quebec and Ontario, where the number of first year enrollees went from 450 and 532 respectively in 1998/99 to approximately 700 in 2003/04 in both provinces and about 810 in 2006/07.

41. For nursing, the Nursing Strategy for Canada issued by the Advisory Committee on Health Human Resources in 2000 has played an important role in contributing to increasing first-year enrolment in nursing schools (Chart 12). Among the different options to strengthen nursing supply, the Nursing Strategy for Canada called for an increase of nursing education seats in Canada by at least 10 % over the next two years, and increases in the following years based upon improved projections and provincial/territorial need and capability (Advisory Committee on Health Human Resources, 2000). This objective has been largely achieved as between 2000 and 2002 first year enrolment in nursing schools as increased by 15% (by 60% between 1997 and 2005)¹⁰. This trend is more or less valid in all provinces (See Annex 1).

Chart 12: First-year enrolment in Canadian nursing schools, 1997-2005



Sources: Canadian Nurses Association
Note. Data refer to registered nurses education

42. Recent efforts devoted by Canadian provinces to scale-up education and training are impressive. In the case of doctors, however, they will not give rise to more graduates for 6 or 7 years. In the meantime, foreign-trained workers will probably continue to fill the gaps, particularly in less attractive specialities and locations. As for nurses, increasing education may not be sufficient if retention issues are not addressed simultaneously. This concern has been one of the drivers of changes in health human resources management policies.

Improving health workforce management

43. Better retention, more efficient skill mix and enhanced integration in the health workforce are among the numerous strategies to make a better use of the existing health workforce. However, financial incentives are probably the most used approach to improve recruitment and retention.

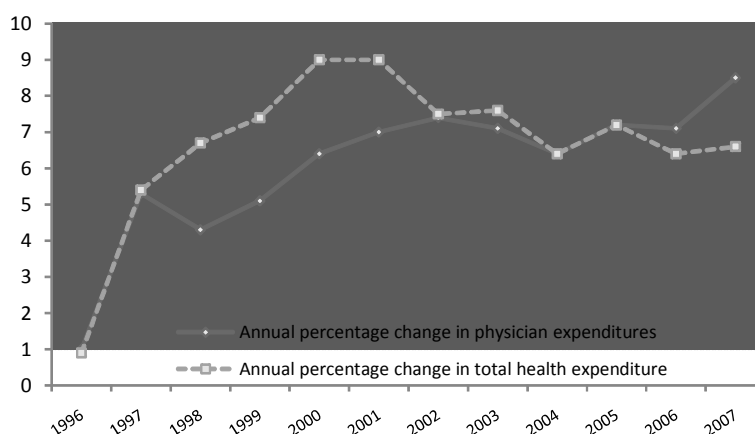
¹⁰ The Advisory Committee on Health Delivery and Human Resources (2003) reports that between 1998/99 and 2001 the total number of seats for registered, registered psychiatric and licensed practical nurses increased by 43%.

44. In Canada, total payments to physician increased quite substantially in recent years. Between 2000-01 and 2005-06, total payments for clinical services received by physicians increased by almost 40% (CIHI, 2008a). This increase is also important in relative terms as 2005 physician expenditures have grown at a higher rate than total health expenditures (CIHI, 2007f), as depicted in Chart 13. Although overall payments to physicians have increased quite substantially, one should be cautious when interpreting this trend which cannot be simply considered as an indicator of comparable increase in the volume of services provided or in the total size of the physician workforce.

45. In 2005-06, the gross average fee-for-service billings per FTE physician reached C\$245 000 (CIHI, 2007e). Marked differences prevail between family physicians and medical specialists. With a figure of \$212 000 per FTE, the average gross billings for family medicine physicians were much lower than for specialists whose fee-for-services billings reached C\$281 000 in 2005-06 (CIHI, 2007e).

46. As illustrated in Table 2, the difference in remuneration between specialists and family physicians has increased over time, with the exception of Quebec. In 2005, the largest variance is found in Ontario, where specialists earn on average 1.68 times more than family physicians, whereas the smallest discrepancy is recorded in Quebec with a ratio of 1.22.

Chart 13: A comparison of annual changes in physician and total health expenditures, percentage, 1996-2006



Source: National Health Expenditures Trends, 1975-2007, CIHI

Note. Physicians expenditures include professional fees for services but also other forms of professional incomes (salaries, sessional, capitation)

47. Due to the greater concern about family physician shortages than medical specialists in Canada, one would have expected a larger increase in family physician incomes than specialists; however, these results indicate that the opposite has actually occurred. The gap between the remuneration of family physicians and specialist physicians is even more noticeable when compared to other OECD countries. Canada's remuneration for specialists is among the highest of the OECD countries whereas it is among the lowest for family physician/GPs (OECD Health database 2008).

Table 2: Medical specialist/family physician income ratio, 1990-2005

Ratio Specialist/GP	1990	1995	2000	2005
Newfoundland	1.28	1.45	1.44	1.49
Prince Edward Island	1.33	1.28	1.37	1.55
Nova Scotia	1.34	1.40	1.53	1.55
New Brunswick	1.37	1.50	1.54	1.41
Quebec	1.28	1.29	1.28	1.22
Ontario	1.38	1.34	1.39	1.68
Manitoba	1.23	1.26	1.25	1.28
Saskatchewan	1.36	1.44	1.39	1.47
Alberta	1.32	1.39	1.37	1.36
British Columbia	1.31	1.41	1.38	1.37

Note: Payment for physicians represents average gross fee-for-service payment per physician who received at least \$60,000 in payments; alternative forms of reimbursement, such as salary and sessional, are not included.

Source: Data were provided by CIHI, 2007

48. Another recent development is the significant increase in alternative forms of payment. While fee-for-services remains the main form of payment for doctors, its role has been decreasing over the past years and alternative forms of payments have increased. Alternative payment plans include a broad range of payment models, such as salary, capitation, sessional, hourly or daily payments, service contract, incentives and premiums. Between 2000 and 2005 such alternative forms of payment more than doubled, from 1.3 billion C\$ to 3 billion C\$ and represented approximately 21.3% of the total payment to physicians in 2005 (CIHI, 2008b). The proportion of physicians earning income through these alternate forms of payment has also increased significantly, from 28% to 39% during this period (CIHI, 2008b).

49. In the case of nurse's wages, major differences prevail between provinces. Many of Canada's nurses work in hospital wards and in other settings under contracts negotiated by their unions. In 2006, the maximum annual wage for registered nurses varies between 70 000 C\$ in Ontario and 51 000 C\$ in Quebec, while the minimum ranges between 53 000 C\$ in Manitoba and 34 000 C\$ in Quebec (Canadian Federation of Nurses Association Unions). However in some cases higher wages were listed in the most recent Ministry of Finance Salary Disclosure as well as those from 2006 and 2005, stating incomes of over 100,000. In each Province, the difference between the minimum and maximum wage has increased between 1998 and 2006 but the range of this increase varies significantly across provinces from 9% in Nova Scotia to 101 % in Alberta. While improved remuneration is among the most common approaches to improve retention, reviews from international studies show that financial incentives have produced mixed results (OECD, 2008). Workload and supervision are also important determinants of job satisfaction.

50. Addressing issues related to the quality of the work-life balance has gained more attention and has been identified as a key issue for nursing. Repeated studies in OECD countries have shown that overtime, lack of autonomy, autocratic leadership, non involvement in decision making, and lack of career advancement opportunities were related to poor job satisfaction, which is one of the dominant reasons for nurses to leave their jobs (Canadian Nursing Advisory Committee, 2002; Health Canada, 2007a). Health Canada (2004a) reports that nursing workload increased significantly as a result of cuts in public health expenditure in the early 1990s, coinciding with an increase in the number of patients per bed as well as the number of severity-adjusted cases. In 2002, 26% of registered nurses were working overtime every week, as compared to almost none in 1997. In addition between 1994 and 2002, some 5 500 registered nursing management jobs were lost.

51. Turnover and absenteeism have substantial economic costs. In 2001, absenteeism among registered nurses working full time was 83% higher than it was in the general labour force (Health Canada, 2004a) and the resulting economic cost of overtime, absenteeism wages and replacement wages were estimated to be between 962 million C\$ and 1.5 billion C\$ (Health Canada, 2004a). In 2005, 16 500 nurses were absent due to illness or injury corresponding to 9 750 full-time nursing positions (Health Canada, 2007a).

52. Improving the "environment of care" has also gained increasing attention by policy makers. For nurses, a decade of almost constant health system changes with re-reorganization, and substantial downsizing has changed considerably their work environment. Such changes have been perceived by nurses as devaluation of their professional role, status and worth (Vandewater, 2005). Ultimately, it has contributed to reduce job satisfaction and to weaken retention in the job and in the profession (Zeytinoglu et al. 2007).

53. To create and maintain a healthy work environment, Health Canada has launched the "Healthy Workplace Initiative". This initiative aims at improving recruitment and retention, with the potential to enhance the overall effectiveness of health care organizations through targeted funding of approximately 4.0 million C\$ to support innovative projects in health care organizations. Guidelines on healthy workplace have also been developed. Also, across Canada, a number of initiatives have been implemented for retaining nurses. For example, the Calgary Regional Health Authority addressed the issue by hiring more nurses, converting overtime expenses to full time positions, and hiring additional clerical staff. It also improved accessibility to supplies and cafeteria services by providing hot meals 24 hours a day (Vandewater, 2005).

54. As part of the Pan-Canadian Health Human Resource Strategy, the Recruitment and Retention of Health Care Providers initiative supports projects aiming at (i) increasing support for family physicians in primary care, (ii) valuing experienced nurses to improve retention and (iii) developing promotional strategies to enhance the image of family medicine.¹¹

55. Health workforce ageing has also led to the development of policies addressing the concerns of an older workforce. In 2004, New Brunswick introduced a Phased Retirement Program to offer nurses the opportunity to work part-time rather than leave their jobs completely. New Brunswick was the first jurisdiction to introduce this program for nurses. In Ontario, the "Late career initiative" provides nurses over the age of 55 who are working in hospitals and long term care homes the opportunity to spend approximately one day per week in less physically demanding "alternate" nursing roles.

Developing new models of care

56. Although not widespread, different team-based models have been in existence across the country since the early 1970s. The current impetus for primary health care change began with the September 2000 Ministers' Health Accord, and was reconfirmed in the 2003 Accord on Health Care Renewal. As a result, the provinces and territories are currently implementing a variety of interdisciplinary team models. Ontario for instance has created 150 "family health teams" in 112 communities which include doctors, nurses and other health care professionals (dietitians, pharmacists, social workers)

57. In Canada, Nurse Practitioners (NP), Physician Assistants (PA) and midwives do not yet play a major role in the health system but these health worker categories are developing rapidly. While the use of Nurse Practitioners (NP) can offer solutions to address the timely access to health care services, increasing quality care and decreasing the workload of other health care providers such as doctors, they also face

¹¹ Family Medicine Interest Group (FMIG) works to enhance the image of family medicine among medical students.

difficulties implementing their role. The number of NPs has increased substantially over the past few years, from 800 in 2005 to 1 300 in 2007. If in Canada the medical profession seems positive about the development of nurse practitioners' workforce, this is not going without questions; particularly, their mode of payment appears as a limiting factor for family doctors to employ NPs, especially as there is no provision under Medicare on how NPs should be paid.

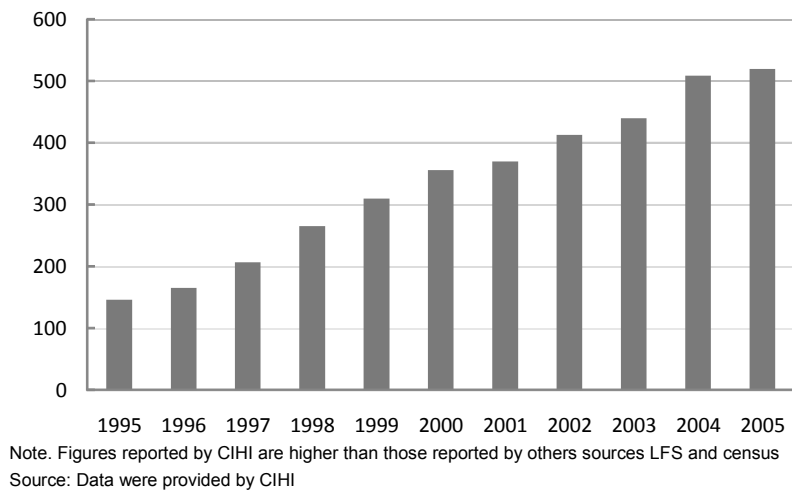
58. Some provinces, and particular regions within provinces, make more use of a mix of skills in their nursing needs than others. For example, the mix of Registered Nurses (RNs), Licensed Practical Nurses (LPNs), Registered Psychiatric Nurses, unregulated aides and others who provide nursing services to patients varies by region. The Canada-wide ratio of RNs to LPNs working in nursing varies considerably across the country. This ratio is 2.54 in Atlantic Canada, 3.53 in Quebec, 3.46 in Ontario, and 5.21 in British Columbia and the Northwest Territories in 2006 (CIHI, 2007c).

59. As for PAs, programmes for physician assistants are very new. Manitoba has used "ex military"¹² or American trained physician assistants since 2003. Ontario has developed a pilot project employing over 50 Physician Assistants (as of August 2008), including 36 IMGs who completed a competencies-based assessment and integration process before beginning clinical practice as PAs. Developing PA schemes has been mentioned as a possibility to offer opportunities for IMGs who face difficulties to have their qualifications fully recognized. For instance, Alberta has developed the International Medical Graduate Clinical Preceptorship (IMGCP) programme to retain IMGs to practice as "clinical assistants" in areas where there are shortages of acute care coverage. However, experience has shown that this approach faces retention difficulties and may create tensions with other health workers, including doctors.

60. As for midwifery, its role is currently not well established in Canada. Midwifery is only regulated in six provinces and one territory¹³ but unregulated personnel midwifery is commonly practised in most provinces and territories. The number of regulated midwives is still low in Canada as depicted in Chart 14, although the Ontario midwifery education program enrolment has recently been expanded by 30 positions, for a total of 90 midwifery student positions per year. In most provinces and territories, midwifery programs are not available. For instance, in Alberta, there is no midwifery programme and the government does not fund midwifery. It is not covered by Medicare and people have to pay out of pocket. Overall, only 2% of the total births in Canada are assisted by midwives who serve as the primary care provider (Canadian Labour and Business Center - Canadian Policy Research Networks (2005).

¹² Physician assistants have existed in the Canadian Forces since 1999.

¹³ Quebec, Ontario, Manitoba, Saskatchewan, Alberta, British Columbia, Northwest Territories

Chart 14: Regulated Midwives in Canada, 1995-2005

61. The Romanow commission recommended that pharmacists play an increasing role as part of primary health care teams. The scope of practice of pharmacists is actually evolving in different jurisdictions. In Alberta, for instance, recent changes in the legislation authorize clinical pharmacists to adapt an existing prescription or provide a drug for a known patient who is unable to see his or her physician immediately. In 2006, the Saskatchewan College of Pharmacist released a consultation paper proposing prescribing authority for pharmacists. In Manitoba, a new bill has been approved in 2006, which provides pharmacists the authority to prescribe drugs and order diagnostic tests (Pearson 2007).

62. These new models of care delivery are promising because (i) they respond to new types of needs, (ii) they aim at making a more efficient use of highly skilled health human resources (iii) they contribute to address maldistribution issues and (iv) they offer new career opportunities that can improve motivation and retention. Nonetheless, these approaches can only have a limited impact in the short and medium term and they also entail a strong commitment to the development of health human resources.

Improving Pan-Canadian collaboration on health workforce issues

63. In Canada, provinces and territories play a key role in health workforce issues as they are responsible for the management, organization and delivery of health services for their residents. Recruitment is the primary responsibility of health care employers, which are in most instances throughout Canada subprovincial/territorial entities such as the Regional Health Authorities. The provinces and the territories are also responsible for defining the needs within their jurisdiction and funding the education of health care providers. Health Canada collaborates with provinces and territories and provides funding through grants and contributions to reinforce the Pan-Canadian health objectives¹⁴.

64. To facilitate collaboration between the Federal, Provincial and Territorial governments, the Advisory Committee on Health Delivery and Human Resources (ACHDHR) was established in June 2002, by the Conference of the Deputy Ministers of Health. One illustration of the collaborative approach between the Federal, Provincial and Territorial governments is the Pan-Canadian Health Human Resource Strategy. In this context, the three key initiatives that have been implemented: (1) Pan-Canadian Health

¹⁴ In addition, the Federal government is responsible for the delivery of health services to certain groups of people: First Nations and Inuit people, members of the Canadian Forces and the Royal Canadian Mounted Police.

Human Resources planning, (ii), Inter-professional Educational for Collaborative Patient-Centered Practice, and (iii) Recruitment and Retention of Health Care Providers.

65. As workforce planning has traditionally been conducted in isolation in Canada, the Pan-Canadian Health Human Resource Planning is particularly promising as it provides an opportunity to increase communication and facilitate coordination at a national level. However, it will remain a challenging task as Canadian provinces and territories are increasingly competing for health human resources within Canada, and also internationally.

Inter-provincial migration of health professionals

66. The distribution of physicians across provinces and territories is constantly changing due to the internal migration of physicians in Canada. Although there is limited data on the internal movements of health professionals, Canadian census data, as well as the Scott's Medical database offer some insights into the migration patterns of physicians in Canada (CIHI 2007a).

Inter provincial mobility is limited but not insignificant

67. The Scott's Medical Database (SMDB) indicates that, between 2005 and 2006, about 860 physicians moved from one province or territory to another, corresponding to about 1.34% of Canada's active physicians¹⁵. Interprovincial migration of physicians seems to have decreased slightly over time, as it represented 1.6% of all physicians in 2001 (CIHI, 2007h). As a matter of comparison, between 2005 and 2006 about 0.88% of the total Canadian population was involved in interprovincial migration (Statistics Canada, 2008a).

68. When looking at net-migration count, British Columbia has been the only province to have a continuous positive net-migration during the last 2 decades. Ontario has also been a net gainer until recently, while Alberta has been increasingly benefiting from interprovincial movements (Chart 15). Between 2005 and 2006, British Columbia recorded a net gain of 124 physicians (1.5% of its 2005 workforce) and Alberta a gain of 117 physicians (1.9%). These were the only 2 provinces receiving more physicians than they were losing to other provinces. For British Columbia the gains are in the same order of magnitude as the number of physicians completing post-graduate training in the province (154 in 2006). Ontario also receives a large share of physicians from other provinces (190 in 2005-06)¹⁶ but it now loses more (about 278 in 2005-06). As a result Ontario recorded its first net loss of about 88 doctors in 2005-06. In other provinces, the impact of interprovincial mobility has always been negative and did not change significantly over time. In and out migration of physicians in Quebec tend to be relatively limited, most likely due to cultural and language reasons.

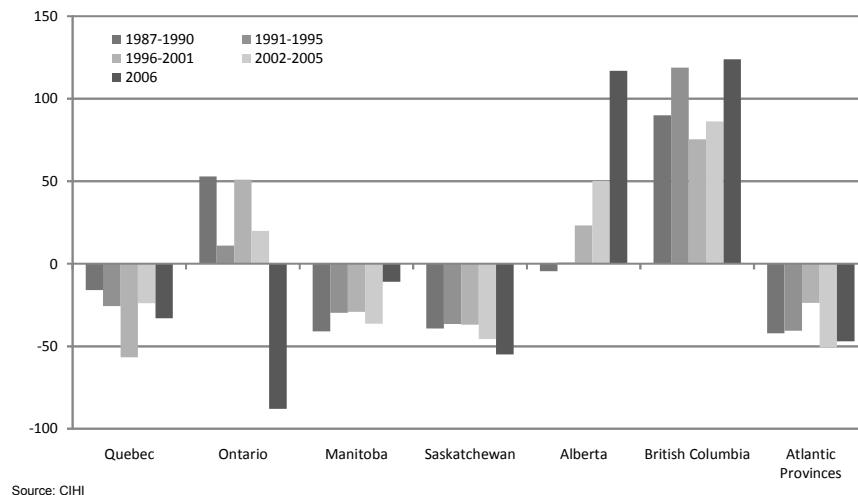
69. A further study to analyze the determinants of interprovincial migration found that compared to middle aged physicians (45–50 years old), younger ones are more likely to move, while the older ones are less likely to move. Specialists are more likely to move than family physicians; immigrants are more likely to move than non-immigrants; and those whose language is French are less likely to move than those whose language is English (Rajbhandary and Basu, 2006). The authors also found that expected income in a province is a significant determinant in the choice of province of residence for physicians residing in Ontario and Saskatchewan. This effect, is however not very large and not significant in other provinces. In

¹⁵ According to CIHI (2007h) another 5% of physicians move each year from one community to another within the same province.

¹⁶ Data include residents, so part of the inflow to Ontario results from the fact that young post graduate trainees come to Ontario to pursue certain specialties which are not offered in their province. These people will not be identified in the inflow (as they were not residents before entering post graduate training), but they would be in the outflow if they leave to another province at the end of their training.

the most recent years, the economic boom in Alberta has probably been one of the most important drivers of migration to this province.

Chart 15. Average annual net interprovincial mobility of physicians, 1987-2006

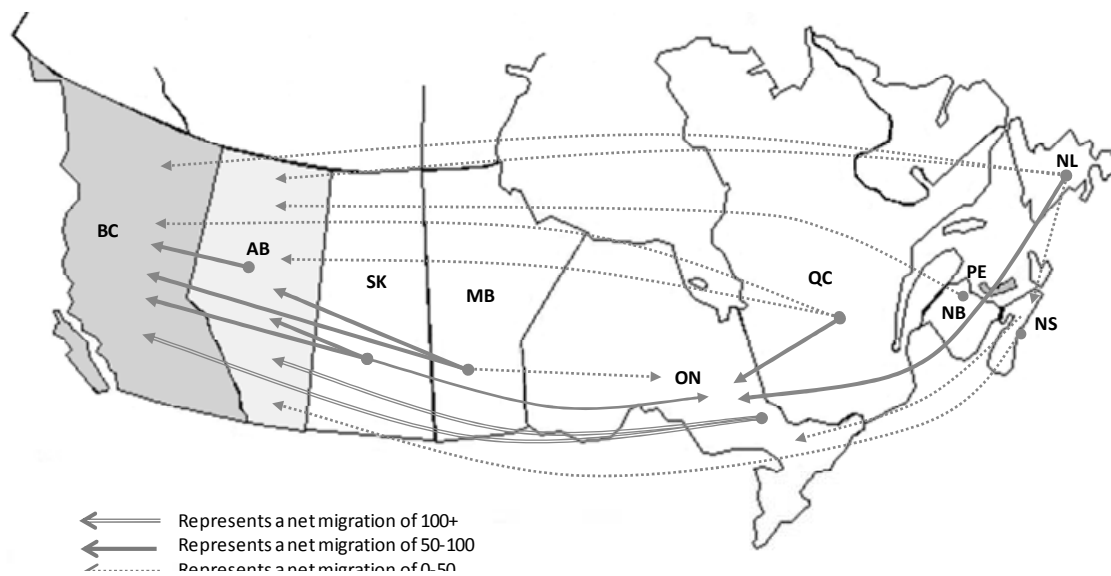


70. Data for nurses are less comprehensive but show similar patterns. In 2006, 35.3% of all nurses graduated in Newfoundland and Labrador were working in another province. The second largest loss was in Saskatchewan (-31.9%), followed by Manitoba (-25.5%) (CIHI, 2007d). Inversely, only 6% of nurses left Québec and 8.6% left Ontario. As far as receivers are concerned, half of the nurses from Newfoundland and Labrador went to Ontario. Similar trends are observed between Saskatchewan and Alberta. Alberta is certainly the province which is gaining the most from the interprovincial migration of nurses. According to CIHI (2007d), between 1996 and 2001, Alberta gained about 950 registered nurses, British Columbia 220 and Nova Scotia 55.

Inter provincial migration is dominated by East-West flows

71. To a certain extent the interprovincial migration of health professionals within Canada reflects the issues and concerns observed at international levels. As observed previously, the gains associated with the migration between provinces and territories are unevenly distributed. Western provinces offer attractive employment opportunities and living conditions and as a result, are able to attract many health workers from within Canada. The bottom line is that the provinces which gain the most, like British Columbia, tend to train less than the Canadian average. Other provinces train more health professionals but face difficulties in retaining them (e.g. Newfoundland and Labrador). Some of these provinces compensate for this lack of health professionals with international recruitments, principally to fill vacancies in underserved and remote areas. Saskatchewan and Newfoundland and Labrador for instance, tend to have more flexible policies for medical registration in order to attract foreign-trained doctors. Some have referred to this phenomenon as the “circle game of physician migration” (Dauphinee, 2006). It could also be looked at as a type of cascade migration model, with a migration trend from East to West (Map 1).

Map 1. Net interprovincial mobility of physicians , 2001-2006



Source: CIHI

Note : Shaded areas represents provinces with a positive net migration inflow. Net inter-provincial migration has been estimated based on cumulated net flows between 2001 and 2006, including residents.

72. Simple correlations tend to confirm the type of linkages identified above¹⁷: (i) the correlation between provincial net migration and graduation rates is negative (-0.41) and significant, (ii) the correlation between net migration and the share of IMGs is also negative and significant (-0.39). In other words, it seems that provinces that train less benefit more from interprovincial migration and those that lose more through interprovincial migration recruit more internationally. As a result, more than 80% of the practicing doctors in Québec have been trained in the province compared to around 58.5% for Ontario and 40% for Alberta, Newfoundland and Labrador and Nova Scotia. This percentage is close to 25% for British Columbia. A recent study applied to family doctors find even more striking figures as only 14% of all GPs trained in Atlantic provinces are practicing in that region. The corresponding figure for the prairies and BC were close to 25% [82% in Québec, 50% in Ontario] (Ryan and Stewart, 2007).

73. The increasing need for health professionals is likely to affect the traditional inter-provincial and international migration patterns. First of all, as discussed previously, many provinces have increased their medical school enrolment. This is the case notably for Alberta and British Columbia. In parallel, some provinces which succeeded in the past to attract foreign-trained doctors, for instance by offering alternative pathways to licensure, are facing increasing competition from other provinces as they open up the doors of their residency programs to IMGs and develop bridging programmes. In this context and despite all the efforts deployed by provincial and federal authorities to address the issue, it is not unlikely that the maldistribution of health professionals will persist, if not increase. This would call for reinforcing coordination and co-operation mechanisms to avoid a bottleneck in providing equal access to health care to all Canadians. This is one of the main objectives of the Pan-Canadian Health Human Resource Strategy

¹⁷ Data on net migration, graduation rates and the share of IMGs over 10 Canadian provinces cover 3 distinct periods (1991-96, 1996-2001 and 2001-06). Net migration corresponds to the cumulated net migration over the period considered. Graduation rate refers to the total number of graduates over the period considered in percentage of the initial stock of physicians.

which aims to ensure that Canadians have access to the health providers they need both now and in the future.

II. INTERNATIONAL MIGRATION OF HEALTH PROFESSIONALS

74. Canada has been built on migration and remains an important immigration country with 19.8% of the population being foreign-born according to the 2006 Canadian Census (Chui, Tran and Maheux, 2008). Policies encouraging immigration has been an important element of the country's growth strategy. A few years ago the federal government had indicated a medium-term objective of raising immigration to 1% of the population, which would mean admitting about 300 000 new immigrants a year.

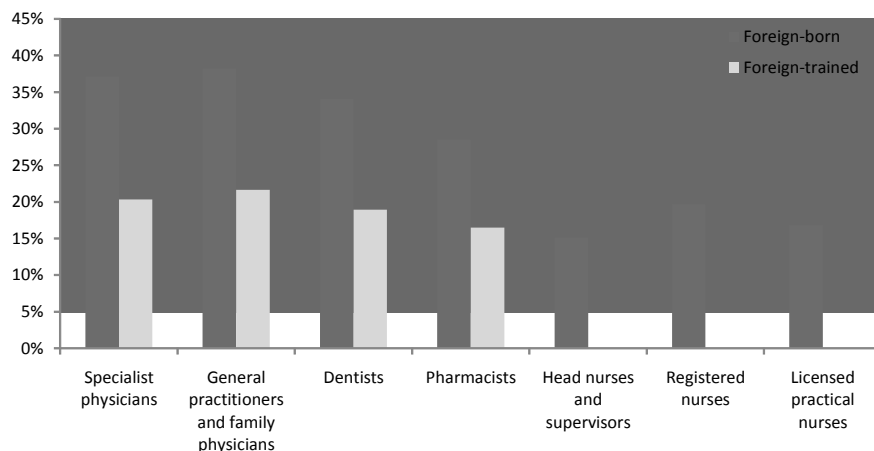
75. Not surprisingly, immigrants have contributed to shape the Canadian health workforce. However, their role has fluctuated through the cycles of perceived shortages and surpluses of health professionals. Immigration policies, although responding to more general drivers, have accompanied this evolution.

76. What is the contribution of migrant health workers in shaping the Canadian health workforce? How does it compare with other sectors? What are the main evolutions of migration flows and stocks of foreign-trained health professionals? What is the role of migration policies? Should emigration of Canadian and immigrant doctors and nurses be a matter of concern?

Immigrant health professionals represent an important share of the health workforce ...

77. Immigrants¹⁸ make up a significant share of the Canadian health workforce, with more than 37% of all physicians and about 20% of all registered nurses being foreign-born. Figures vary significantly between health occupations, but large contributions of foreign-born professionals are also witnessed, for instance, for dentists and pharmacists (see Chart 16).

¹⁸ "Immigrant" and "foreign-born" in this section refer to people born outside Canada, including non-permanent residents.

Chart 16. Share of foreign-born and foreign-trained health professionals in main health occupation, Canadian census 2006

Note 1: Place of training refers to the place where the person obtained its most advanced degree (University degree at bachelor level or higher). The share of foreign-trained could not be calculated for nurses because most of them do not hold a University degree at bachelor level (more than 50% of head nurses and registered nurses and about 95% of licensed practical nurses are in this case).

Note 2: Foreign-born (resp. foreign-trained) data include all persons born abroad (resp. trained abroad) independently of their place of training (reps. place of birth) and citizenship. Few foreign-born health professionals were born abroad with the Canadian citizenship (about 270 specialists and general practitioners, about 670 licensed practical nurses and less than 100 in other identified occupations). A non negligible number of foreign-trained health professionals were born in Canada (about 770 specialists, 840 general practitioners, 1500 licensed practical nurses, 1000 dentists and 600 pharmacists).

Source: Statistics Canada 2006 Census, Citizenship and Immigration Canada custom tabulations.

78. Many foreign-born health professionals have been trained in Canada, and consequently the statistics on the foreign-educated are much lower. According to the 2006 Canadian census, more than one out of 5 physicians has been trained abroad. The professional register, although based on a different definition (see Annex 2 for a discussion about data sources and definition), provides a comparable figure with 22.5% of the doctors holding a foreign medical degree in 2005. Internationally educated nurses account for 7.7% of all registered nurses and 2.5% of the licensed practical nurses in Canada¹⁹.

79. The difference between provinces is also noteworthy. In 2005, Québec had only about 11% of doctors trained abroad compared to 51% in Saskatchewan. In Newfoundland and Labrador, and Prince Edward Island the figures are respectively 37% and 15%. In other provinces the share of foreign-trained doctors is closer to the Canadian average, usually just above 25%. For nurses the figures are much lower, but not the differences between provinces. British Columbia records the highest share of internationally educated nurses with about 15%, followed by Ontario (about 12%) and Manitoba (about 7%). The figures are only few percentage points lower in other provinces but below 1% in New Brunswick. Better understanding the determinants of these differences between Canadian provinces is one of the key objectives of this chapter.

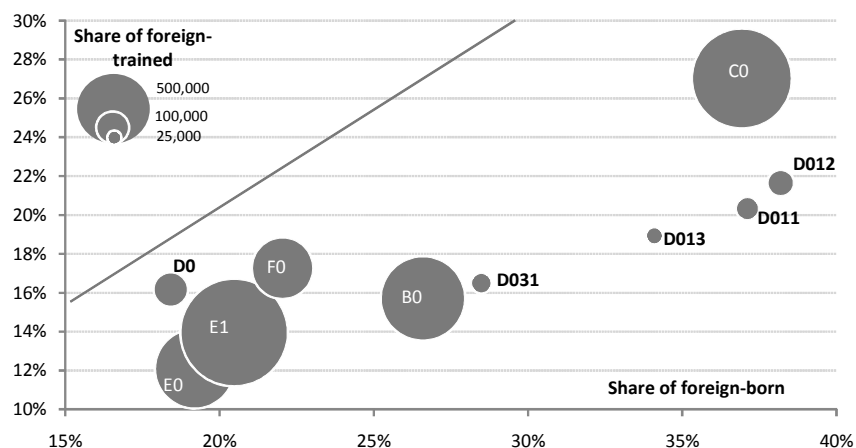
... as this is also observed in other occupations

80. Chart 17 compares the share of foreign-trained and foreign-born in selected professional occupations. It shows that these percentages are higher in related health occupations than in most other professional occupation, except in natural and applied sciences, which make up one of the biggest group. The lowest percentages are observed for professionals in education or business and finance. A combination of factors explains the observed differences across occupations, including (i) labour market needs, (ii) more or less stringent regulations with regard to recognition of foreign credentials and language

¹⁹ The corresponding figure for registered psychiatric nurses is 7%. No data is available for midwives (data provided by CIHI, authors' calculations).

proficiency requirements, (iii) the role of the migration system. Hereafter, we will try to disentangle the contribution of different factors.

Chart 17. Share of foreign-born and foreign-trained in selected professional occupations, percentage, Canadian census 2006



Note 1 : Health professionals (in bold): D011 Specialist physicians; D012 General practitioners and family physicians; D013 Dentists; D031 Pharmacists; D0 Other professional occupations in health

Other professionals : B0 Professional occupations in business and finance; C0 Professional occupations in natural and applied sciences; E0 Judges, lawyers, psychologists, social workers, ministers of religion, and policy and program officers; E1 Teachers and professors; F0 Professional occupations in art and culture

Note 2 : Only professionals occupations for which more than 50% of the workforce holds a university degree at bachelor level or higher are included

Source: Statistics Canada 2006 Census, Citizenship and Immigration Canada custom tabulations.

81. From Chart 17, it is also interesting to note that in the case of health occupations, the distance to the first bisectrix is greater, which means that the difference between the share of foreign-trained and that of foreign-born is higher. In other words, in health care fields, more so than in other fields, a significant number of professionals born abroad obtained their highest degree in Canada.

82. If the relative importance of the foreign-born trained in Canada can be explained mostly by the large number of immigrants landing in Canada at young age²⁰, this argument does not explain why the share of foreign-born trained in Canada varies across occupations. One possible explanation would be that foreign-born students have a preference for medical and other health related fields of study. PISA 2006 provides some evidence to back-up this hypothesis as young immigrants report higher levels of future-oriented motivation to learn science compared to their native counterparts (OECD, 2008a). In Canada, however, this may be compensated by the fact that first generation immigrants obtain significantly lower results in science (Bussière et al. 2007). The above finding could also partly be due to a statistical artifact. Indeed, the 2006 Canadian census identifies the country where the highest diploma or degree was obtained. Foreign-trained doctors who have been required to redo their residency in order to be fully licensed in Canada, may as a result be classified as trained in Canada; a situation that would not apply to the same extent in the case of non regulated professional occupations (See Annex 2).

²⁰ In 2006, about 37% of the permanent immigrants landed in Canada before they were 24 years old (22% before 15 years old) (CIC, 2006a). (21.9% is the percentage in Facts and Figures 2006, CIC)

Table 3. Contribution of immigrants in shaping the health workforce in selected OECD countries, circa 2000

	FBDOC/POP (A)	FBDOC/FBHS_E (B1)	FBHS_E/FBHS (B2)	FBHS/FB (B3)	FB/POP (B4)
	Share of foreign-born doctors in total population 15+ (‰)	Share of foreign-born doctors in total highly-skilled foreign-born employment 15+ (%)	Employment/population ratio for foreign-born highly-skilled 15+ (%)	Share of highly-skilled in foreign-born population 15+ (%)	Share of immigrants in total population 15+ (%)
NZL	1.71	3.4%	72.4%	31.0%	22.2%
AUS	1.59	3.1%	72.5%	25.8%	27.0%
GBR	1.25	5.2%	70.3%	34.8%	9.9%
CHE	1.24	3.1%	74.2%	23.7%	22.6%
IRL	1.00	3.2%	71.1%	41.0%	10.9%
SWE	0.97	4.9%	61.0%	24.1%	13.4%
CAN	0.96	1.6%	70.3%	38.0%	22.4%
USA	0.91	3.4%	71.5%	26.1%	14.5%
LUX	0.87	1.4%	79.7%	21.7%	36.1%
FRA	0.70	5.3%	63.5%	18.1%	11.7%
NOR	0.67	4.6%	71.4%	30.8%	6.7%
AUT	0.66	6.2%	67.4%	11.3%	13.8%
BEL	0.60	3.6%	68.0%	23.0%	10.8%
NLD	0.56	3.7%	69.5%	19.2%	11.2%
PRT	0.52	4.8%	82.9%	19.3%	6.7%
DEU	0.48	3.7%	66.6%	15.0%	13.2%
DNK	0.40	4.0%	65.9%	23.9%	6.4%
HUN	0.32	7.9%	62.9%	19.8%	3.2%
ESP	0.27	4.1%	57.9%	21.1%	5.5%
FIN	0.14	4.8%	56.0%	18.9%	2.7%
GRC	0.13	1.2%	66.0%	15.9%	10.8%
TUR	0.11	5.6%	55.7%	15.2%	2.4%
POL	0.10	8.7%	41.7%	11.9%	2.4%
MEX	0.05	6.3%	60.2%	34.8%	0.4%

Note 1: Highly skilled refers to those holding a tertiary degree. All figures are for population 15 and over.

Note 2: The five highest figures in each column are identified in bold.

Source : Database on Immigrants in OECD Countries (www.oecd.org/els/migration/DIOC) and Dumont and Zurn (2007) for data on foreign-born doctors.

83. To understand the role of immigration in the health workforce, it should be gauged in the broader context of highly skilled migration. In order to do so, Table 3 decomposes the foreign-born doctors to population ratio (A) in four elements: (B1) the share of foreign-born doctors in total highly-skilled foreign-born employment, (B2) the employment/population ratio for foreign-born highly skilled 15+, (B3) the share of highly skilled in foreign-born population 15+ and (B4) the share of immigrants in total population. This calculation has been produced for 24 OECD countries using population censuses circa 2000 (OECD 2008). Canada ranks 7th in terms of the density of foreign-born doctors (column A), with just under one foreign-born doctor for one thousand inhabitants, but the breakdown reveals two key findings:

- Highly skilled migration in Canada has not targeted doctors, as the share of doctors in total highly-skilled foreign-born employment is particularly low (1.6%). In fact, it is one of the lowest among OECD countries. The share is notably 2 times lower than in Australia, Ireland, New Zealand or the United States and more than 3 times lower than in the United Kingdom, France or Sweden.
- Most of the relative importance of foreign-born doctors in Canada can be explained by the significance of migration in general (B4) and by its selectivity (B3). With regards to the latter, Canada ranks second, with 38% of immigrants holding a tertiary degree, just after Ireland but well ahead of New Zealand or the United States (for instance).

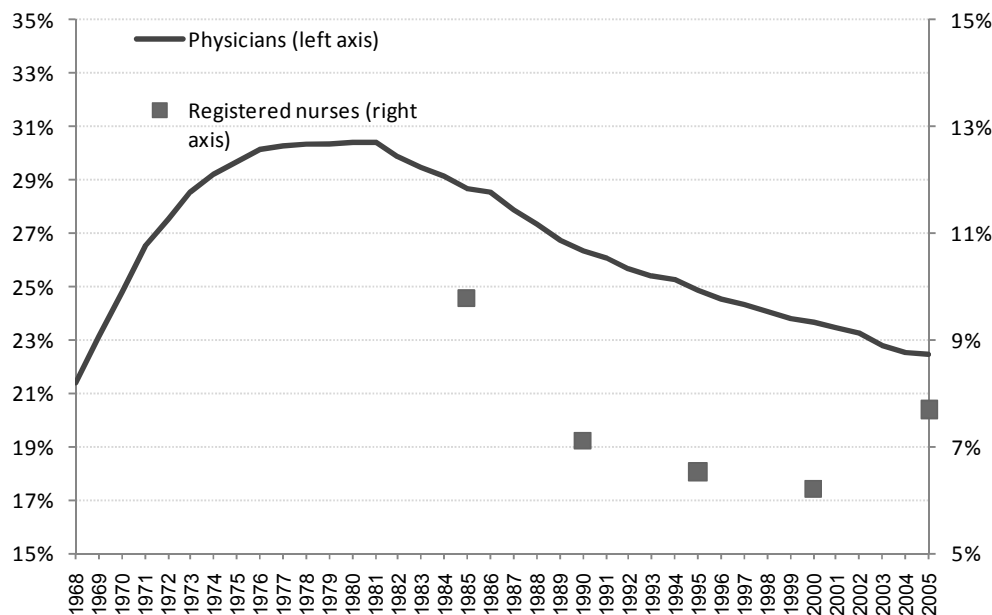
Long-term changes in the share of foreign-trained doctors in Canada

84. Previous analysis has shown that between 1970 and 2005, the number of foreign-trained doctors has increased at a rapid pace in most OECD countries, but not in Canada where it actually decreased

substantially (Dumont and Zurn, 2007). A look backwards into history is necessary to understand the particular evolution observed in Canada.

85. Over the course of its history, Canada has always welcomed a steady number of foreign-born and foreign-trained doctors. However, the period 1954-1976 was atypical in Canadian medical and immigration history (Mullally and Wright, 2007). In the decade following the Second World War, Canada witnessed a rapid economic and demographic growth, as well as the development of universal medical coverage. By the end of the 50s, many regions in Canada were already suffering from difficulties in recruiting physicians, due to insufficient training capacity. The Hall Commission (1964) proposed the adoption of a universal health insurance system which was endorsed by the Medical Care Act (1966). The latter conditioned federal funding for provinces with the agreement on a number of basic principles (universality, portability, public administration and comprehensiveness). Before the mid 70s all provinces enacted their own insurance systems, which contributed to boosting the demand for health workers.

86. At that time the migration system was designed to allow the government to fine-tune both the total number of immigrants (by setting annual targets) and their skill composition (through the attribution of occupation-specific points) to prevailing labour market conditions (OECD, 2003). In this context, physicians received a maximum of 15 points for occupations in demand with 10 additional points being granted to specialists. Many provinces actively recruited doctors from abroad, mainly in the United Kingdom but also from Asia, Africa and Latin America. Between 1954 and 1976 over 10 000 new foreign-trained physicians were licensed, more than the number of doctors than the provinces graduated domestically during this period (Mullally and Wright, 2007). As a result, the share of foreign-trained physicians increased rapidly (Chart 18).

Chart 18. Share of foreign-trained physicians in Canada, 1968-2005

Note. Percentages are computed as follows : The number of foreign-trained physicians (including US trained physicians) / the number of total "active" physicians (including physicians whose country is unknown). Data refer together to family medicine and specialist physicians, registered on a full and temporary basis. Data exclude residents and physicians working abroad.

Sources: CIHI and OECD Health Data 2008

87. By the mid-1970s many communities, particularly those in l and or remote regions, were serviced primarily by foreign-trained doctors. Canada was then considered rural by the World Health Organization (WHO) to be among the recipient countries with permissive policies on the immigration and employment of foreign health workers (Meija et al., 1979).

88. By 1972, concerns emerged about a possible surplus of general practitioners and of some categories of specialists. In 1975, the National Committee on Physician Manpower emphasized the goal of self-reliance for future physician needs. The federal Ministry of Manpower and immigration decided to discontinue the bonus points an applicant received for being a physician (Grant and Oertel, 1997). In the meantime, federal and provincial ministers of health agreed to restrict the immigration of foreign-trained doctors to individuals with pre-arranged job contracts approved by a province. It seems that these policies— perhaps among other factors— had a dramatic effect, as the number of landed immigrant physicians fell from over 1 300 in 1969 to 530 in 1976.

89. In the mid 1980s the Canadian migration system was subject to major changes. After 1986, the government resumed setting the annual immigration targets according to longer-term demographic or economic considerations (OECD, 2003). Nonetheless, an occupation factor in the immigration selection criteria was used to identify occupations for which selected immigrant workers were admitted to Canada. These occupations were enumerated on the "General List of Occupations" (GOL). Applicants who applied to occupations which were not on the GOL were ineligible for admission unless they had arranged employment or unless their intended occupation had been "designated" at the provincial level. The GOL therefore acted as a barrier for many health care professionals, as some occupations, such as physicians and

surgeons, were never on the list. This principle, which prevailed until 2002, can be used to explain the drop in the share of foreign-trained physicians in Canada observed since the early 1980s (Chart 18).

90. The historical situation is somehow more blurred for nurses, due notably to that fact that CIHI has maintained supply-based national databases for nursing only since 1980 (Sajan and Roy, 2006). Over the last two decades, however, nurses and doctors followed comparable trends, with a strong decrease in the share of internationally educated nurses from almost 10% in 1985 to 6.2% in 2000. Two main factors explain this rapid decrease: (i) the fact that nursing occupations were also taken out of the GOL after 1992 and this remained in effect until 2002, (ii) the fact that the nursing workforce has been disproportionately impacted by public health spending cuts in the mid 1990s.

91. Over the past 5 years, with the resurgence of concerns about shortages, increasing trends of migrant health professionals have resumed. This is particularly noticeable for nurses, as the share of internationally educated nurses increased by about 25% between 2002 and 2005. At the same time, the number of IMGs entering first year “Ministry funded residency positions” has almost tripled from 369 in 2001-02 to 1065 in 2006-07 (CAPER, 2007). This change will have an effect with a lag on the stock of foreign-trained doctors. A closer look at recent trends in migration and policy confirms these evolutions.

Recent trends show increasing migration of health professionals to Canada ...

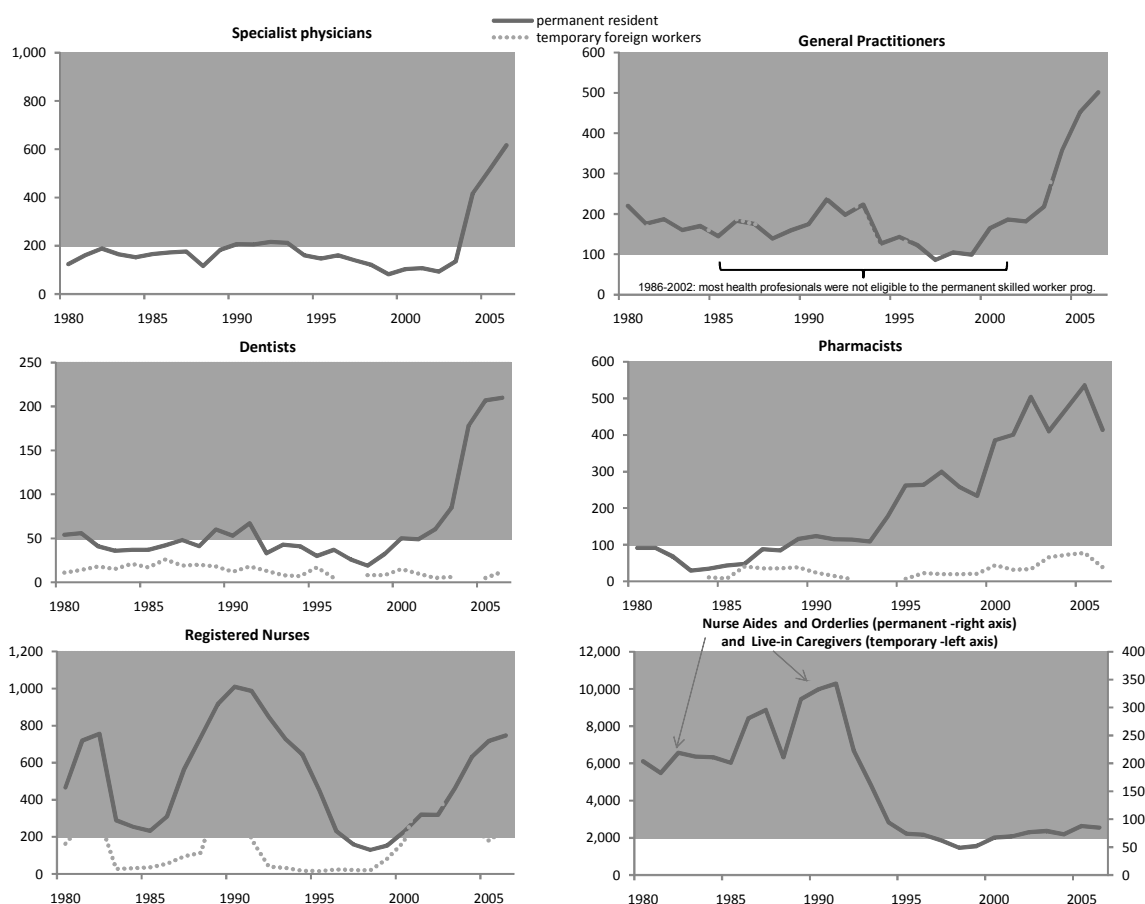
92. Immigration data relevant to the study cover two distinct types of flows: (i) permanent residents and (ii) temporary foreign workers. The former group encompasses notably the family class, economic migrants and refugees; principal applicants and their dependants. As employment is not a prerequisite in any of these categories, administrative records only identify the intended profession. The latter group corresponds to people with a job offer who have been accepted to work in Canada on a temporary basis. This regime is employer-driven and was designed to meet immediate labour needs.

93. Permanent migration levels run at about 250 000 per year, or almost 0.8% of the total population per year whereas 113 000 temporary workers entered Canada in 2006, the highest level since the 1970s. As of the 1st of December 2005, there were some 152 000 foreign workers with a valid work permit in Canada (CIC 2006b).

94. Changes over the last 25 years in the permanent and temporary migration of different types of health professionals reveals common trends but also specificities. Chart 19 shows that the total number of landed immigrants (principal applicants) intending to work as a physician remained very low until 2003. It reached a low point in 1999 with about 80 specialists and 100 family doctors and increased significantly since (620 specialists and 500 family doctors in 2006). Inflows of dentists follow a similar dynamic, whereas for pharmacists, the increase has been more progressive; but in both cases the numbers involved remain relatively low. In the case of physicians, permanent migration has been complemented by non-negligible inflows of temporary foreign workers. Interestingly, for general practitioners the recent rise in permanent migration has induced a reverse trend in temporary flows, suggesting that they are complement more than substitutes, this has not observed for specialist physicians.

95. Immigration trends for registered nurses are more cyclical with peaks in 1982 and 1990, as well as a rapid increase in more recent years until 2006. Indeed between most of the 1990s, the demand for foreign nurses was very limited as illustrated by the fact that virtually zero temporary recruitments have occurred during this period. Inflow of permanent migrants intending to work as a registered nurses also decreased from a high of 1 000 in 1991 to a low of 130 in 1998. In general, the correlation between temporary and permanent inflows has been quite clear in the case for nurses, except since 2002. In this case it is also important to note, that contrary to what has been observed for other health professional categories, the number of permanent entries has always largely exceeded that of the temporary category.

Chart 19. Annual flow of temporary foreign workers and permanent residents (principal applicant only, intended profession), in selected health occupations, 1980-2006



Note : (1) the Live-in Caregiver Program (Foreign Domestic Movement Program before 1992) concern people who are qualified to provide care for children, elderly persons or persons with disabilities in private homes without supervision. A very small number of people also enter under the category "Nurse Aides and Orderlies" with as temporary foreign worker.
 Source: Citizenship and Immigration Canada, Facts & Figures 2006

96. During the second half of the 1990s as a result of immigration restrictions, the main category of health workers landing in Canada was not health professional occupations, but Medical Laboratory Technologists and Pathologists' Assistants. The yearly intake, however, remains relatively small and was comprised between 300 and 500 persons per year.

97. Despite the fact that the skilled worker selection “banned” entry for most categories of health professionals, some people did manage to gain permanent residence through other routes than the skilled migration program. They may have entered under different categories such as entrepreneurs and self-employed workers. Exclusion of health professions from the GOL may have in fact provided incentives for families to choose a principal applicant not working in health, who was therefore more likely to be selected. Furthermore, spouses of health professionals entering as accompanying family members may also be health workers themselves. As a result, on average since 1986, about 29% of all people intending to work as a general practitioner were dependants. The corresponding figures for specialist physicians and registered nurses are 12% and 23%, respectively. In total, and despite the restrictive regulations, between

1986 and 2002, about 6 800 new permanent residents declared their intention to work as a general practitioner or a physician specialist²¹. For registered nurses, this figure reaches 11 600.

98. Between 2002 and 2006 permanent migration of doctors tripled (1 120 principal applicants in 2006) and temporary migration increased by 12% (1 080 temporary foreign workers in 2006), while for nurses permanent migration increased by 39% (750 principal applicants in 2006) and temporary migration decreased by 34% (240 temporary foreign workers in 2006).

99. In this context, some concerns have been raised about Canada being increasingly dependent on foreign-trained health professionals (Box 1). In fact to a large extent, the increasing trends in health professional migration observed in the past 10 years in Canada mimics the general trend in other OECD countries, and reflects the looming worldwide crisis for health human resources. In the case of Canada, the recent evolution may have been exacerbated by policy changes in migration programs.

Box 1. Myths and Reality: Is Canada increasingly dependent on foreign-trained doctors?

Taking into account recent trends in the migration of health professionals to Canada, some have argued that Canada was becoming increasingly reliant on foreign-trained health professionals (e.g. CMAJ 2008c). Indeed, immigration trends seem to be increasing, notably for permanent residents. There is however a significant difference between the intended profession of new permanent immigrants and their employment as a doctor or a nurse.

Actually the share of IMGs among general practitioners decreased from 27.9% in 1985 to 22.2% in 1998 before increasing slightly to 23.2% in 2005. For specialists the share of IMGs continuously decreased since 1985 (from 29.9% to 21.5% in 2006). The public perception thus is not supported by the changes in stock figures. What is true, however, is that the composition of source countries has significantly changed overtime: while UK trained doctors made up one third of all internationally trained physicians in 1985, they only represent 16% in 2005. In parallel, South African and Indian doctors are playing an increasing role (see below). As a result, "visible" foreign-trained doctors have increased in Canada.

At the same time it is true that the share of IMGs has increased in recent recruitments. Indeed, according to CIHI data, the share of IMGs among new registered doctors increased from 20% on average between 1985 and 1999 to 30% in 2005. This recent trend could be even reinforced in the coming years taking into account the efforts made to provide to IMGs increasing access to postgraduate positions. However, this trend may be partially or totally offset when the effects of increasing enrolment in Canadian medical school materialize through increasing graduation of Canadian Medical Graduates.

... partly as a response of policy changes

100. In 2002, Canada shifted to a general human capital selection model, as it appeared that forecasting future needs for specific occupations was an impossible task and that generic qualification were a much better guarantee of long-term employability in the Canadian labour market. This change was enacted with the implementation of the Immigration and Refugee Protection Act (IRPA). In some ways, it has increased access to foreign-trained health care professionals. It was not, however, the only change which contributed to facilitate international recruitments of doctors and nurses.

101. One salient feature of the recent changes in migration to Canada is the increasing role of Provincial Nominee Programmes (PNP). In 2006, they represent about 10% of all permanent resident economic migrants (13,000 persons including 8 700 dependants) but these programs have been expanding fairly rapidly (+66% provincial nominees since 2005).

²¹ As a matter of comparison about 27,600 new registrations of Canadian trained doctors have been recorded over the same period.

102. In Canada, jurisdiction over immigration is a shared responsibility between the federal government, the provinces and the territories. The PNP gives provinces and territories the authority to nominate individuals as permanent residents, based on established criteria and assessment to fill regional or local economic needs. Agreements under the Provincial Nominee Program are in place within ten jurisdictions (Table 4). In addition, Québec has its own legislation that codifies its immigrant selection. British Columbia, Saskatchewan, Ontario and Newfoundland and Labrador, have programs or specific Provincial Nominee categories that target expertise in the healthcare sector. In addition, Citizenship and Immigration Canada has launched a pilot program with Alberta, aimed at fast tracking immigration through its PNP, for doctors, nurses, physiotherapists, and pharmacists who are currently awaiting processing in the federal skilled worker category. In this context, the province can contact the potential migrants and provide them information and support prior to arrival in regards to the recognition of foreign qualifications.

Table 4. Provincial Nominee Programs

Province	Agreement (since)	Skilled worker		Business	Students	Family	Number of nominees 1999-06
		Employer driven	Human capital driven				
Alberta	Canada Alberta Agreement on Provincial Nominees (2002)	√					2230
British Columbia	Agreement for Canada British Columbia Co-operation on Immigration (1998)	√ Health		√			3993
Manitoba	Canada Manitoba Immigration Agreement (1998)	√	√	√	√	√	22402
New Brunswick	Canada New Brunswick Agreement on Provincial Nominees (2002)	√		√			1923
Newfoundland and Labrador	Canada Newfoundland and Labrador Agreement on Provincial Nominees (2002)	√ Health		√		√	443
Nova Scotia	Canada Nova Scotia Agreement on Provincial Nominees (2002)	√					1264
Ontario	Canada Ontario Immigration Agreement (2005 -pilot phase)	√ Health					1806
Prince Edward Island	Agreement for Canada Prince Edward Island Co-operation on Immigration (2001)	√		√		√	824
Saskatchewan	Canada Saskatchewan Immigration Agreement (1998)	√ Health		√	√	√	2075
Yukon	Agreement for Canada Yukon Co-operation on Immigration (2001)		√	√			

Sources: CIC and Carter, Morrish and Amoyaw (2008)

Note : "Health" in the employer driven column means that health occupations are targeted

103. Provincial nominee permanent residents enjoy the same mobility rights under the Canadian Charter of Rights and Freedoms as all other permanent residents and Canadian citizens, and therefore cannot be bound to reside in any given region of the country. Nonetheless, successful settlement and retention are key components for most provinces. Manitoba, which has been very efficient in attracting Provincial Nominees, also seems to be efficient in retaining them, as 80% plan on staying in Manitoba. Recognition of foreign credentials, involvement in the community, direct support and access to information appeared as key factors of success (Carter, Morrish and Amoyaw -2008).

104. As mentioned previously, the Temporary Foreign Worker Program (TFWP) has also gained importance over the recent years. Since 2006, Human Resources and Social Development Canada (HRSDC) had produced the Regional Occupations Under Pressure lists to identify occupations that are facing labour market pressures. For occupations found in these lists, employers are not required to undertake lengthy or comprehensive advertising efforts before being eligible to apply to hire foreign workers. Such lists have been established in Alberta, British Columbia, Manitoba, Nova Scotia, Ontario, Prince Edward Island and Quebec. All these regional lists have confirmed that there is a need for health professionals to address temporary labour and skill shortages. Specialist physicians and general practitioners are included in all of the lists and registered nurses are included in all but two (Nova Scotia

and Prince Edward Island). For Alberta and British Columbia, other health professional categories, such as dentists and pharmacists as well as technical medical occupations and nursing aids, are also included.

105. These lists can be used by any employer in the province, but it seems that employers in rural areas use the TFWP to fill labour shortages in their communities, since approximately 60% of TFWs are outside of Montreal, Toronto and Vancouver. British Columbia, for instance, has developed an initiative "Health Match BC", that targets foreign physicians for available positions in underserved communities if they are eligible for registration²². These people receive a temporary license. Québec has also a restrictive registration scheme (*permis restrictif*) for doctors who fulfil an identified medical staffing need²³. A restrictive registration license can be renewed on an annual basis and since July 2008 may be converted to regular registration after five consecutive years of practice²⁴. Most other provinces have similar programmes (see part III for more details on temporary/provisional licensure).

106. Another important recent change refers to the introduction of a Canada Experience Class (CEC) in the fall of 2008 in the skilled migration system, allowing persons on a temporary permit or graduating international students apply for permanent residency. This does not imply that it was necessarily uncommon, as 21% of the landed immigrants between 1997 and 2006 were in Canada as temporary residents prior to being granted permanent residency status (IMO, 2007), but this type of status change was officially discouraged in the past in order to preserve the integrity of the permanent migration system. Such scruples are less evident with the realisation that the selection of what amounts to "pre-integrated" persons will yield better labour market outcomes for immigrants in general and ensure that high immigrant intakes can be sustained. The Canada Experience Class will certainly provide new opportunities for foreign students currently in post graduate medical education, representing almost 2 300 persons in 2007 (19% of all post graduate trainees) (CAPER annual census of post MD trainees 2007).

107. Furthermore, in June 2008, The House of Commons passed Bill C-50, which reformed the Immigration and Refugee Protection Act to process applications by skilled immigrants more quickly and to reduce the backlog of applications which has accumulated over time. New applications not processed in a given year can be held for future consideration or returned with a full refund to the applicant. More importantly, immigration officers will be granted instructions on the processing of applications, including instructions with regards to available jobs in Canada. This will probably result in new opportunities for health professionals, as their skills are currently in demand in most Canadian provinces and territories.

108. Finally, it is important to mention the Live-in Caregiver Program. According to recent demographic projections, the proportion of elderly people (65 years and over) will more than double in the next decades and reach approximately 9 million persons by 2030. To address the issue of long term care, provincial governments have substantially increased their funding to support the development of

²² The detailed process works as follows: It is the underserved community that applies on behalf of the foreign physician for registration with the College of Physicians and Surgeons of British Columbia once the physician accepts the offer of employment. The CPSBC reviews both the community's level of need and the qualifications of the physician. After the College has issued a letter confirming the physician's eligibility for British Columbia registration, the underserved community submits an application on behalf of the foreign physician to Human Resources and Skills Development Canada (HRSDC). If the community's request is approved by HRSDC, the community will be issued a confirmation of employment and file number for the physician, who in turn can now apply for a temporary work permit and subsequently can apply for permanent resident status.

²³ They will have provide proof to the Collège des médecins du Québec that they are competent in the discipline intended by the restrictive licence for 12 consecutive months during the last 2 years.

²⁴ With this change, 175 out of the 389 doctors currently holding a restrictive permit are already eligible to apply for a permanent permit in Québec.

residential care facilities²⁵. However, these efforts may be still insufficient to cope with the needs as many of the elderly prefer to stay at home. Since 1992, the Live-in Caregiver Program (LCP) has brought workers to Canada to provide live-in care for children, seniors or people with disabilities, without supervision and in private households²⁶ (CIHI, 2007i). Live-in caregivers may apply for permanent residence in Canada after completing two years employment as a live-in caregiver within three years of arrival in Canada. In 2006, Canada admitted about 7 900 individuals under this program, the highest level since 1991 representing 7% of all foreign workers²⁷.

109. All recent policy changes, although responding to different types of issues, give an increasing role to labour market needs. Taking into account the current needs in the health sector, it will contribute to fuel the increase in international recruitments of doctors and nurses, at least until the efforts that have been devoted to increasing medical and nursing education start to materialise by entry into the labour market of new cohorts of health professionals.

Main countries of origin for migrant doctors and nurses

110. In 2006, the main countries of origin of immigrants in total stocks are the United Kingdom and India for doctors and the Philippines and the United Kingdom for nurses (Table 5)²⁸. This ranking should not be surprising as it refers to traditional countries of immigration for Canada and important suppliers of health workers worldwide (Dumont and Zurn, 2007). The third main country of origin for doctors is South Africa. For nurses, it is Jamaica. These are two countries from which international recruitments have taken place in Canada for many years.

²⁵ The number of nurses working in these institutions grew by 30% between 2002 and 2006, from 44,100 to 57,000.

²⁶ The Live-in Caregiver Program is an adaptation of the 1981 Foreign Domestic Movement program.

²⁷ Workers in the LCP programme include mostly women from the Philippines. The number of workers from the Philippines live-in caregivers grew significantly from 1 760 in 1995 to about 6 200 in 2006 (78% of all migrants in LCP)

²⁸ Statistics on employed doctors from the Canadian census data include post graduate medical students.

Table 5. Main 25 countries of birth of doctors and nurses, by place of training, 2006

Doctors			Nurses	
Country of birth	Foreign-Born	Share of foreign-born doctors who were trained abroad	Country of birth	Foreign-Born
United Kingdom	3905	49.3	Philippines	10040
India	2515	51.9	United Kingdom	6755
South Africa	2070	80.7	Jamaica	4085
United States	1605	31.1	United States	3180
Hong Kong, China	1355	14.7	India	2930
China	1110	51.6	Haiti	2140
Egypt	910	52.2	Poland	1990
Poland	805	48.4	China	1665
Pakistan	655	67.4	Hong Kong, China	1580
Vietnam	625	16.8	Germany	1430
Iran	620	54.1	Trinidad and Tobago	1255
France	535	52.3	Netherlands	1135
Germany	480	30.2	Guyana	1080
Ireland	455	76.9	France	680
Philippines	455	72.7	Iran	655
Korea	415	36.1	Roumania	640
Saudi Arabia	410	72.0	Korea	615
Taiwan	410	40.2	Vietnam	595
Lebanon	395	25.3	Ukraine	515
Roumania	395	59.5	Ghana	510
Sri Lanka	340	55.9	Russia	495
Kenya	325	41.3	Ireland	455
Italy	320	42.2	Italy	455
Malaysia	250	22.9	Barbados	445
Israel	245	46.9	Nigeria	440
Nigeria	245	61.2	South Africa	435
OECD	10645	45.6	OECD	19690
All foreign-born	29790	50.1	All foreign-born	58365
Canadian-born	49185	3.3	Canadian-born	240655

Note : Data on doctors include specialists and general practitioners; Data on nurses include registered nurses and head nurses and supervisors. Data refer to landed immigrants and non permanent residents.

Source: Statistics Canada 2006 Census, Citizenship and Immigration Canada custom tabulations.

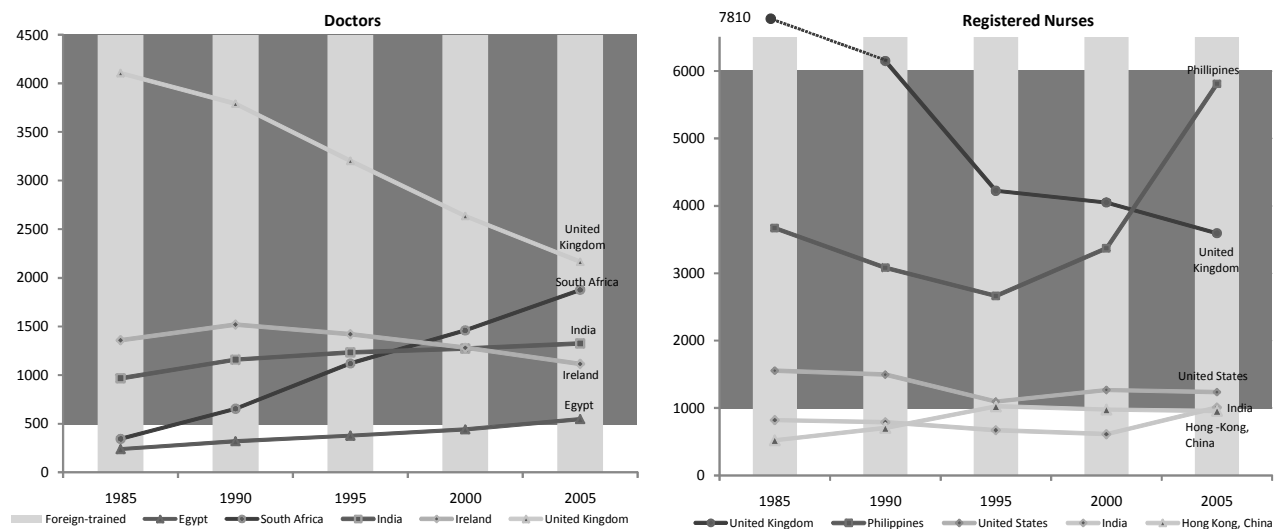
111. In 2006, the share of foreign-born originating from other OECD countries reaches 36% for doctors (10 650 persons) and 34% for registered nurses (19 700 persons). This is due to the predominance of historical links with the United Kingdom, Ireland and France and obviously with the United States. Poland and Germany also provide health professionals to Canada. Indeed, Poland has become the third most important OECD source country for both doctors and nurses after the United-Kingdom and the United-States. The importance of OECD countries result from cumulated past trends but also from more recent recruitments.

112. Some Regional Health authorities carry out active recruitments abroad and take part in job fairs in the United States but also in Europe. Quebec, for instance, has sent missions to France and Belgium to recruit nurses. Both Alberta and Calgary Regional Health authorities have sent recruitment teams to the United Kingdom and the United Arab Emirates.

113. Of all foreign-born doctors in Canada the share of foreign-trained doctors varies largely by country of birth. It is close to 50% for most OECD countries, but significantly lower for the United-States and Germany. It is significantly higher in the case of South Africa, the Philippines or Pakistan. Inversely, most doctors born in Vietnam, Hong Kong China or Lebanon have been trained in Canada. These differences would notably reflect disparities by country of origin in the transferability of skills as well as in categories of entry. They are also due to the relative importance of people landing in Canada at a young age.

114. Stocks of foreign-trained doctors and nurses have changed considerably overtime. As shown in Chart 20, the stock of doctors and nurses originating from the United Kingdom has dropped dramatically, while the contribution of South African doctors on the one hand, and of Philipino nurses, on the other hand, has gained importance. Nevertheless, there is still little evidence in the diversification in countries of training.

Chart 20. Top five countries of training for foreign-trained doctors and registered nurses, 1985-2005



Source: CIHI

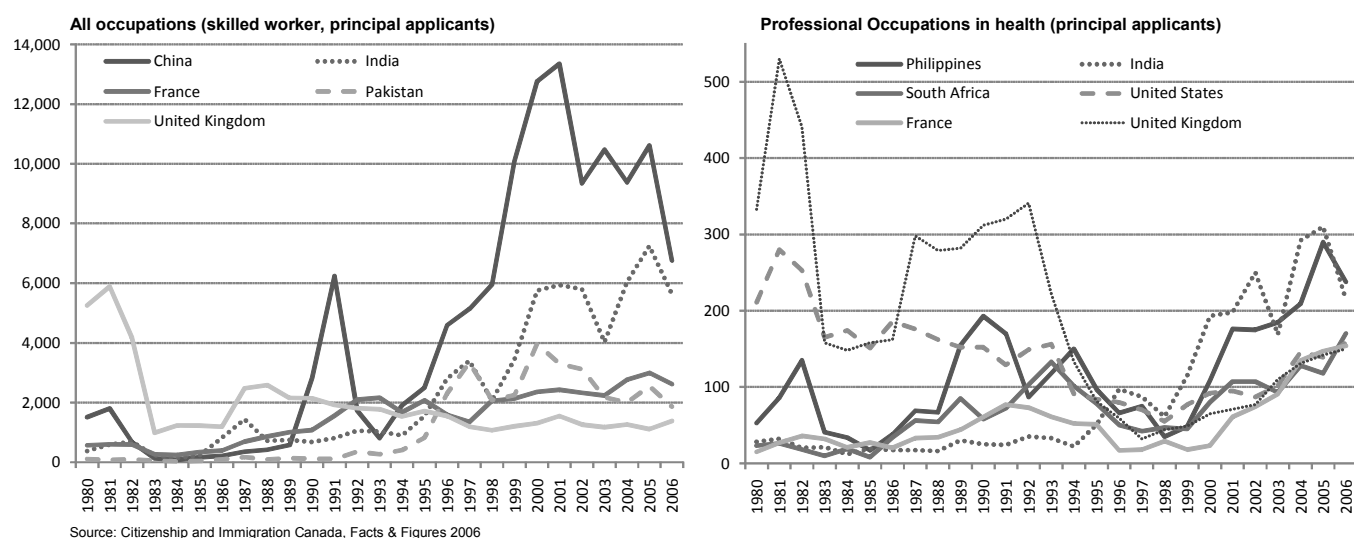
115. Changes in stocks have been largely influenced by recent migration flows. While the top ten source countries for health professionals to Canada tend to differ in rank order from those of all skilled worker principal applicants, the same countries tend to be reflected²⁹. For example, in 2006, eight out of the top ten source countries were shared by health professionals and skilled worker principal applicants as a whole (among health professionals, the two differing countries of last permanent residence were the United States and South Africa, while among skilled worker principal applicants these were Algeria and Morocco).

116. Over time, focusing on the five main countries of origin, Chart 21 shows some divergence between total flows and those specific to health occupations³⁰. For instance, for health professionals from the United Kingdom, large fluctuations in the inflows are observed. These are due to contrasting changes in employment opportunities in the health sector in Canada and the United Kingdom; changes that have not necessarily occurred in other sectors. It is also interesting to note that inflows of Chinese immigrants – which characterises the recent changes in source countries – are not identifiable in the case of health professionals. Language and recognition of qualifications probably act as hurdles in this context.

²⁹ The top ten first countries of origin correspond to 58% of all skilled worker principal applicants and 52% of those intending to work in a professional occupation in health.

³⁰ From 1982 to 1986 only skilled workers whose occupation was on the list and who had arranged employment were granted permanent resident status.

Chart 21. Top 5 country of last permanent residence for permanent residents by intended occupation, 1980-2006



117. Inversely, South African immigration of health professionals has gained a lot of importance. Immigration from South Africa particularly increased in the late 1980s and even more so in 1994 when the first democratic election took place. In fact immigration started a few years before for health professionals (mainly physicians), who make-up a disproportionate portion of all South African immigrants to Canada³¹. Whether this is the result of self-selection mechanisms (push factors) or from more active recruitment strategies by Canadian employers (pull factors) remains unclear (Labonté, Packer and Klasen, 2006). In the case of health professionals, a mixture of the two has driven past migration flows. In any event, migration of South African health professionals has often been used by the media in Canada to illustrate the concerns about international recruitments in less developed countries (Box 2). Immigration from India and the Philippines is also on the rise, although it has not attracted as much attention.

³¹ Between 1991 and 1993 South African immigrants intending to work in professional health occupations make up 30 to 40% of all landing South African immigrants. As a matter of comparison this was the case of less than 6% of all immigrants over the same period. Furthermore, selectivity towards health professionals has not been observed in the case of immigration from Hong Kong, China, which also experienced a rapid increase in the mid 1990s before the transfer of its sovereignty to China in 1997. In the second half of the 1990s inflows of South African health professionals decreased both in relative and absolute terms. Since 2002, however, the figures are on the increase again. In 2004 and 2005 about half of the South African landed immigrants intended to work in health professional occupations. In 2006, almost all landed immigrants from South Africa intended to work in the health sector.

Box 2. Myths and Realities: Is Canada “poaching” health professionals from less developed countries?

This question has attracted lot of media attention in Canada, but has often been addressed in an emotional context. Several recent papers in the Canadian Medical Journal (CMAJ, 2008abc) emphasize the fact that Canadian employers are actively recruiting abroad to meet their health workforce needs. This would be the case not only for physicians, but increasingly for other health professionals, notably pharmacists. International recruitment is occurring, but it is not focused on less developed countries. One of the reasons for that is associated to problems of transferability of skills, recognition of foreign credential or, in some cases, language proficiency.

In 2005, about 15% of new registrations of doctors in Canada were comprised of people who were trained in countries included in the WHO list of countries with critical shortages of health personnel³² and 14% in the World Bank list of low income countries. Corresponding figures for the United Kingdom are 46% and 45%. For the United States it is 39% and 38%, respectively³³⁻³⁴. On that basis, Canada would appear to be less reliant than United States and United Kingdom on health professionals originating from developing countries with the most fragile health systems.”

It is true, however, that South Africa, which is not included in the WHO list of countries with a critical shortage of health professionals, remains an important source country for Canada (Labonte et al., 2006)³⁵, but this is also the case for several other OECD countries, notably the United Kingdom and New Zealand. Between 2000 and 2004 about 2 500 recruitment advertisements for South African medical personnel have been posted in the South African Medical Journal. Approximately 12% of the adverts were from Canadian employers, 16% from Australia, 22% from New Zealand and 35% from the United Kingdom (Rogerson, 2007).

In this context, bilateral cooperation can play a positive role. For instance, the United Kingdom has signed an agreement with South Africa on the reciprocal educational exchange of health care concepts and personnel -2003³⁶. This agreement does include international recruitments but places a strong emphasis on training and information exchanges. It also aims to facilitate in the twining of hospitals to share best practices and strengthen management. This agreement is often quoted as a best-practice example.

Furthermore, there would probably be the scope for reinforcing actions that focus on policy coherence for development with regards to international migration and health. The latest OECD peer review of Canadian Overseas Development Assistance, for instance, emphasises that: “In the case of migration, despite excellent collaboration between CIDA, DFAIT, CIC and other federal departments, government analysis and research on brain drain/gain of skilled medical personnel from and to Canada requires more concentrated effort and attention.” (OECD ,2008 -p33)

118. More surprisingly perhaps is that after a sharp decline in the late 1990s there has been a resurgence of the inflows of health professionals from France, the United Kingdom and the United-States

³² The list includes 57 countries, mainly in Africa. Despite the challenging public health issues that South Africa is facing, this country is not included in the WHO list of countries with a critical shortage of health personnel (WHO 2006).

³³ For the United States data have been provided by ECFMG. They refer to the country of medical school for new Certificates in 2007 (these data do not control for nationality at time of medical school). For the United Kingdom, the data have been provided by GMC and refer to first registrations by country of medical school in 2007.

³⁴ Most of the observed differences, however, are due to the relative importance of international recruitments from India. In 2005, 6.4% of new registrations of foreign-trained doctors in Canada are from people trained in India, compared to 29.1% in the United Kingdom and 26.4% in the United States.

³⁵ In 2000, there were as many health professionals born in South Africa working in Canada than African born physicians working in South Africa (about 1 500 persons in both cases according to Canadian and South African censuses).

³⁶ Canada has signed a general agreement on development co-operation with South Africa which came into force in November 2006, although this agreement, does not mention explicitly health human resources as one area of possible co-operation.

over the past 6-7 years, while at the same time the demand for doctors and nurses remained high in these countries. This is yet another illustration of the increasing competition between OECD countries to attract and retain highly-skilled workers, and particularly those working in the health sector.

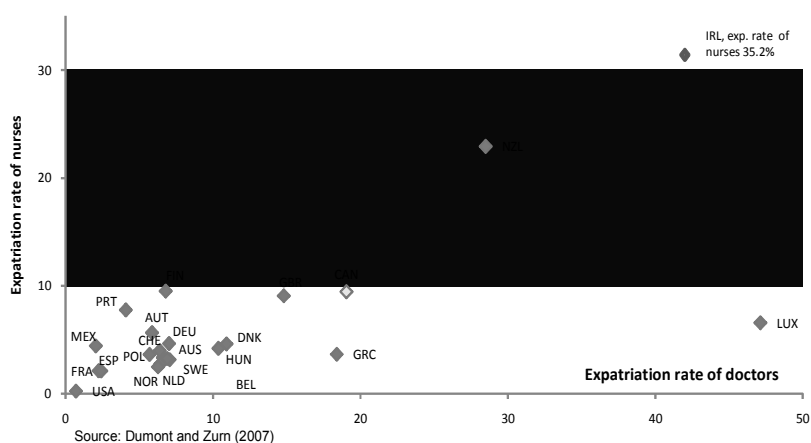
119. Chart 21 focuses on permanent residents. Source countries are quite different in the case of temporary health workers. The number of temporary foreign workers is significantly from South Africa, the United Kingdom, the United States and to a lesser extent France, is significantly higher than permanent residents from these countries. The reverse is true, for instance, for India or the Philippines. Temporary health workers need to be eligible to practice in Canada before being accepted, but this, however, is not a requirement which applies to permanent residents who declare their intended occupation. This distinction explains why countries from which the recognition of qualifications is more straightforward are over-represented in temporary flows. These countries are mainly from the OECD but also include South Africa.

Emigration of Canadian doctors and nurses

120. Significant attention has been devoted to the emigration of Canadian nurses and physicians. Canada is not the only OECD country where concerns have been raised with regards to emigration. Around 2000, about 9.4% of all nurses and 19% of the doctors born in Canada were working in another OECD country (Chart 22). These figures are comparable to those observed for nurses from the United Kingdom and for doctors from Greece. Among OECD countries, expatriation rates of health professionals are much higher only in Ireland and New Zealand, and (for doctors) Luxembourg. However, emigration of Canadian born doctors is lower than that of tertiary educated as a whole, pointing out that it is not an issue solely for the health sector.

121. In the context of Canada, these concerns were stemming from large outflows of Canadian trained health professionals to the United States in the 1990s which resulted from lower employment opportunities in Canada and sustained demand in the United States (e.g. Barer and Webber 1999, Skinner 2002, Robert et al. 2007, Little 2007). The main motivations for emigrating were healthcare downsizing, lack of employment opportunities or lack of full-time employment in Canada.

Chart 22. Expatriation rates of doctors and nurses selected OECD countries, circa 2000



122. A study on nurses registered in Ontario who were maintaining their license while in the United States, finds that among those who left between 1991 and 2000, 63% cited downsizing/lack of job

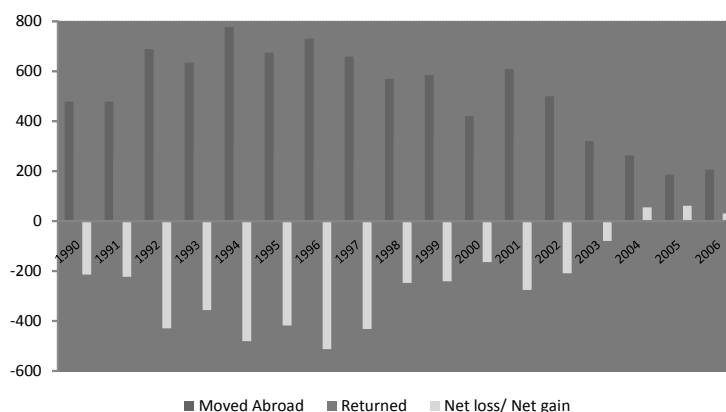
opportunities as a factor that influenced their departure from nursing in Ontario (RNAO, 2001)³⁷. Pay and benefits were only quoted in 13% of the cases, just after family and personal reasons (26%). The geographic proximity, the common language and availability of nursing positions made it relatively easy for Canadian trained nurses to obtain employment in the United States. In addition, Canadian nurses were able to enter the United States with TN visa, under the North American Free Trade Agreement (NAFTA)³⁸. Between 1991 and 2001 more than 32 000 TN visas were issued to Canadian registered nurses (Blouin, 2005). In 2001, the US government passed the Rural and Urban Healthcare Act of 2001 that removed many barriers to Canadian trained nurses (Pink et al., 2004). Over the 1990s it has been estimated that Canada witnessed a gross outflow of approximately 27 100 Registered nurses through permanent emigration to the United States (Industry Canada, 1999).

123. In the case of physicians, the geographic and billing restrictions imposed to physicians in the 1990's may have contributed to encouraging out migration to the United States. Ryten et al. (1998) show that, 7 years after graduation, the class of 1989 Canadian medical graduates was reduced by 16% (11.2% were outside Canada in 1995-96). Thurber and Buske (2000) looked more specifically at physicians who exited Canadian postgraduate training programs in 1989: in 1991, 5.5% had left for the United States, 6.8% in 1994 and 8.9% in 1999 (in total 9.5% were located abroad). Another study looking at the graduates from the class of '95 (Frank and Bélair, 1999) shows that of about 1 300 health graduates (about 75% of them were nurses), representing 4% of the corresponding cohort relocated in the United States. In March 1999, about 20% had returned to Canada. Health graduates who were still in the United States at the time of the survey were among the less likely to have plans to return to Canada.

124. Overall, Canada experienced net losses from 1990 to 2003, largely due to emigration to the United States (see Chart 23). A peak was recorded in 1996 when the net outflow reached about 510 physicians. However the trend has changed over the past years. Between 2002 and 2006, the number of physicians leaving Canada to move abroad decreased by about 57% (CIHI, 2006). This represents a 45% decrease in the number of family medicine physicians and a 62% decrease in the number of specialists moving abroad. Moreover since 2004, the number of physicians returning from abroad has been greater than the number moving abroad as illustrated by Chart 23. While overall movement in and out of Canada has decreased over the past five-year, it is also interesting to note that specialists are approximately twice as likely as family medicine physicians to return from, or move abroad. Recently some provinces have started attempts to recruit back Canadian doctors and nurses who migrated to the United States. Whether or not recent net migration trends will be sustained in the coming years is unclear (Box 3).

³⁷ Results are from a survey mailed out by RNAO to 3,272 RNs who currently reside outside of Canada who have maintained their Ontario registration with CNO. Responses were received from 32.9 % or 1,051 were responded to of the surveys sent out.

³⁸ TN (Trade NAFTA) visa is a special non-immigration status created by virtue of the 1994 North American Free Trade Agreement. TN visas are not available for physicians, except for teaching purposes. As TN visa renewal is annual, this should not be interpreted as numbers of individuals.

Chart 23. Out and return migration of physicians to Canada, 1992-2006

Sources: Supply, Distribution and Migration of physician, CIHI and Task Force on physician supply in Canada 1999, Physician Human Resource strategy for Canada

Box 3. Myths and Realities: No more medical “brain drain” to the United States?

The American Medical Association reported that in 2006 there were about 8 000 Canadian trained doctors practicing in direct patient care and living in the United States. They account for 5.5% of the total foreign-trained physicians (Robert et al. 2007). As a matter of comparison 238 doctors returned from abroad to Canada in 2006. In the case of nurses, there were 4 000 (4 400 in 2003) registered nurses that maintained their Canadian license while living in the United States (CIHI 2007). The numbers are, however, likely to be much higher as not all nurses are still registered in Canada. Indeed, the 2001 US census shows that there were more than 22 000 nurses born in Canada working in the United States (Dumont and Zurn, 2007).

Current emigration to the United States responds to different types of incentives. Income differential³⁹, availability of medical facilities and position availability are often quoted as motivating factors for emigrating to the United States. A recent survey of about 1 500 Canadian graduates practicing in the United States (aged under 55) show that each of these three factors is rated as “somewhat/very important” by half of the respondents (Buske, 2007). Only 13% of the respondents indicated their willingness to return to Canada, although 25% were neutral in their opinion. For more than 70% of the interviewees, level of remuneration was the most issue in deciding whether to return to Canada. In 2001, general practitioners (on a fee for service basis) were paid on average 102 000 US\$ PPP in Canada, compared to 154 200 US \$ PPP in the United States which corresponds to a 51% wage differential (OECD Health Data 2007). However the recent evolution of the exchange rate and high insurance premium in the United States, are likely to have reduced significantly the expected income differential.

Another reason for migration is the opportunity to receive postgraduate training in the U.S. There are about 500 graduates of Canadian medical schools who are in US residency training programs in any given year. According to Robert et al. (2007) more than two-thirds will leave the United States and presumably return to Canada. This training exchange benefits Canada's physician workforce, but the authors also point out that Canadian-educated physicians who complete their residency training in the United States are as much as 9 times more likely than Canadian-educated physicians who completed their residency training in Canada to later immigrate to the United States.

Asymmetry in remuneration is one of the factors that continue to attract Canadian nurses to the U.S. For nurses many recruitment packages included not only full-time positions but a better salary⁴⁰, substantial signing bonuses, and offers to pay for additional university education (MSc and PhD) (Baumann et al. 2004; Pink et al. 2004). Baumann et al. (2006) find that about a third of new nurse graduates in Ontario in 2005 intended to seek employment in the United States, although only 2% actually left in the following 6 months.

³⁹ In this context, migration may also be intended to be a short-term solution to pay off medical debts.

⁴⁰ In 2000 the average income of RNs was close to 50 000 \$CAD (CIHI, 2005a) compared to about 48 000 \$US in the US for salaried hospital nurses (OECD Health Data, 2007), but with an exchange rate close to 1.5 at that time.

Several reports emphasise the risk of shortages of health professionals in the United States over the next decades. For instance, the Bureau of Health Professions in the United States forecasted a shortage of 683 000 registered nurses by 2015 and of more than 1 million registered nurses by 2020 (Bureau of Health Professions, 2004). For doctors, according to the projections of the sixteenth report of the Council on Graduate Medical Education, the United States will face a shortage of about 85 000 to 96 000 physicians in 2020 (Council on Graduate Medical Education, 2005). Such figures suggest that efforts will be undertaken in the United States to increase recruitment, including by recruiting from abroad (Aiken and Cheung, 2008; Cooper 2008).

This situation may undermine the efforts by Canadian authorities to increase health worker domestic production. The geographical proximity between the two countries but also the degree of integration of their medical and nursing education systems, calls for increasing cooperation in order to identify and address key joint health human resources issues.

125. Canadians are also leaving to undertake medical education abroad. A recent survey (Banner, 2006) of Canadians studying medicine outside Canada and the United States, puts the estimate at around 1 500 persons. The Caribbean is one of the most popular destinations, notably Saint Georges University in Grenada, but many are also studying in Europe, mainly in Ireland (University College of Dublin), and in Australia (University of Sydney). Most of the Canadians studying abroad made this decision because they were not admitted by Canadian medical schools. The survey also reveals a different gender balance than compared to Canadian medical schools, as males represent 55% of Canadian expatriates. Over two thirds of the respondents indicated their intention to return to Canada but the percentages decreased as graduation approached. Among those who expect to graduate in 2006, less than half intended to return to Canada.

126. Despite the recent increase in the number of residency positions for IMGs in Canada, the number of seats is still insufficient to meet the demand (see Part III). Furthermore, Canadians graduated abroad have to compete with immigrants, some of whom already have an extensive professional experience in their origin country (CMAJ, 2007). As a result many Canadian IMGs are going to the United States for post graduate training, sometimes with the ultimate objective to return to Canada. Whether this return will materialize is highly uncertain⁴¹. In the medium to short term, if the shortage of doctors materialises, it seems that Canadian IMGs who comprise of a significant pool of people, and who have paid for their training themselves, could be useful to consider with greater attention.

Emigration of immigrant health professionals

127. Anecdotal evidence suggests that “disappointed” foreign health professionals are leaving Canada for the United States. This is certainly a matter of concern which has gained importance in Canada, but which is not specific to the health sector (Aydemir and Robinson, 2006)⁴². Canada devotes significant resources to select and support the integration of recent immigrants, and witnessing a significant fraction leaving the country after some years, would indeed be seen as a negative outcome.

128. A recent analysis of the CAPER database shows that about 90% of all Canada medical graduates remain in Canada two years after completing their post MD-training. This is the case, however, for only 75% of IMGs (Slade 2007). This figure was significantly higher in 1989 (85%). Unfortunately, the study does not discuss the possible reasons for the observed differential between the two groups, nor for the recent decline of the retention rate of IMGs. One possible explanation would relate to the increasing number of visa trainees in non-ministry funded post graduate training positions in Canada, which went from 800 in 1995-96 to about 2 180 in 2007-08 (CAPER 2008). If this was the case, it would not

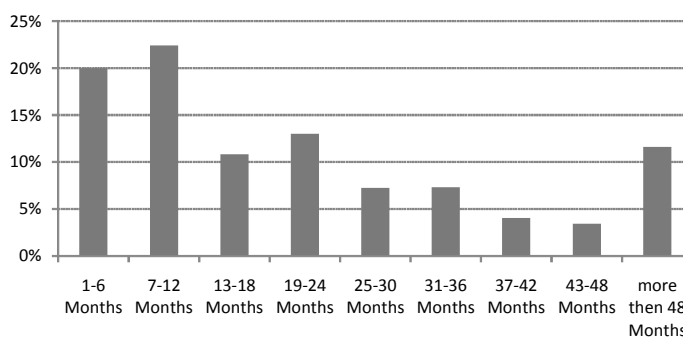
⁴¹ In the United States, however, concerns about the quality of some offshore training are emerging, notably concerning those trained in the Caribbean at “for profit” medical schools.

⁴² The study found that about 35 per cent of males (aged 25-45) who arrived in 1980 departed within 20 years, with about 60 per cent of those leaving within the first year of arrival.

necessarily imply that retention of recent migrants has worsened. In any a case, a deeper analysis would be welcome to better inform policy makers and planning.

129. The average stays of temporary workers in health professions provide another type of insight into this issue. Chart 24 shows that on average between 1980 and 2006, about half of temporary permit holders working in health occupations have had permits of duration of one year or less. Only 12% stay longer than 4 years, which would suggest that only a small fraction of temporary foreign health workers shift to permanent residency and settle in Canada.

Chart 24. Average stay of foreign workers in health professions, 1980-2006



Source: Citizenship and Immigration Facts and Figures 2006 database

III. RECOGNITION OF FOREIGN QUALIFICATIONS OF HEALTH PROFESSIONALS

130. In Canada, the immigration procedure and the recognition of qualifications are two different paths. For instance, there is no requirement for a doctor or a nurse to have his or her qualifications recognized in order to immigrate as a permanent resident to Canada. To be entitled to practice medicine in Canada, International Medical Graduates have to follow many different licensing steps. Because credential recognition for regulated occupations is a provincial responsibility, as ascribed in the Constitution in 1867, the requirements are subjected to variations across provinces and territories.

131. What are the main steps towards licensure for foreign-trained doctors and nurses? What are the main characteristics of the different types of licensure? To what extent provinces and territories make use of temporary/provisional type of licensure?

Pathways to full licensure for International Medical Graduates

132. In Canada there is not one direct route for International Medical Graduates to become fully licensed to practice medicine, although the main requirements are quite similar throughout the jurisdictions (see Annex 3). As a general rule, the first requirement to becoming licensed in Canada is holding an undergraduate medical degree from an accredited university that is deemed acceptable by the Foundation for Advancement of International Medical Education and Research (FAIMER). The second requirement is proof of language proficiency, either French or English. IMGs are also required to demonstrate their medical knowledge by passing the Medical Council of Canada Evaluating Exam (MCCEE). This exam may be taken outside Canada in numerous international locations.

133. As a third step, all new graduates must complete post graduate training, but this is also the case for most physicians who have already been licensed and practicing abroad. Depending of the province and of the country of graduation IMGs may have to redo part or all of their post graduate training. In addition, foreign-trained doctors must complete supervised clinical training or assessments to meet licensure education requirements.

134. Essentially, IMGs can enter the Canadian education pipeline either (i) through IMG specific programmes, which may require them to pursue some postgraduate training, or (ii) through the “normal route” which requires applying for first year postgraduate positions (PGY1) via CaRMS.

135. CaRMS is a computer match system to allocate candidates to available postgraduate training positions in Canada⁴³. All provinces except Alberta⁴⁴, participate in the CaRMS matching program. The programme is run in two iterations. Since 2006, the first iteration has included Canadian graduates, US graduates and IMGs, but the matching is done separately for each of these groups in all cases except in Quebec and Manitoba (see Table 6). For second iteration, all applications which are not matched are

⁴³ CaRMS also provides Canadian medical students with access to the U.S. electronic application system for postgraduate medical training (ERAS).

⁴⁴ IMGs can not apply for PGY-1 in Alberta, they must go through the AIMG program specific to that province and applicants must be a Canadian citizen or a permanent resident.

pooled together, except in Ontario and Saskatchewan. For a number of years, however, a problem existed with the number of places available to IMG's, which was very limited, if not nil.

Table 6: Pathways to postgraduate training for IMGs in Canadian Provinces.

Province	IMG-Specific Program to enter postgraduate training	CaRMS – 1 st iteration	CaRMS – 2 nd iteration	Alternate Registers
British Columbia	IMG-BC	P	C	Temporary
Alberta	AIMG	n/a	n/a	Special Registers: 1-5
Saskatchewan	Pilot Project for the Assessment of IMGs (on hold)	P	P	Temporary Provisional Special licenses
Manitoba	MLPIMG (max 1 year)	C	C	Conditional Temporary
Ontario	CEHEPA	P	P	Restricted Certificate Repatriation Registration through Practice Assessment
Québec	Recognition of Equivalence of Doctor in Medicine Diplomas & of Postgraduate Training	C	C	Restrictive Permit
New Brunswick				Public Service License
Nova Scotia		P	C	Defined License Temporary License
Newfoundland	CSAT (max 6 months)	P	C	Provisional Temporary Special Funded Postgraduate Positions
Prince Edward Island				Temporary Limited

* P = Parallel stream for IMG's

C = Competitive stream with CMG's

Source : www.img-canada.ca and CaRMS

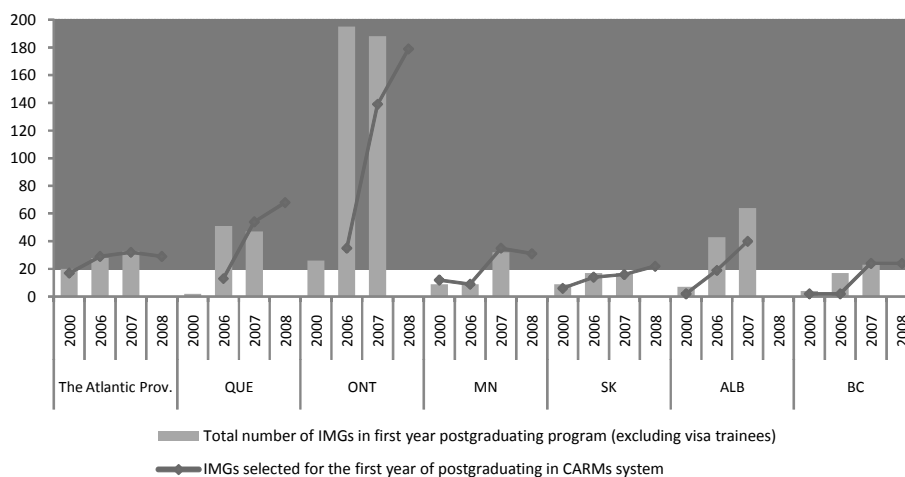
136. The number of positions offered to IMGs through CaRMS has increased significantly in recent years. It rose from 23 in 1995 to 39 in 2000 and then increased to 80 in 2005 and finally to 353 in 2008. Most of the increase is due to changes in the number of positions offered in Ontario, almost zero before 2005, 35 in 2006, 139 in 2007 and 179 in 2008. Sizeable increases are also observed in Quebec.

137. IMGs also have access to postgraduate training through IMG-specific programmes. Many provinces have developed such bridging programmes as indicated in Table 6. In Alberta, for instance the AIMG Program provides about 50 residency positions in high-need specialties to Canadian citizens or permanent residents who have resided in Alberta for at least 6 weeks prior to application. Another example is the repatriation program in Ontario which funds training positions to recruit physicians who are Canadian Citizens or permanent residents and who have completed postgraduate residency training elsewhere but require up to two years of additional training to meet the certification requirements of the RCPSC. The program is open to graduates of Canadian, US and international medical schools. Upon completion of training, physicians will be required to practice in an underserved area for a period of time equal to the length of additional training received through the program. Generally in IMG specific programmes, those who already have some post graduate training may be able to validate it in part and enter in second or third year level of postgraduate training.

138. The Canadian Post-M.D. Education Registry (CAPER) records all entries in PGY1, both through IMG specific programmes and CaRMS. Comparing the CAPER data and the CaRMS data gives a sense of the relative importance of alternative routes available to IMGs entering the Canadian education pipeline. Chart 25 clearly demonstrates the increasing role of CaRMS in providing residency positions to international medical graduates. It also shows some substitution effect with IMG-specific programmes.

139. To be entitled to practise medicine in Canada, certification in either Family Medicine or a Speciality is required (step 4). A fifth step towards licensure, implies to pass the Licentiate of the Medical Council of Canada (LMCC)⁴⁵. The LMCC is a prerequisite, however, it is not a license to practice medicine. A sixth and final step is indeed necessary, which lies within each Medical regulatory authority in each jurisdiction, to which the candidate must submit an application to the Registrar of that jurisdiction once they meet the necessary qualifications.

Chart 25. Number of IMGs in postgraduate training by selected Canadian provinces, 2000-2006



Sources: Residency Match Report, CARMS and CAPER

140. For specialists, the Royal College of Physicians and Surgeons of Canada (RCPSC) has deemed 29 international jurisdictions as having already met the RCPSC requirements. Once the college has assessed that the specialist has met the training requirements and is comparable to the one in Canada, they are permitted to take the Royal College exams which means that they enter directly at step 4. These jurisdictions are mainly from Australia, New Zealand, Hong Kong and the United Kingdom.

Provisional and other types of restricted licenses for IMGs

141. In each province there are alternate routes to licensure when a candidate is lacking some of the requirements necessary for full licensure or if the demand for physicians has not been met in that particular jurisdiction. Provisional licenses enable physicians to practice, and in some cases, without having already passed the Medical Council examinations and completing the required Canadian post graduate medical training. Provisional licenses differ across all provinces with some being called “restricted”, “defined”, “conditional”, or “temporary and each one holds with it special conditions such as having a sponsor or supervisor for a specific length of time, a return of service agreement, requirements to work in an underserved area or a stated time limit to write the licensing exams (see Annex 1 for more details).

142. In the case in British Columbia or Alberta, IMGs may be able to obtain a provisional licence with restrictions that they must practice under supervision and agree to work in an underserved area or specified community. Ontario, Newfoundland and Labrador and Saskatchewan have Return of Service agreements that are attached to some of their provisional licenses, which can be up to 5 years.

⁴⁵ The physician must have completed a minimum of twelve months of acceptable postgraduate training in order to be eligible to take MCC Qualifying Examination Part I and II.

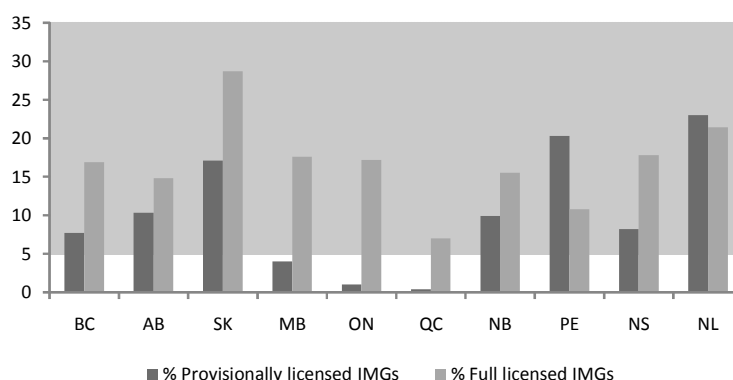
143. In some provinces, a physician can renew their provisional license and never achieve full registration. For example, in Manitoba the temporary license is granted for one or more periods of 18 months to work in an underserved area, but the physician can keep renewing this license. In Alberta, specialists registered with a conditional license may proceed to full licensure but it is not compulsory.

144. Additionally, some provinces require an assessment of their clinical skills before licensure, such as the Clinicians Assessment and Enhancement Program (CAPE) in Manitoba. CAPE is a 3 day assessment used to measure the performance of the candidate compared to that of the provincial standards for physician practice. The MLPIMG is the training component attached to CAPE. It provides positions under supervision in underserved areas for up to 5 years. In Nova Scotia the Clinician Assessment for Practice Program (CAPP) is quite similar but focusing on family medicine. As of December 2007, 147 candidates have been assessed, 35 of whom were deemed eligible for a defined license. The licensee then has four years to obtain the LMCC and certification by the College of Family Physicians of Canada. In Newfoundland and Labrador, since 1997, the Clinical Skills Assessment and Training Program (CSAT) aims at responding to the needs in rural general practice settings. After 2 days of a comprehensive assessment of knowledge and clinical skills, people go through a 6 month clinical training. If they successfully complete the program they are guaranteed a salaried position. The program receives about 100 applications per year; of those, roughly 20 are eligible for assessment. Between 1998 and 2005 about 89 physicians have entered the program. More recently Ontario has put in place Registration through Practice Assessment (RPA). RPA allows physicians with previous practice experience to undergo a six month assessment in a supervised clinical setting to determine their need for further training or to confirm their readiness to enter directly into practice. They then must work in underserved areas and their practice is monitored for 5 years. In April 2008, 26 physicians who went through this program were practicing in the province in various specialties.

145. Some provinces have made quite an extensive use of provisional license. Typically this concerns provinces in the central or eastern part of Canada, which face more problems in attracting and retaining health workers. In 2003, according to Audas et al. (2004, 2005), more than half of the IMGs had a provisional license in Newfoundland Labrador and about 40% in Alberta (see Chart 26). Inversely, in 2003 provinces like Ontario or Quebec had not made significant usage of this type of licensing, but things have been changing recently. In 2007, Ontario issued 539 practice certificates to IMGs, including more than 260 restricted licenses (49%) (CPSO, 2008)⁴⁶. In Quebec, as of December 2007, almost 2 180 IMGs held a license to practice in the province. About one out of five was a restrictive permit.

⁴⁶ Although, not all people who were granted a restricted license were IMG.

Chart 26. Percentages of IMGs in the total medical workforce by type of licensure and by Canadian provinces, 2003



Source: "The role of International Medical graduates in the Provision of Physician Services in Atlantic Canada", 2004, Memorial University of Newfoundland

146. In 2008, several provinces announced changes which will contribute to facilitate recruitments of foreign-trained doctors under provisional licenses. In March 2008, Ontario has announced an in-depth revision of its system with the development of a fast track registration procedure for doctors practicing in comparable health systems (no supervision, no commitment to work in underserved areas) and the creation of a transitional registration (limited to 2 to 5 years) for IMGs to practice under supervision in underserved areas, while they are completing the necessary requirements for independent practice in Ontario (Brotten, 2008). In June 2008, Quebec has approved changes to allow IMGs holding a restrictive license (*permis restrictif*) to shift, under certain conditions, to a permanent permit after 5 years. In May 2008, Yukon proposed to allow people with a defined license to stay up to 5-years instead of one currently. In April 2008, British Columbia introduced legislation that will allow for a restricted license for internationally trained physicians to practice with individual-specific limits or conditions that reflect their specific areas of qualifications. Other provinces and territories are attempting to or moving in the same direction.

Becoming a licensed registered nurse in Canada

147. Each province and territory is responsible for issuing their own license to practice for nurses. The process is more straightforward than for doctors and recognition of qualification of foreign-trained nurses does not seem to be a significant matter of concern. Historically, the licensure process is similar in all jurisdictions.

148. Internationally educated nurses must show they have completed an acceptable nursing program, and have been registered in their country of graduation. All regulatory bodies require nurses to have practiced for a minimum of time in the previous 3-5 years to maintain currency [requirement ranges from 800 to 1 685 hours of needed experience]. Meeting this requirement appears to be difficult for nurses entering through the live-in-caregivers programme.

149. Proof of language proficiency is also required from all of the provinces. French language is required in Quebec; either French or English in New Brunswick, Manitoba or Ontario; and proficiency in English for all other jurisdictions. Specifically, the Canadian English Language Benchmark Assessment for Nurses (CELBAN) has been developed to assess the English language proficiency of internationally-educated nurses who are applying for licensure in Canada⁴⁷. CELBAN is now accepted by the majority of

⁴⁷ Most classical language tests are generally accepted.

nursing licensing bodies across Canada. It consists of an evaluation of four types of communication skills (speaking, listening, writing and reading) required for nurses in their professional environment. Accessibility to the test, however seems to be a constraint for a more widespread use (Jeans et al., 2005)

150. Some provinces also require evidence of good character and fitness to practise in Canada. This can take the form of a criminal record check, character references or an assessment of mental and physical illness.

151. Excepted for Quebec which has a separate procedure, all internationally educated nurses are required to take the Canadian Registered Nurses Examination (CRNE) to become registered to practise in the specific jurisdiction (see Annex 2). Presently, the exam can only be taken in Canada. If eligibility requirements are met the candidate is approved to work under a temporary authorisation as a graduate nurse and can take the CRNE. Passing the CRNE in a maximum of three attempts leads to licensure.

152. For Internationally educated nurses who lack particular skills or education, bridging programmes and registered nurses refresher courses are available in most provinces. In Ontario, the CARE centre (Creating Access to Regulated Employment) helps international educated nurses to prepare for the CRNE, to upgrade their skills, to gain experience in health care settings, to get employment and career advice, as well as connect with other nurses educated outside of Ontario. Alberta has developed a programme entitled Bridge to Canadian Nursing programme which intends to be a complement to the Prior Learning Assessment and Recognition (PLAR). PLAR is a process used to assess and recognize previously acquired knowledge and skills of nurses to help them to value their previous experience and to identify the areas where they may need additional training. Several regulatory bodies are starting to use the PLAR (Jeans et al. 2005; Ogilvie et al. 2007).

IV. Labour market integration of foreign-trained health professionals

153. Historically the Canadian migration system has been a successful one, with favourable labour market outcomes for immigrants, easy access to citizenship and essentially a problem-free integration for the second generation. Since the early 1980s, however, gaps have started appearing in the system and became clearly evident by the mid to late 1990s. Labour market outcomes upon arrival for the skilled immigrant category are not as favourable as they were in the past (Reitz, 2001). In addition, the rate of low income in new immigrants has been increasing (Green and Worswick, 2002; Picot, Hou and Coulombe 2007).

154. Available studies suggest that there are several factors explaining this outcome: (i) changes in the characteristics of immigrants, (ii) decreasing economic return to foreign work experience, (iii) decline in the entry earning of all new entrants to the Canadian labour market and (iv) lower return, on average, to education obtained prior to immigrating, probably due to problems of equivalency and transferability of skills (for an overview see Reitz 2007; Picot and Sweetman, 2005; Worswick 2004).

155. Are these general trends also valid for health professionals? How are foreign-trained doctors and nurses faring in the Canadian labour market? What is the extent of the mismatch between employment and education?

Integration of foreign-trained health professionals in the Canadian labour market

156. According to the Longitudinal Survey of immigrants to Canada, within 2 years of arriving in Canada, 80% of immigrants find full time work but only 42% in their field. Four years after landing, 65% were employed in their intended profession. Immigrants with an intended professional occupation in health are not significantly different (59% of those who are employed work in their intended occupation after 4 years).

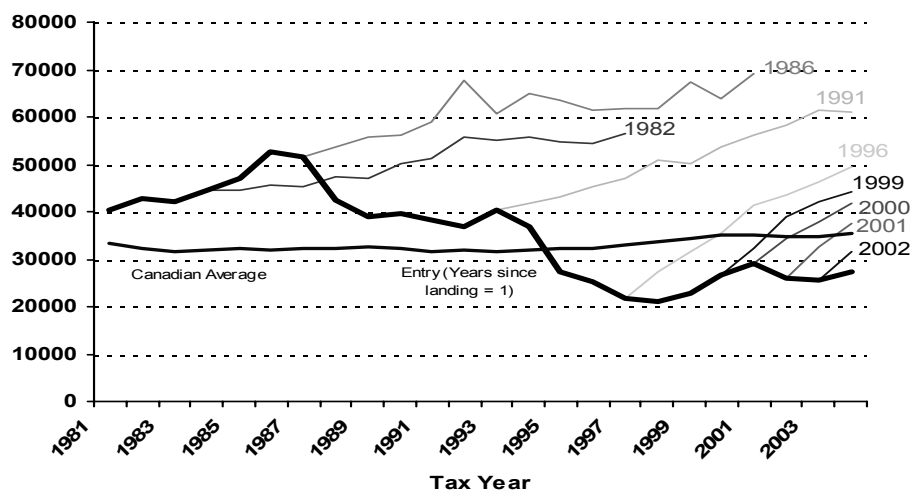
157. Longitudinal data confirm that immigrants who came to Canada in the early 1990s and afterwards experienced a marked decline in their initial earning relative to previous cohorts of immigrants and to the Canadian average. The trends depicted in Chart 27 for skilled worker principal applicants intending to work in health occupations, are not very different than for those intending to work in other occupations, although two main differences emerge:

- The decline was more marked in the mid 1990s than in the beginning of the decade for health professionals, suggesting that in addition to other factors, cuts in health spending had a specific negative impact on recent health worker migrants.

158. In 1986, entry earnings of health workers were 60% higher than the Canadian average and 40% higher than for other skilled workers. In 1996, the gap with the Canadians (-20%) was about the same for the two groups. Between 1996 and 2000, people intending to work in health occupations indeed earned less than the other skilled workers. However, the decline in entry earnings was more pronounced for health workers than for all other groups through 1996 to 1999 but has started to reverse in 2000 and thereafter.

159. At this level of aggregation it is difficult to give a definitive explanation to the specific trends observed in entry earning for immigrants intending to work in health occupations. Changes in the distribution of health occupations could provide one explanation. Increasing difficulties in the recognition of foreign credentials, which could be linked to changes in origin countries of migrants, would provide another possible explanation.

Chart 27. Average employment earnings (2004 dollars) for Skilled worker Principal Applicants intending to work in health occupations by landing year and tax year



Note : Health Occupation include NOC: 0311, 3111, 3112, 3113, 3114, 3121, 3122, 3123, 3131, 3132, 3141, 3142, 3143, 3144, 3151, 3152, 3211, 3212, 3213, 3214, 3215, 3216, 3217, 3218, 3219, 3221, 3222, 3223, 3231, 3232, 3233, 3234, 3235, 3411, 3412, 3413, 3414

Source: Longitudinal Immigration Database (IMDB); Canada Customs & Revenue Agency (CCRA)

160. Schellenberg and Maheux (2007) use the Longitudinal Survey of Immigrants to Canada (LSIC) and find that lack of recognition of foreign qualifications (regardless of intended occupation) is identified by immigrants, four years after landing, as a difficulty in seeking employment but only after 1) lack of Canadian work experience, 2) lack of contacts in the job market, and 3) lack of recognition of foreign experience. Language barriers placed 5th on the list.

161. One study that looks at this issue for the health sector is Boyd and Schellenberg (2007). It uses data from the 2001 Census and finds that internationally educated physicians are less likely than the Canadian-born to find employment in occupations that relate to their professional training. Specifically, the study finds that while 90% of the Canadian-born who studied medicine are working as physicians, only 55% of internationally educated immigrants (defined in the study as those foreign-born who immigrated as adults -age 28 or older) work as doctors – 33% are employed in occupations that are unrelated to either medicine or health care in general.

162. According to this study, foreign-trained immigrants born in South East Asia and East Asia are the least likely to be employed as a doctor. Conversely, those who received medical training outside Canada in European countries other than Eastern Europe are the most likely to practice medicine. In 2001, internationally trained physicians arriving after 1990 experienced a lower probability of working in their field of training relative to those who landed earlier. This finding is useful to understand the specific changes regarding on entry earnings identified above for health professionals.

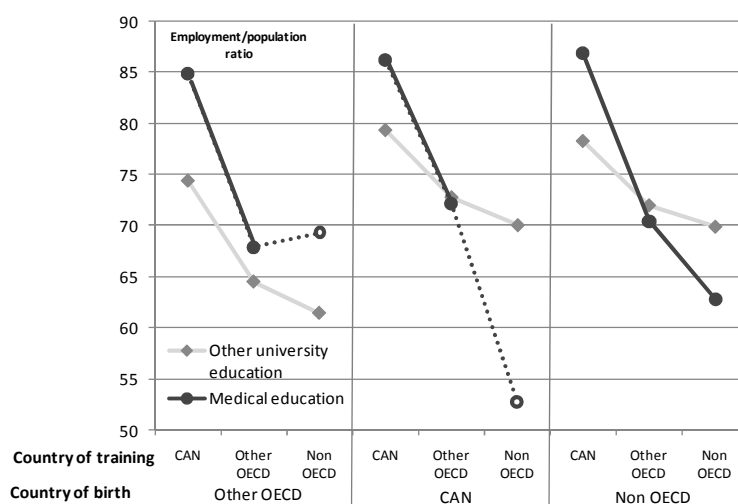
163. Boyd and Schellenberg also found that the situation is not specific to just health professionals as people trained as engineers for instance face even more difficulties in finding positions in their field. There are many reasons for these outcomes, including personal choice and labour market conditions and occupational supply and demand balances (very important for engineers). Characteristics of the educational system in the source country also influence the outcomes of those seeking Canadian recertification (e.g., length of schooling, quality of education, and the use of French or English in the educational system or in major sectors of the economy)⁴⁸.

164. Some of these findings have been updated with the 2006 Canadian Census. The recent increase in initial earnings observed in Chart 28 would suggest that labour market integration of immigrants intending to work in health occupations has improved recently.

165. Looking at immigrants with a university degree at bachelor level or higher (15+) by place of birth, place of training and by field of study (Chart 28), it appears that the employment to population ratio for people trained in Canada in medical education is high, between 85% and 90%, and independent of the place of birth. People trained as a doctor in other OECD countries, including Canadian born, have a much lower employment ratio, close to 70%. Furthermore, the drop is more marked for this group than for those who have been trained in non-medical fields.

⁴⁸ Sweetman (2004) finds that immigrants from source countries with lower educational outcomes, as measured by international test scores, receive on average lower economic returns to their schooling in the Canadian labour market. Further, there is also a potential for a mismatch of immigrant training and employment because of local supply and demand conditions in some occupations.

Chart 28. Employment/population ratio for people 15+ with a university degree at bachelor level or higher, by place of birth and place of training and by field of study, Canadian census 2006



Note: Estimates for people born in OECD countries but trained in medical education outside the OECD should be considered with caution as it refers limited number of persons (about 270 Canadian born and 220 people born in other OECD countries)

Source: Canadian Census 2006

166. The lower employment to population ratio is observed for people trained outside Canada as a doctor. Only 63% of the doctors trained and born outside the OECD were employed in 2006. This is about 8 percentage points less than the corresponding figure for immigrants with a university degree at bachelor level in another field.

167. Turning to those who have a job, Table 7 looks at the share who is working in their profession. The results confirm previous studies, showing that more than 90% of the Canadians trained as a doctor and who have a job are working as a doctor. The corresponding figure for those who have been trained in other OECD countries than the United States and Canada is just under 80%.

168. The results are once again quite different for people who were trained as a medical doctor outside the OECD, whether he or she was born in Canada or not. Actually, in this group only 46.5% of the 63% who have a job, work as a doctor. In other terms there are about 5 600 doctors who were trained outside the OECD who are working in Canada as a doctor, out of a total of 19 200 persons who were trained as a doctors outside the OECD. Less than one doctor trained outside the OECD out of three is employed as a doctor (30%).

Table 7. Number of people trained as medical doctor by place of training, employment status and type of occupation, 2006

Country of training	Number of people trained as medical doctors (1)	Employment/population ratio (15+)	People trained as a medical doctor and employed						
			As a doctor (%)	In other occupations					
				All other occupations (%)	Medical professional occup. other than doctor (2) %	All other health occupations %	Other professional occupations (3) %	Teachers %	Other occupations %
Canada	58,665	86.1	91.6	8.4	0.7	1.9	2.7	1.0	2.2
USA	1,970	77.2	84.2	15.8	3.6	2.6	6.3	1.3	2.0
Other OECD countries	7,820	67.2	78.1	21.9	1.8	4.6	5.8	2.6	7.1
Other countries	19,150	62.7	46.5	53.5	1.0	17.3	7.3	4.5	23.5

Note: (1) Data refer to individuals with a university degree at bachelor level or higher (15+) trained in medical education (based on categories: 51.12 medicine and 60.02 medical residency program, CIP classification)

(2) Data on medical professional occupations refer to the following categories of occupations (NOC-2006): D013 dentists, D031 Pharmacists, D0 Other professional occupations in health.

(3) Data on other professional occupations refer to the following categories of occupations (NOC-2006): A0 Senior Management occupations, A1 Specialist Managers, A2 Managers in retail trade, A3 Food and Accommodation services, B0 Others managers, professional occupations in business and in finance, E0 Judges, Lawyers..., F0 Professional occupations in Art and Culture.

Source: Canadian Census, 2006

169. As already emphasised, there may be numerous reasons which contribute to explain this result. For instance, it is not sure that all the 19 200 persons with a non-OECD tertiary degree at bachelor level or higher in medicine completed their study. In addition some of these people may lack language proficiency in English or French to work as a doctor or have received an education which is not fully comparable to Canadian standards. Also part of the situation results from past migration waves. Many of these people came to Canada in the 1990s, when it was almost impossible for them to get access to residency positions or to bridging programmes. As a result it is likely that they have not worked as a doctor for many years. Bringing them back to the profession would be a challenge, including for them.

170. In the current context of increasing demand for health workers in Canada, however, addressing the issue of recognition of foreign qualification has gained momentum. Beyond anecdotal evidence, mismatches between the human capital brought to Canada by immigrants and its use in the labour market also affect the health sector (Box 4). Recent policies are responding to this issue and start to make a difference.

Box 4. Myths and Realities: Are foreign trained doctors driving taxis?

Probably because it seems so shocking, anecdotal stories of people trained as a doctor and driving taxi have benefitted from unreasonable media attention in Canada as there were no reliable statistics supporting this claim. The 2006 Canadian census provides an opportunity to look at this seriously. It indicates that in 2006 there were exactly 90 persons with a non-OECD tertiary degree at bachelor level or higher in medicine who were working as "Transportation equipment operators and related workers" (excluding labourers). Out of that total probably only a handful of persons would be driving taxis.

Nonetheless, there are concerns with regard to the mismatch between the educational background of immigrants and their labour market integration. Most of the persons who are not employed as a doctor with a non-OECD degree in medicine are in fact working in "Technical and related occupations in health" (9% or 1 080 persons), or "Teaching" (4.5% or 535 persons). The next occupations are "Assisting occupations in support of health services" (4.3% or 520 persons) and "Clerical occupations" (3.7% or 450 persons). Few people trained as doctors actually work as a registered nurses (390 persons).

Federal programmes to facilitate the recognition of foreign credentials of health professionals

171. Impressive efforts have been devoted at both the federal and the provincial level to improve foreign credential recognition processes and procedures and increase access to information on recognition of foreign credentials in Canada, as well as to provide direct support and assistance to recent immigrants to integrate the labour market. These efforts go well beyond health professions with important initiatives of both Citizenship and Immigration Canada (CIC) and Human Resources and Social Development Canada (HRSDC).

172. HRSDC's Foreign Credential Recognition Program (FCRP) is working with federal government partners, provinces and territories, professional regulatory bodies and business-led Sector Councils to address the issue of improving credential assessment and recognition processes in Canada. With a budget of C\$73 million over six years (2003-2009), one of the Program's main objectives is to work with health regulatory bodies, including nine self-regulated health occupations, to develop effective tools and processes that enable internationally-educated professionals to have their credentials assessed fairly and efficiently.

173. In addition, the Government of Canada launched Health Canada's Internationally Educated Health Professionals Initiative (IEHPI) in 2005. The IEHPI aims to foster the assessment and integration of internationally-educated health professionals into the health workforce. The 2005 federal budget provided \$75 million over five years to support this objective⁴⁹.

174. Together, HRSDC's FCRP and Health Canada's IEHPI are working with health occupations to respond to the recommendations of the Canadian Taskforce on Licensure of IMGs, created in 2002⁵⁰. The Task Force made six recommendations which were endorsed by the federal, provincial and territorial ministers of Health in February 2004:

1. Increase capacity to assess and prepare IMGs for licensure;
2. Work towards standardization of licensure requirements;
3. Expand or develop programmes to assist IMGs with the licensure process and requirements in Canada;
4. Develop orientation programs to support faculty and physicians working with IMGs;
5. Develop capacity to track and recruit IMGs; and,
6. Develop national research agenda, including evaluation of the IMG strategy.

175. In such a short period of time, the accomplishments of these initiatives are noticeable. For example, FCRP investments with the Medical Council of Canada (MCC) provided international medical graduates with increased access to assessment and evaluation tools before coming to Canada. The MCC developed an internet-based self-assessment evaluating examination to help IMGs determine their

⁴⁹ It was initially estimated that this project could result in assessment and integration into the workforce of up to 1,000 doctors, 800 nurses and 500 other health professionals.

⁵⁰ Report of the Canadian Task Force on Licensure of International Medical Graduates (February 2004). www.hc-sc.gc.ca/hcs-sss/alt_formats/hpb-dgps/pdf/hhr/medical-graduates.pdf.
Report of the Canadian Taskforce on Licensure of International Medical Graduates Forum 2004: IMG Taskforce Implementation. www.img-canada.ca/en/pdf/Forum2004English.pdf

readiness to undertake the assessment process for physicians in Canada⁵¹. The MCC also created the Physician Credentials Registry of Canada, where international medical graduates can apply online to have their educational and training credentials verified while still in their country of origin. Furthermore, FCRP funding assisted the MCC to develop a central website of information for international medical graduates, which provides comprehensive information and path-finding for foreign-trained physicians (www.img-canada.ca). The website receives more than 450 daily visits, illustrating the scope of the need for such information. Within the IEHPI Health Canada supported provinces and territories for the assessment of unlicensed IMGs (C\$3 million). In addition, the Association of Faculties of Medicine of Canada (AFMC) is developing the National IMG Database, a longitudinal pan-Canadian database which will track IMGs from Canadian medical assessment, training and licensure processes until they begin practice in a Canadian province, thereby providing a complete picture of integration pathways for IMGs in Canada.

176. Moreover, FCRP contributions have enabled nurses, medical laboratory technologists, medical radiation technologists, occupational therapists, physiotherapists and pharmacists to complete comprehensive reviews of the processes and methods used to assess internationally educated professionals. In this context, the Canadian Nurses Association published a detailed report on credential assessment and integration into the workforce of internationally educated nurses⁵².

177. In addition to these systemic initiatives, the Government of Canada is also providing direct assistance to internationally-trained individuals through its Foreign Credentials Referral Office (FCRO). The FCRO was launched in the spring of 2007 with the objective of helping internationally trained individuals, both overseas and in Canada, to find the information they need to put their skills to work in the Canadian labour market as soon as possible after arrival (www.credentials.gc.ca/). Housed under Citizenship and Immigration Canada (CIC), the FCRO has received a budget of C\$37 million over 5 years. The FCRO is currently engaging provinces and territories, regulatory bodies and employers to consider ways to initiate assessment and recognition processes earlier in the immigration process. Building on the FCRP's successful pilot project carried out by the Association of Canadian Community Colleges (ACCC), skilled individuals who pass the selection stage of their Permanent Residence application will be provided face-to-face orientation sessions about Canadian foreign credential recognition processes and labour market information while still overseas to improve their integration and labour market outcomes upon arrival in Canada. Furthermore, CIC has also introduced the Enhanced Language Training (ELT) Initiative which combines occupation-specific language training with mentoring and internship opportunities. This type of approach could be appropriate for several categories of health workers, when language proficiency and lack of previous Canadian work experience are the main impediments for recruitment.

178. At provincial level, important efforts have also been devoted to reinforce institutional capacity and to improve transparency. Ontario provides a relevant illustration, although it is certainly not the only one. Significant investments have been made in Ontario to support IMGs and to development infrastructures. In 2004, the government invested C\$26 million (i) to finance the increase of the number of training positions available to foreign trained doctors from 90 to 200 mentioned earlier and (ii) to support a program of the College of Physicians and Surgeons of Ontario to fast-track the assessment and registration of foreign-trained doctors practicing medicine in other Canadian provinces. In 2006, the HealthForceOntario Access Centre for Internationally Educated Health Professionals was created to improve access to information and, since 2007, the Centre for the Evaluation of Health Professionals Educated Abroad (CEHPEA) provides evaluations and orientation programmes. In addition, the Office of the Fairness Commissioner, the first agency of its kind in Canada, was established in 2007 to ensure that certain regulated professions have registration practices that are "transparent, objective, impartial and fair".

⁵¹ The availability of the MCC Evaluation Examination (MCCEE) has increased approximately three-fold since 2004 and is now available in 20 locations, 12 of which are outside Canada.

⁵² Jean et al. (2005), *Navigating to become a nurse in Canada, Assessment of international nurse applicants*. http://cna-aicc.ca/CNA/documents/pdf/publications/IEN_Technical_Report_e.pdf

In its first year of activity this office has produced more than 30 reports on registration practices for specific professions, including about 20 in the health sector.

179. All these programmes and initiatives make a real breakthrough to tackle the issue of the recognition of foreign qualifications and of foreign work experience. Great improvements in terms of access to information have resulted from these initiatives but in terms of access to training and bridging programmes, in some cases, the scaling-up may be only seen as a sort of leveling.

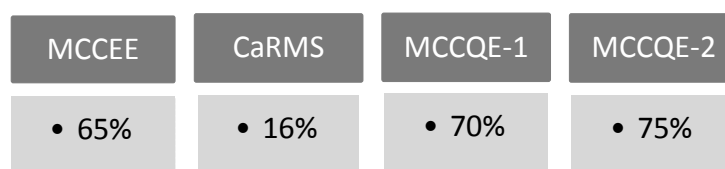
180. One of the most important changes, however, lies in the on-going efforts to better connect migration policy and recognition of foreign qualifications. This is a challenge as the former is a shared responsibility between the federal and the provincial and territorial authorities, while the latter is exclusively under provincial jurisdiction. However, trying to involve both the regulators and the migrants at an early stage in the immigration process, ideally prior to arrival in the country, by offering distance self assessment tools, access to information and counseling services can make a real difference in terms of short and long term labour market outcomes of the migrants.

181. The increase in the number of places available to foreign-trained doctors in CaRMS, which was encouraged by many stakeholders for some time, is also most welcome, but it should be seen a first move especially because it has not materialized in all provinces yet, and because it was accompanied by a relative decrease in IMG specific programmes.

182. Despite the recent increases in postgraduate training capacity for IMGs, getting access to residency places seems to remain the main hurdle to enter the Canadian education pipeline. As discussed previously, foreign education and skills may not be fully equivalent to Canadian standards. In addition, insufficient language proficiency can act as an impediment to practice. This explains part of the difficulties encountered by foreign-trained doctors and calls for reinforcing bridging programmes and specific language training courses.

183. Although they have lower pass rates than Canadian medical graduates, IMGs seem not to perform that badly in MCC exams (Chart 29). In 2006, 65% of the 3 400 IMG who took MCCEE succeeded. The same year 4 700 IMGs took the MCCQ-1 and 70% passed it, 3 200 took the MCCQ-2 and 75% passed it⁵³. At the same time, 977 IMGs applied through CaRMS and only 156 were granted a post graduate position (34 positions remained unfilled after the second iteration match in 2006). In 2008, the statistics were even more surprising with 121 unfilled positions, 353 IMGs matched and 946 unmatched. Better understanding these results would be helpful to adapt the curricula of the bridging programmes for IMGs and eventually to improve the functioning of the match system.

Chart 29. Pass rates of IMGs at different stages of the licensure process, 2006



Source: CaRMS and MCC

184. In the Canadian context (mainly because recognition of qualification is not under federal jurisdiction), it is not possible to impose the recognition of credential before landing. In any case this solution would lengthen the migration process which is not desirable. Greater access to information and the

⁵³ MCCQE-1 can be taken without any postgraduate training (MCCE is required) but for MCCQE-2 candidates must have completed 12 months of postgraduate clinical medical training.

development of distance self assessment tools have already contribute to improve the situation, but pursuing the current efforts to provide a greater access to bridging programmes and residency positions for foreign-trained doctors and nurses is also necessary.

V. Health workforce in rural areas⁵⁴: solving the unsolvable?

185. Virtually all OECD countries suffer from a geographical maldistribution of their health workforce between rural, remote or poorer areas and urban, central, and richer localities. However, in Canada because of its geographical extent, rural health workforce issues are of particular concern. The rural health population tends to face a health disadvantage for many health related measures in comparison to the urban population (CIHI, 2006c). As a result, Canada has been very active and innovative in developing approaches to address rural health workforce issues.

186. To which extent geographical distribution of health workforce is a matter of concern in Canada? What role foreign-trained health professionals play to service rural and remote communities? What policies have been put in place by federal and provincial authorities? Have they been successful?

A persistent issue characterized by marked differences between rural and urban health workforces....

187. Geographical maldistribution of the health workforce is not a new issue in Canada (Roos et al., 1976; Pong, 2007). In Ontario, progressive concentration of physicians into large population centres has been documented since 1901 (Joseph and Bantock, 1984). Despite improvements in the accessibility of remote areas, the geographical distribution of health workers has remained an issue. In fact, while the population in rural areas has decreased, physician density in rural areas has declined at an even greater rate (Laurent, 2002).

188. While rural Canada covered 99.8% of the nation's territory, and accounted for 24 % of the Canadian population in 2006, this only represents 9.3% of the physician workforce. Table 8 presents the density of doctors by size of census metropolitan areas and agglomerations (urban areas) and by Metropolitan Influence Zone categories (rural areas)⁵⁵. It appears that rural areas have a significantly lower density of physicians than urban areas, generally two to three times lower. Even within urban areas, density tends to be lower in smaller communities, although the link is less clear. This discrepancy also varies province by province and is particularly acute in Atlantic provinces. In Newfoundland and Labrador for instance, 95% of the population lives in rural areas, but more than 50% of the doctors are in the capital city of Saint John's and 73% in urban areas.

⁵⁴ Under the name rural areas, we include rural and remote areas as well as small towns

⁵⁵ The MIZ classification is used to better differentiate areas of Canada outside of census metropolitan areas (CMA) and census agglomerations (CA). Census subdivisions that lie outside these areas are classified into four types of zones of influence ranging from "strong" to "no" influence according the influence that CMA/CAs have on them.

Table 8. Share of foreign-trained physicians and density of physicians by type of urban/rural communities, 2006

Rural /Urban	Size of area	Share of foreign-trained physicians	Density of physicians
Urban communities	10,000–24,999	39.6	2.4
	25,000–49,999	34.3	2.2
	50,000–99,999	18.6	1.9
	100,000–499,999	22.7	2.7
	500,000–999,999	16.8	3.4
	1,000,000+	21.2	2.1
Rural com.	Strong MIZ	27.4	0.7
	Moderate MIZ	26.9	1.0
	Weak MIZ	40.2	1.8
	No MIZ	30.1	0.7

Source: Data were provided by CIHI

Note: MIZ stands for Metropolitan Influence Zone (see footnote 55)

189. In 2000, approximately 18% of registered nurses were located in rural areas. Although the situation is less problematic for nurses, the absolute number of Registered Nurses living in rural areas has decreased over time (CIHI, 2002a). This raises concerns about an increasing discrepancy between the health care needs of people living in rural areas and the availability of health care providers, especially given that that nurses are often expected to be the primary health care provider (Hanvey, 2005).

190. Differences in the demographic characteristics of the health workforce can also be seen between areas types. The feminization of the medical workforce is for instance less important in rural areas, as 32% of family doctors are female compared to 38% in urban areas (Pong and Pitblado, 2005). As for age, while nurses in rural areas tend to be younger, the gap has decreased over time. For almost 100 communities in Canada, it was found that the average age of registered nurses was above 50 years, and that 22 rural communities in Canada were served by one registered nurse aged 60 years or older (CIHI, 2002a).

191. In terms of working patterns, 50% of Registered Nurses in rural and small town are employed full time compared to 56% in urban areas (CIHI, 2002a). Nurses in rural and small town areas are more likely to have more than one employer, in particular, if they are young and female (Hanvey, 2005). As for workload, family physicians in rural areas tend to see more patients, work longer hours, have a broader scope of practice, are on call more often and provide more complex care (Pong and Russell, 2003). Lack of medical specialists in rural areas may jeopardise the ability of hospitals in rural areas to offer comprehensive care and some even fear hospitals in rural areas will face the prospect of providing little more than ambulatory care and transportation services to urban health care facilities (Laurent, 2002).

192. These findings are seen by many as an illustration of the shortage of physicians in rural areas. It was estimated that an additional 1 300 family doctors would have been needed in 2004 to equalize the family/population ratio between rural and urban areas in Canada (Rourke, 2008). In addition, some statistical modelling even predicts a decrease of 33% of rural physicians between 1998 and 2021, from 0.79 to 0.53 physician per 1 000 population (Hutten-Czapski, 2001b).

... and a strong presence of international medical graduates in rural areas.

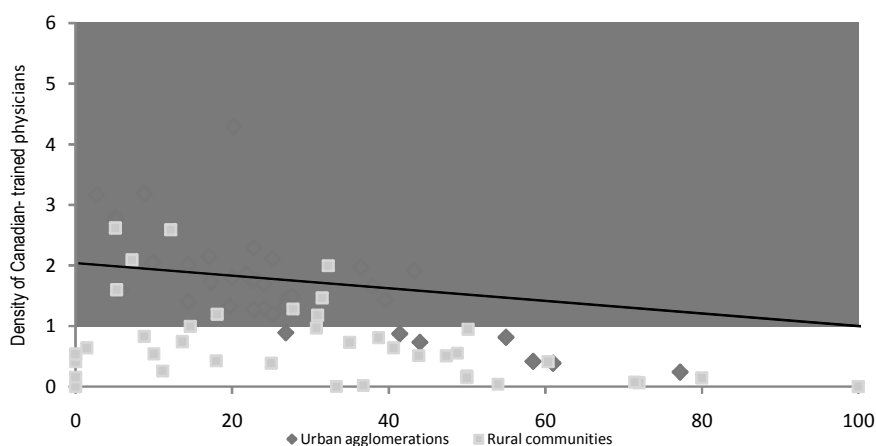
193. In Canada, like in some of the other OECD countries, foreign-trained doctors have contributed to filling the gaps in rural and remote areas for many years. Table 8 confirms that in rural areas, where the density of doctors is lower, the share of migrant doctors is higher. In fact, in cities with more than 50 000 inhabitants, the share of foreign-trained doctors is equal or lower than the Canadian average. The highest percentages, around 40%, are found in “rural areas with weak MIZ” (see footnote 48) or in the smallest

urban cities (10 to 25 thousands inhabitants). Indeed if we disaggregate the data at the provincial level, it appears that there are some places which are almost entirely serviced by IMGs.

194. In order to better understand the role of IMGs in rural areas, Chart 30 plots together the density of Canadian trained doctors and the share of foreign-trained doctors in each type of area and by province. It shows a negative relationship between the two variables, indicating that IMGs tend to migrate to areas where Canadian trained doctors do not practise. This is true for both urban and rural areas. In some places, generally rural areas classified under “no metropolitan influence zone”, difficulties are faced in attracting both Canadian trained and foreign-trained doctors.

195. There are also important differences by province as shown in Annex 4. Ontario and Quebec for instance tend to have fewer IMGs than other provinces. In addition, in both provinces, the proportion of IMGs is higher in urban areas. This denotes a situation where international recruitments have not been used specifically to service rural and urban areas. In the absence of incentives to do otherwise, IMGs tend to settle in larger metropolitan centers, particularly in Montréal and Toronto. The situation is quite different in Alberta, British Columbia, Manitoba and Saskatchewan where the role of IMGs is more significant in small and rural communities. This situation results from specific policies which have been put in place to attract and retain foreign-trained doctors in these areas. Atlantic Provinces make up another group where immigrants tend to play a relatively important role in all types of areas.

Chart 30. Share of foreign trained physicians and physician density, by urban and rural areas, Canada, 2006



Source: Data were provided by CIHI

Note. Data on urban agglomerations refer to communities from 10,000 to 1,000,000+ inhabitants

Data on rural communities refer to metropolitan influenced zone, MIZ classification used by Statistics Canada

196. Policies put in place by provinces to attract foreign-trained health professionals, notably in rural and remote areas are limited by the fact that permanent residents enjoy the same mobility rights under the Canadian Charter of Rights and Freedoms as Canadian citizens, and therefore cannot be bound to reside in any given region or area. One approach that has been used in this context is the use of provisional licenses which restrict practice location.

197. Provinces facing continuing problems finding physicians to work in rural locations offer provisional licenses to international medical graduates, with the agreement that they work in a specific location for a fixed term of usually 2 years, but up to 5 years. This duration coincides with the length of time required in clinical practice before a physician can qualify for a full license (Audas et al., 2005). A provisional license offers an expedient path to full licensure, but it generally implies restrictions on practice

location. The use of provisional licenses is particularly common in Prince Edward Island and Newfoundland and Labrador, where the number of doctors practicing with a provisional license is larger than those with full licensure (Audas et al., 2005). Upon receiving a full license, any location restrictions are lifted and international medical graduates are free to relocate anywhere within Canada. In the Case of Newfoundland and Labrador for instance Mathews et al. (2008) show that only 7.9% IMGs who started residency training at Memorial University of Newfoundland by 1998 were still in the province in 2004 (43.2% MUN graduates, 4.8% CMGs).

198. As a result, some Provinces are perceived as an "entry point" into Canada. This phenomenon contributes to a rapid turnover of physicians in rural areas and raises some concern about the continuity of care and the costs of replacing doctors on a regular basis. Furthermore, recruiting internationally is very unlikely to be a viable solution to address the needs in most remote areas (Box 5).

Box 5. Myths and Realities: Are international recruitments the solution to respond to health human resources needs in Northern regions? The case of Nunavut

Delivering health care services in northern regions is a particular challenge. Around 30 000 people live in Nunavut, distributed in about 35 communities, ranging from 120 to 6 000 people. About 85% of the Nunavut population is Inuit.

The lack of staff may have serious consequences on the functioning of health care facilities. There are only 12 full time doctors working in Nunavut and about 200 on locum positions, with a large number working for on a very short term basis. There are also about 200 nurses who have, in practice, an expanded role. A new regional health centre was opened 2 years ago in Cambridge Bay but it is still not staffed. Absence of an officially accredited hospital in Nunavut is a matter of concern as patients have to travel to southern provinces for many healthcare services, including childbirth.

To improve health care delivery, various efforts have been undertaken by the authorities of Nunavut to recruit nurses from abroad. A recent recruitment campaign of nurses from the Philippines turned out to be rather costly and produced very mixed results: about 35 nurses were recruited, mainly from the Philippines and India, for 45 job offers and about 23 left within 2 years. As a result, new recruitment policies are now examined, notably through a Nominee Program. Retention will however remain a real challenge; darkness, isolation, coldness and cost of transportation acting as strong impediments.

Closer collaboration with other provinces and territories has also been undertaken, mostly for training health workers originating from Nunavut. Strengthening these types of collaboration is probably the only way forward in this context.

Another issue is the under representation of Inuit in the health workforce. At present there is no Inuit doctor and the number of Inuit nurses is insufficient. Addressing this under representation is important given the difficulties to attract and retain health workers from other Canadian jurisdictions or from abroad. It will also help to deal with the language barrier which is a challenge for both patient and professionals.

E-health is often advocated to address challenges due to distance and isolation. In the particular case of Nunavut, such approaches are indeed very promising, however, it is currently constrained by the lack of satellite coverage to certain parts of Nunavut.

A large range of policies and initiatives have been developed, especially for doctors...

199. Canada has been very active and innovative in trying to address rural health workforce challenges. This is reflected not only by the large array of policies to improve health workforce distribution in rural areas, but also by the vast amount of research in this area, especially regarding doctors.

200. Building on the reviews undertaken by Chan and Barer (2000) and Fournier et al. (2004) on policies to improve physician distribution in rural areas in the Canadian Provinces, an update of the situation is presented in Table 9. The different policy approaches have been grouped in the five following categories: (i) education/training; (ii) regulatory/administrative; (iii) remuneration policies; and (iv) community.

Education/training

201. Education policy is part of a longer term strategy and is playing an increasing role in improving recruitment and retention in underserved areas. However, just educating and training more doctors with the hope that more will go to rural areas, due to less opportunities in high density areas, has shown not to be a efficient solution (Bourgueil et al., 2006)⁵⁶. What has been shown is that physicians with extensive rural exposure and rural relevant skills are much more comfortable working in rural areas (Rourke et al., 2005; Tepper and Rourke, 1999).

⁵⁶ This is sometimes referred to as the spreading out, overflow or trickledown effect. In this context one could use “the cup and the saucer” analogy: the idea is that when the cup is filled (in urban areas) the supply of health professionals will disperse to peripheral areas (rural areas) and ultimately in the most remote areas.

Table 9. Contemporary Canadian policy approaches, by Province/Territory

Policy Approaches	B.C.	Alta.	Sask.	Man.	Ont.	Que.	N.B.	N.S.	PEI	Nfld	Yuk	NWT
Education/Training												
Rural training/exposure for undergraduates	✓	✓	✓	✓	✓	✓	✓			✓		
Rural placements/teaching units in association with a rural practice residency or specialty	✓	✓		✓	✓		✓			✓		
Special (re-entry) access to residency and/or new specialty skills development	✓	✓	✓	✓	✓	✓	✓	✓		✓		
Special recruitment policies/criteria for new undergraduate medical students, eg. aboriginals, rural		✓	✓	✓	✓	✓						
Special recruitment policies/criteria for graduate level residency training	✓	✓										
Development of continuing education capacity using new communication technologies		✓	✓					✓		✓		
Promotion of rural practice in medical schools	✓			✓			✓	✓		✓		
Nurse practitioner or similar program	✓	✓	✓	✓	✓	✓	✓	✓		✓		✓
Undergraduate/postgraduate student loans/grants/bursary with return of service			✓	✓	✓	✓				✓		✓
Special funding or loans for residency and specialty skills development	✓	✓	✓	✓	✓	✓	✓	✓		✓		✓
Special travel allowance for students to get to summer placements or residencies		✓	✓	✓	✓	✓						
Financial support for continuing medical education	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓
Regulatory/Administrative												
Billing numbers							✓		✓			
Provincial medical license tied to return of service in rural area and foreign medical graduates with restrictions on practice location	✓	✓	✓	✓						✓		
Enabling legislation for expanded role physician extenders/nurses		✓			✓					✓		
Practice related to direct funding												
Subsidized income or guaranteed minimum income contract	✓			✓	✓	✓		✓	✓	✓	✓	✓
Differential fees – bonus for practice in underserved and inover-region	✓			✓	✓	✓		✓	✓	✓		✓
Salaried and other 'alternate payment' positions	✓		✓	✓	✓	✓	✓	✓	✓	✓		✓
Grants/bonus tied to return of service	✓	✓			✓	✓		✓	✓	✓		✓
Special travel allowances for rural practice	✓		✓	✓	✓	✓		✓	✓	✓		✓
Special program/funding for locum support	✓	✓		✓	✓	✓		✓	✓	✓		✓
Assistance with practice establishment costs					✓	✓				✓		
Financial support for vacation (paid time off)					✓	✓	✓	✓	✓	✓		✓
Special on-call payments (specialists & emergency)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
Community initiatives												
Recruitment fairs/tours		✓	✓		✓	✓	✓	✓	✓	✓		✓
Allow locally raised funds to directly support provision of physician services (eg. Housing subsidy etc.)	✓		✓	✓		✓		✓	✓	✓		✓
Funding for new remote diagnostic technologies eg. tele-radiology etc.	✓	✓	✓		✓		✓	✓		✓		✓
Spousal support initiatives		✓						✓		✓		
Education support for children (eg. Boarding school for older children etc.)				✓				✓		✓		

Source: Adapted from Chan & Barer (2000) and Fournier et al. (2004)

still valid
 updaed information
 no updated information

202. The debt load is likely to influence practice location (Sullivan, 2007). The average debt of Canada's postgraduate trainees is quite substantial and was estimated at C\$ 159 000 in 2006 (Sullivan, 2007). However, yearly tuition fees vary significantly across Provinces. While in Quebec, Manitoba and Newfoundland and Labrador first-year students pay lower tuition fees, ranging from 2 800 C\$ to 8 000 C\$, tuition fees are considerably higher in Ontario where they reach around 16 500 C\$ at the University of Toronto (Kondro, 2007). Regarding the reimbursement of student loans, some Provinces have introduced "a Payment Deferral Program" such as Newfoundland and Labrador, Quebec, Alberta, Saskatchewan and Nova Scotia (Rynor, 2007). In Nova Scotia, the Payment Deferral Program allows students to finish their residencies before having to pay back their loans, but while interest continues to accrue.

203. Also, many Canadian Provinces have developed a number of return of service options. These schemes tend to vary from one province to another. Some are based on a year of service for a year of training, while others are usually for a period between 3 and 5 years. For instance, in Manitoba, through the "Educational Assistance Option", third and fourth year medical students are eligible for a 15,000 C\$ (per year) forgivable loan in exchange for a return of service agreement (Fournier et al., 2004). In Saskatchewan, an undergraduate medical student bursary of 18,000 C\$, year for year return of service has been established. Upon graduation, individuals have a buy-out option but they are required to pay the accumulated interest. In New Brunswick, family practitioner graduates get 25,000 C\$ and specialists 40,000 C\$ for a return of service for 5 years in "hard to recruit" areas. Nova Scotia pays 15,000 C\$ a year for three years to help a new graduate to pay off their debt if they work in a designated area of the province short of physicians (Fournier et al., 2004). In Ontario, the Underserved Area Program offers various financial incentives such as the Free Tuition Program which provides up to \$40,000 (or \$10,000 per year) to final-year medical students, residents and newly graduated physicians, to offset tuition costs in exchange for a full-time return-of-service in an eligible designated community. Finally, Prince Edward Island offers a debt reduction grant of \$30 000 to family medicine residents in the last year of med school or either PGY1 or PGY 2, with a return in service of 2 years. For specialists, the grant is \$40,000 with an RIS of 2 years.

204. In Canada, medical school training has largely been conducted in urban areas, and has offered only limited or optional exposures to rural medicine and lifestyle (Tepper and Rourke, 1999). In this context, efforts have been undertaken in Provinces in three specific areas regarding education and medical training. These include providing more exposure to rural medicine in medical schools, developing rural relevant skills in residency, and increasing the number of medical students originating from rural areas. For example, in New Brunswick, through the summer rural preceptorship programme 30 positions are offered to first and second year students who receive 4,000 C\$ for a 10 week internship (Fournier et al., 2004). In Alberta, the Mentor Program allows second year students to establish close contact with faculty members who are teaching in rural areas. Also, the expansion of the undergraduate medical education in British Columbia and the founding of a new medical school in Northern Ontario are of particular significance. British Columbia University developed 3 geographically distributed campuses in partnership with 2 existing Universities (University of Victoria and University of Northern British Columbia). In March 2002, the British Columbia government announced an expansion of the University of British Columbia medical school, in collaboration with the University of Victoria and the University of Northern British Columbia. Distributing the medical education and focusing on rural and aboriginal programs is expected to help in the distribution of physicians once in practice. In this context, the University of British Columbia has increased the number of new first year spaces from 128 in 2003/04 to 256 in 2007/08. A fourth medical program, the Southern Medical Program, is planned for the southern interior at University of British Columbia Okanagan in 2012, bringing the number of first year spaces to 288.

205. The Government of Ontario established in 2005 the Northern Ontario School of Medicine -- the first in 30 years in Canada – with a special mandate to train physicians for rural or northern practice. This approach reflects a long term strategy expected to improve recruitment and retention of the health workforce in Northern Ontario (Strasser and Strasser, 2007).

206. While initial results seem very encouraging in terms of recruitment, the high cost of developing a new medical school – since 2002, more than 100 million C\$ has been invested by the Ontario government for total start-up and operating funding (Ministry of Health and Long Term Care, Ontario, personal communication) – is viewed by some who would have preferred the development and strengthening of rural education in existing Medical Schools (Sullivan, 2002) as not the best allocation of funds to address rural health workforce issues. Moreover, the impact of such strategy will take years before it deploys its full effect, due to the limited number of student enrolments and the duration of medical education.

207. Furthermore, the experience of the Memorial University in Newfoundland and Labrador, illustrates the scope and the nature of the difficulties for retaining young doctors in rural areas (Mathews et al., 2008). Between 1973 and 1998, this university graduated about 1 300 people with some focus on rural medicine. In 2004 only 167 worked in rural Canada and 81 in rural Newfoundland and Labrador. That being said, graduates from a rural background were indeed more likely to practise in rural Canada (odds ratio 1.95).

Regulatory/administrative

208. One particular approach is the restriction on billing numbers. Billing numbers are compulsory for doctors to bill the government for medical insurance. While theoretically restrictions on billing numbers may seem appealing to better distribute physicians into rural areas, it has generally been found neither constitutional, as in the case of British Columbia, nor effective in distributing physicians in Canada. Currently, only New Brunswick has billing number restrictions. They are in place in 7 regional health authorities and each region is allocated a certain number of billing numbers. However, restrictions are now much looser than a decade ago. In addition, from September 2008, only 2 two regional health authorities will have billing restriction numbers (New Brunswick Medical Council, personnel communication). Nova Scotia also had billing number restrictions but these were lifted in 2003 (Medical Services Insurance Program Nova Scotia, personnel communication).

209. A relatively similar approach is the establishment of quotas for the number of doctors in Provincial regions. However, with the exception of Quebec no other province has implemented such approach. Quebec through its "Plans Régionaux d'Effectifs Médicaux (PREM)" allows the recruitment of a targeted number of physicians. Figures are reviewed each year and discussed between the *Ministère de la Santé et des Services Sociaux*, and the Medical Association of Quebec. The number of applicants per position varies across Quebec regions with the highest figure in Montreal. While this policy can clearly have an impact on the distribution of doctors, it raises concerns about the liberty of choosing the place to locate to. Also, possibilities of exemption to PREM for certain categories of doctors can limit the effectiveness of this policy (Fournier et al., 2004).

210. Another type of approach is the recognition of new health occupations or the expansion of competencies of existing health workers. For instance, nurse practitioners and physician assistants could in fact play an important role in improving access to basic health services in rural areas. However, the use of these two categories of health personnel is still relatively limited, especially for physician assistants. Until recently, physician assistants were only deployed in Manitoba and most of them were trained in the United States or through the Canadian Forces. However, Manitoba and Ontario have become the first provinces in Canada to train non-military physician assistants with the launch of new programs in September 2008. The University of Manitoba accepted a dozen candidates for a two-year, full-time program.

211. In terms of expanding competencies, Alberta provides an interesting example. There, many family physicians have had additional training in fields such as surgery, anaesthesia or obstetrics and provide these additional skills to their communities. British Columbia Ministry of Health Services provides funding for 18 FTEs for Enhanced Skills per year for Family Physicians to expand their competencies in a number of areas, including emergency medicine, women's health, international health, aesthetics, and Aboriginal health (British Columbia Ministry of Health Services, personal communication).

Remuneration policies

212. Remuneration policies includes a large array of initiatives such as guaranteed minimum income, differential fees, alternative payment system, bonuses, special allowances and on call payments. Although many of these initiatives are common in many provinces, the actual benefits may vary significantly from one province to another. Below are some examples of such initiatives in some provinces.

213. One of the main impediments for new doctors to settle in less populated areas is the fact that they may have difficulties in rapidly reaching a sufficient number of patients to earn a reasonable amount of money, especially taking into account the cost of living. One way to address this problem has been to use alternative payment models, notably salaried employment. Salaried arrangement has another advantage, as many physicians in rural areas are international medical graduates who are not fully licensed in Canada, and therefore not able to practice on a fee-for-service basis. Newfoundland and Labrador, Nova Scotia, Manitoba, or Saskatchewan, for instance, offer salaried employment for general practitioners working in remote communities or for physicians who staff emergency departments in rural areas (CIHI 2005a). In Prince Edward Island, fee-for-service physicians are guaranteed a minimum of C\$ 200 000 in earnings for their first year of practice. In Ontario, physicians in identified communities are eligible for the Rural and Northern Physician Group Agreement (RNPGA), a unique alternative remuneration program. The RNPGA is a physician services funding model for provision of comprehensive care in isolated communities with a designation that depends on the number of physician (1 to 7 physicians). It is a contract between the Ministry, Ontario Medical Association and a group of physicians. RNPGA is available to physicians practicing in one of the 39 northern, underserved communities identified as eligible. Communities are identified as eligible for RNPGA mainly based on their distance to other healthcare services, population, underserved designation which also depends on the number of physician (1 to 7 physicians).

214. Still in Ontario, the Underserved Area Program also offers incentive grant program offers taxable incentive grants ranging between C\$3,000 and C\$10,000 per eligible year, to a maximum of \$15,000 (southern/eastern Ontario) and maximum of C\$40,000 (northern Ontario) paid over a four-year period to each physician who establishes a full-time practice in an area of the province designated as underserved. Finally, after practicing 4 years in northern Ontario, physicians that meet eligibility criteria (including maintaining full hospital privileges, maintaining a full time community practice, etc.) can receive a 7000 C\$ annual grant. These physicians can also be reimbursed up to 2500 C\$ for approved continuing medical education courses and products.

215. In Manitoba, a differential rural and northern fee schedule applies. The remuneration of doctors in rural and northern areas is 5% and 10% higher, respectively (Fournier *et al.* 2004). In British Columbia, a payment premium to certain northern and isolated physicians is carried out (percentage premium on fee for service and lump sum). Also, under the Emergency Medical Coverage Program, doctors benefit, in addition to a fee-for-service, from a guaranteed income of 25C\$ per hour when on duty, and also receive 250 C\$ if they need to visit a patient (Fournier *et al.*, 2004). In Newfoundland and Labrador, a yearly retention bonus of 30 000 C\$ is offered to doctors in rural areas (Fournier *et al.*, 2004).

216. In Quebec family physicians can benefit from two types of premiums, one is the "prime d'installation et de maintien" which is comprised of between 10 000 and 25 000 C\$ yearly, the other is the

"*prime d'éloignement ou d'isolement*" which varies between 4 700 and 16 300 C\$, depending on the location and number of dependants (Fournier *et al.*, 2004). Also, to improve retention, some of the benefits, in particular differential fees, increase over time.

Community

217. Finally, initiatives have also been developed in order to facilitate the integration of physicians in the community. Locum positions, housing subsidies, telemedicine, spousal support and education support for the children are examples of such initiatives.

218. Temporary replacement of doctors in rural communities while they are on holiday or on continuous training or for personal reasons is a common measure adopted across Provinces. For instance, the Rural Relief Program in Saskatchewan, the Locum Tenens Program in Manitoba, and the Locum Contract in Nova Scotia are examples of such programs. Moreover, "sabbatical leave project" of one to three months has also been introduced in one region of Alberta.

219. Also, in rural areas where distance and travel conditions can be difficult, the use of telemedicine can overcome such obstacles and also reduce professional isolation. One example of telemedicine is the North Network in Ontario, which provides specialist consultations, continuing medical education and patient education to rural communities through videoconferencing technology (Pong and Russel, 2003). Telemedicine could be a big boost to rural recruitment but convincing evidence is still limited (Roine *et al.*, 2001; Pong and Russel, 2003).

220. Other efforts focus more on the family, and in particular the integration of the physicians spouse or the education of their children. In Alberta, efforts are made to integrate not only the health workers but also the spouse through the Rural Physician Spousal Programming of the Alberta Rural Physician Action Plan. In Saskatchewan, the government has a plan to spend \$25 million over three years to address the shortage of health-care workers. Under this plan, various programmes have been developed, including the Prairie North Health Region's project of establishing a child care co-operative for health staff.

221. Issues surrounding the integration into the community is also important for recent foreign-trained immigrants, as they may feel, more so than others, the impact of isolation due to the lack of a significant ethnic community, a need to cope with cultural and language differences and because they are generally older and coming with family members. Efforts made by the community to accept and welcome them are crucial for a successful settlement. The role of associations and local institutions is instrumental in this regard. In Newfoundland and Labrador, the Association of New Canadians provides a good example, but there are many across the country.

... and also for nurses.

222. Policies to improve recruitment and retention of nurses in rural areas have also been developed.

223. In terms of education, a survey by Minore *et al.* (2001) shows that although only about half of all nursing programmes offer courses pertaining specifically to rural health, the majority offer courses with at least some rural health content with some programs specifically targeting Aboriginal students. For example, a four-year nursing program based on the University of Saskatchewan curriculum is offered by the Saskatchewan Indian Federated College, gives preference to Aboriginal students and has its clinical settings primarily in rural areas (Kulig *et al.*, 2003). A rural incentive program at Memorial University of Newfoundland and Labrador has also been established and allows the placement of up to 50 bachelor of nursing students in rural locations (Minor *et al.*, 2001).

224. There are also initiatives in the area of continuing nursing education. For example, the Rural Nurse Responder Program in Alberta is a formalized system for providing health advice in rural communities, notably through additional training in emergency skills (Kulig et al., 2003).

225. As for doctors, various financial and non-financial incentives exist for nursing in rural areas. These include retention bonuses, special allowances, loan forgiveness programs, tax reductions, recruiting services and bursaries. For example, Alberta has a C\$ 3 000 bursary in return for one year of service and Saskatchewan allows moving, transportation and winter clothing allowances. The Yukon Territory pays a C\$ 3 000 retention bonus for the first year, and community nurse practitioners receive an additional C\$ per year (Hanvey, 2005).

Integrating and servicing the aboriginal population

226. While it is recognized that the development of Aboriginal Health Human Resources has become essential in reducing the disparities that exist between Aboriginal and non-Aboriginal Canadians both in overall health and access to health care services, as Aboriginal people are under-represented in all health care fields when compared to the general population.

227. The total number of Aboriginal physicians is estimated at 150 (Spenser, 2005), which corresponds to a medical density of 3 Aboriginal physicians per 100,000 Aboriginal population. Moreover, out of the 258,000 registered nurses in Canada, only 1,200 were Aboriginal, whereas to have equal representation as the general population, the number of Aboriginal nurses would need to be around 7,700 (Anderson & Lavallee, 2007)

228. Enrolment figures for Aboriginal students are also low. A review of Canadian medical schools showed that while a percentage of the medical schools have designated seats for Aboriginal applicants and others lower adjusted entrance requirements, the number of Aboriginal medical students were less than 1% of the total number of medical students across Canada in 2003, although they represent 4% of the total Canadian population (Spenser, 2005).

229. The Federal Government in collaboration with Provincial and Territorial partners created the Aboriginal Health Human Resources Initiative (AHHRI) in 2004 which is a C\$ 100 million initiative over 5 years (Health Canada, 2004b). Accomplishments through this program include the development of multi-media career awareness programs for First Nations and Inuit youth and a Bursaries and scholarships made available to Aboriginal youth studying health careers through the National Aboriginal Achievement Foundation, a non profit organization dedicated to raising funds to deliver programs to Aboriginal youth.

230. Canada's medical schools have also made a commitment to aid in bolstering Aboriginal people's participation in health related careers. With the support of Health Canada and the Association of Faculties of Medicine of Canada (AFMC), an Aboriginal Health Task Force (AHTF) was formed to define methods, resources and strategies to increase the number of First Nations medical students, residents and physicians. Also, work has been done by AMFC and the Indigenous Physicians Association to adapt medical schools curricula to help develop more culturally competent physicians.

231. Also, to attract and retain Aboriginal health professionals and students in remote and rural areas, the Indian and Inuit Health Careers Programs has been established by Health Canada. This programme offers bursaries and scholarships, career-related employment opportunities and partnerships with post-secondary institutions to promote community-based activities.

Which policy is best to improve health workforce distribution in underserved areas?

232. Historically foreign-trained health professionals have played an important role in Canada to service rural and remote areas, and they will probably continue to do so. Even if it may be the only solution in the short term, international recruitments are generally a quick fix. But retention of recently arrived IMGs in rural areas is a challenge, especially when they do not originate from rural areas themselves. High turnover entails the constant recruitment of new IMGs, which is costly and disrupting. In addition, the fact that licensure is becoming relatively more accessible to IMGs in most provinces will probably make it more difficult to attract and retain foreign-trained health professionals in rural and remote areas. Mentoring schemes and support from the community, including for the spouse, make a difference but only to some extent. For that reason, other policies should be considered.

233. While different policies have been developed to encourage recruitment and retention in rural areas, estimating their impact is complex. Many factors affect the decision to locate and stay in rural areas, and capturing the impacts of the different policies over time is difficult. Nonetheless, it clearly appears that there is no single “magical bullet” that will enable Canada to satisfactorily improve health workforce distribution in underserved areas (Simoens, 2004). Indeed, various factors are affecting the decision to practise in rural areas and they are relatively well known. They include factors like education, remuneration, practice environment and community involvement (Chan and Barer, 2000; Rourke, 2008).

234. In practice, there is still a heavy reliance on financial instruments which tend to generate mixed results. While they seem to improve recruitment, their effect on medium to long term retention is less convincing (Bourgueil, 2006). Over time, the effectiveness of the financial incentive seems to decrease. This might also be explained by the fact that most return of service programs are time limited as they are on a year for year basis, or else last 3 and 5 years.

235. Also promising is the encouragement of enrolment of medical students from rural background, as individuals from rural background seem more likely to practice in rural areas. However, as it exists at the moment, the applicant pool itself in Canada is not representative of the population and increasing the number of students from underrepresented groups will undoubtedly be a challenging task (Dhalla *et al.*, 2002). Currently, medical students are much more likely to come from urban areas from neighbourhoods with higher family incomes, and be children of well-educated parents. In particular, it was found that there are less than half as many students from rural backgrounds as one would expect, and that Aboriginal students are also underrepresented (Dhalla, *et al.*, 2002). Increasing the number of medical students from rural backgrounds would not only require better targeting to applicants from rural areas, but also enlarging the pool of potential applicants from rural area.

236. While community factors have been shown to be important in the decision to locate and remain in rural areas, they are not yet systematically used on a large scale. They seem to offer a promising potential, and in this context, addressing spousal satisfaction, child-related issues and social isolation are among the areas deserving further attention.

237. Developing successful policies in rural areas is also likely to require more global and collaborative approaches between various sectors, as retention in rural areas is not only a challenge for health workers but also for other professions, such as teachers. A collaborative approach is also likely to create positive synergies. For example, an improvement in teacher recruitment and retention might contribute to facilitating the establishment of health workers with young children in rural areas.

238. Finally, from a policy decision perspective, strengthening implementation capacities in rural areas is also of great importance, as the lack of adequate qualified staff in rural areas, often makes it difficult to accurately respond to policy directions (Bauman *et al.*, 2008).

Conclusion: building a sustainable health workforce in Canada

239. In last 50 years, Canadian health workforce has been characterized by cycles of perceived surpluses and shortages, persisting difficulties in addressing maldistribution issues but also clear commitments by federal and provincial governments to build sustainable health human resources in order to meet the five key principles assigned to the health system: universality, accessibility, portability, comprehensiveness and public administration. In recent years, claims about shortage of health professionals, apprehension about capacity to service rural and remote areas, but also concerns about increasing reliance on the foreign-trained as well as about sustainability of the health care system have resumed in Canada.

240. What is the available evidence on the shortages of doctors and nurses? How can co-operation and planning in the management of health human resources be improved? What role does migration play in shaping the future Canadian health workforce?

Shortage of health workers remains a matter of concern

241. Concerns over shortage of health workers have become a major issue in Canada. In 2002, in a final report on the Health of Canadians, the Standing Senate Committee on Social Affairs, Science and Technology chaired by the honorable M. Kirby, urged for the need to address the shortage of health workers in all health care disciplines, but also recognized the complexity of the issue.

242. Romanow Commission's report echoed these concerns for nurses, and emphasised the potential impact in smaller communities (Romanow, 2002). According to the Canadian Federation of Nurses Unions, if Canada were to have the same ratio of nurses to population in 2002 as it had 10 years before, another 16 000 nurses would be needed (Canadian Nursing Advisory Committee, 2002). A forecasting exercise carried out by the Canadian Nurses Association estimates that the demand for nurses could reach 361 000 nurses by 2016 (compared to about 230 000 in 2001) if one takes into account demographic changes (population growth and ageing). According to this study, estimations of retirement, retention and new inflows into the profession (including about 1 200 internationally educated nurses annually) suggest that Canada will lack about 113 000 nurses by 2016 (CNA, 2002).

243. Whether these numbers are a precise reflection of the problem is disputable. Indeed, as mentioned previously despite the drop in the total number of nurses in the 1990s, Canada still has one of the highest densities of nurses compared to other OECD countries. However, taking into account ageing of the population and of the workforce, studies have indicated that nursing shortages are expected to increase in the forthcoming years (CHSRF, 2006).

244. Shortages tend to be larger in rural areas and in particular practices such as intensive care units. For example, in Manitoba, difficulties in the recruitment of intensive-care nurses have pushed Winnipeg to consider sending patients out of province for care. There is also evidence that the nursing workforce can be used more efficiently, notably by increasing the proportion of registered nurses working full time, reducing absenteeism and improving job satisfaction (Health Canada, 2004a). In 2006, about 2 800 registered nurses were unemployed but looking for employment (CIHI, 2007d)⁵⁷. Furthermore, 82 000 (32.5%) registered nurses were working part time⁵⁸ and 27 400 (11%) were working on a casual basis. Finally, some 4 800 nurses were registered and working abroad, mainly in the United States and many more Canadian trained nurses were living abroad without maintaining a Canadian license.

⁵⁷ Additional 10 500 nurses were not employed but registered.

⁵⁸ The corresponding figure for Canadians working outside health reaches 26%.

245. Attrition of the nursing workforce is indeed a serious issue, including among young cohorts. According to CIHI (2006b) more than 10% of the registered nurses aged 25 to 34 did not renew their license between 2003 and 2004 in Alberta (10%), Newfoundland and Labrador (10.5%), British Columbia (12%) and Prince Edwards Island (13.4%)⁵⁹. Efforts to make better use of these potential human resources are critical to cope with future needs.

246. In the case of doctors, increased waiting times and greater difficulties for Canadians to find a family physician are two illustrations of the growing concerns about shortages. In 2004, federal, provincial and territorial governments made commitments to address this issue. As a result of these commitments, the Government of Canada is flowing \$41.3 billion in incremental funding to provinces and territories over ten years to support timely access to quality care. Undoubtedly, there has been progress in reducing wait times for some health care services in some areas of Canada but in 2005 Canadians still reported waiting about four weeks on average to see a specialist (Health Council of Canada, 2007).

247. The Romanow report pointed out that access to physicians varies significantly across the country and that some communities may not have full access to all health care services because they lack the necessary health care providers. Discussions on shortages are however difficult and often controversial as there is no clear agreement on how to define and measure shortages. This is illustrated with the recent survey carried out by the Canadian Medical Association Journal (CMAJ) to document potential physician shortages. While all 27 specialty groups registered with the Royal College of Physicians and Surgeons which participated to the CMAJ survey reported current shortages, only 13 had actually done studies over the past decade, and of the later, only 6 could quantify their existing shortages (Howell, 2008).

248. Nonetheless, at provincial level, concerns about current and future shortages have been illustrated in different occasions. In Alberta, for instance, it is estimated that about 1 100 physicians were lacking in 2006 and that 1 800 will be lacking by 2016 (PRPC, 2006). In Ontario, the Expert Panel on Health Professional Human Resources indicated that by 2010 there will be a shortage ranging from 1 370 to 3 360 physicians (Expert Panel on Health Professional Human Resources, 2001). In Quebec in 2007, 20% of the specialists (2 000 persons) and about 10% of the family physicians (900 persons) were already over 65 (CMQ, 2007) while the current needs have been estimated at about 1 000 specialists and 800 general practitioners.

249. For Canada as a whole, the Canadian Medical Association estimates that, at current training levels *ceteris paribus*, density of doctors will grow from about 2‰ in 2007 to 2.5‰ in 2030. When the ageing population is factored in, and taking into account the fact that physicians tend to work fewer hours, the full time equivalent to population ratio starts at 1.4‰ in 2007, improves slightly until 2020 and returns close to the 2007 figure by 2030. This result assumes that the current efforts made to strengthen medical education will at minimum be maintained throughout the period (Buske, 2007).

250. Perceived shortage of family physicians are particularly widespread (Box 6), although not new. By the early 1970s, there was a consensus that Canadian medicine had become too specialized and a shift towards general practice was becoming more desirable (Leclair, 1975). Between 1968 and 1974 the observed increase in the number of practicing physicians, did not influence the relative distribution between family physicians and specialists which remained quite stable at around 50% (Canadian Labour and Business Center - Canadian Policy Research Networks, 2005; Roos et al., 1976). Recently, efforts have been made to increase education and training (Chart 31), but it seems that this approach is reaching its limits as for two consecutive years, not all available postgraduate positions in family medicine were filled.

⁵⁹ However, interprovincial migration is important to consider in the context of non-renewal, as licensure differs between the provinces and territories. This is especially true in the lower age groups.

251. Family doctors are at the front line of the Canadian healthcare system. Yet, continuous reporting about difficulties to access to general practitioners, particularly in some areas, challenges to a certain extent the accessibility principle and raises questions in terms of efficiency. While international recruitments may appear as a solution in the short term, structural imbalances would need to be addressed through a proper set of incentives, including in terms of remuneration.

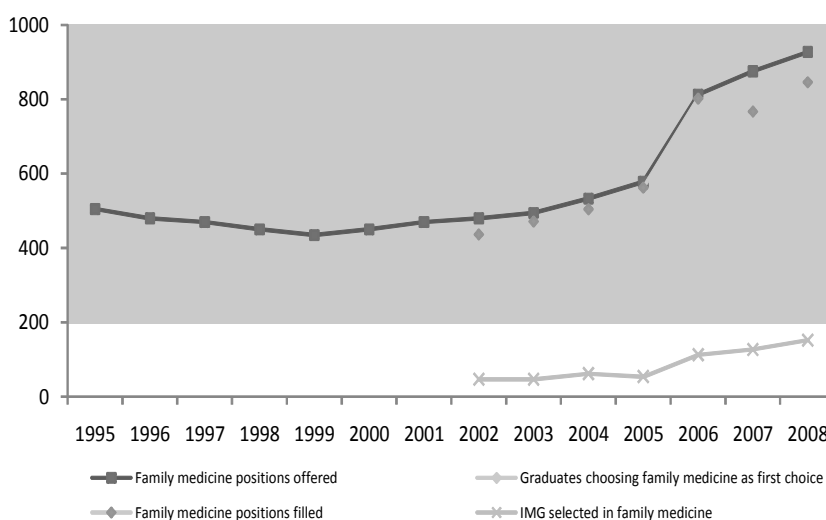
Box 6. Myth and reality: Is there really a shortage of family doctors?

Discussions about family doctor shortages are capturing increasing attention especially in regards to the issue of the number of Canadians without a family doctor. In 2007, it was identified that 14 % of Canadian adults (5 million Canadians) do not have a family physician, although 75% of those without their own family doctor do report having a regular place to go if they are sick or need advice about their health (Health Council Canada, 2008). In total, only 4% of Canadian adults report having neither their own family doctor nor a regular place of care.. Also, in 2004, 60% of practicing family physicians, including young physicians, were seeing few or no new patients (National Physician Survey, 2005).

While there is a general recognition in the difficulty to find a family physician, information about the actual shortages of family physicians is rather scarce. Nonetheless, the College of Family Physicians of Canada has stated that Canada requires a total of 3 000 more family physicians alone to meet current demand (Howell, 2008), even if between 1985 and 2005, the total number of general practitioners and density have increased. Some argue that the perceived lack of doctors may reflect a shortage of physician services due to a declining average clinical workload per physician rather than the number physicians per se (Evans and McGrail, 2008). Actually, the average weekly hours worked per physician on direct patient care decreased from 35.6 hours in 1997 to 33.3 in 2007.

In this context one issue that has attracted some attention is the fact that the proportion of medical students selecting family medicine as a first choice for a residency has decreased over the past decade (Sullivan, 2006). Nevertheless, the number of available positions has increased substantially since 2005 and most places are matched, including by IMGs (Chart 31). In 2007 and 2008, however, 108 and 81 positions in family medicine were not filled. This might appears as a limit for future increases in post graduate training in family medicine.

The debt load has been found to play a role for the choice of residency discipline. According to the 2006 survey of the Canadian Association of Interns and Residents, about 30% of the respondents recognized that debt load played an important role for the choice of discipline (Sullivan, 2007). Of those, 33% said they chose specialty training over a family medicine residency for this reason, and 20% said they chose a specialty that provided greater potential to earn because of the debt they had accrued. In this context, the fact that the earning differential between family doctors and specialists has increase overtime (see part I) may require more attention.

Chart 31. Yearly new residents selected in family medicine, Canada, 1995-2008

Source: Residency Match Reports, CARMS

Taking-up the challenge of health workforce planning

252. Planning health labour supply is not an easy task and no country has found the key to solving on the long run disparities between health workforce supply and demand (Kolars, 2001). There are indeed many examples of prophecies of shortages or over-supply which have never materialized.

253. In the Canadian context, several factors contribute to make planning a particularly challenging exercise. One is related to the fact that Canada is a federal State with 14 interlocking health systems (10 provincial, three territorial and one federal) (Rowan, 2002). Provincial and territorial governments are responsible for the management, organization and delivery of health services for their residents. With regards to health human resources this includes planning, education and training, registration, recruitment as well as human resources management. While efforts have been undertaken to improve collaboration in health workforce planning between Federal, Provincial and Territorial governments, competition between provinces to attract and retain doctors and nurses continues. However, the situation of Canada is not an exception in that respect. Federal states like Switzerland, Germany, the United States, or Australia also face collaboration and coordination challenges among their different health authorities. Canada has already considered these international experiences with some attention (Mable and Mariott, 2001).

254. Another difficulty for Canada, lies in the fact that new intakes of immigrants make a significant contribution to the labour market every year. In 2006, international migration accounted for two third of Canadian population growth. Around 2030, deaths are expected to start outnumbering births, and from that point forward immigration would be the only growth factor for the Canadian population (Statistics Canada, 2008b). Furthermore, even if Canadian migration policy gives an increasing role to labour market needs, it does not select immigrants primarily on the basis of their occupation. Tools that have been applied in the past to try to fine tune immigration according to future labour market needs proved their limits. In this context, it might be difficult to anticipate the exact number of health workers, of each type, who will be available to practice in Canada at any given point of time. Distribution of immigrants across provinces and lags between landing and entry into the workforce, due to the need to undertake bridging programmes, add further complexities. In this context, any hypothesis on migration will be crucial for planning but will also be highly hypothetical.

255. Canada has a long experience in planning in the field of health human resources (Canadian Policy Research Network, 2002; Wranik 2008). Over time different types of approaches have been used, which usually produce quite distinct results (Roos et al. 1998; O'Brien-Pallas, 2001). Models for forecasting and data collection improved over time but still largely rely on counting the numbers of personnel relative to a given population and projecting forward to calculate future needs. For instance, supply-based forecasting models count the number of at any given moment and project forward in time based on maintaining the level of resources (Lomas et al., 1985). Utilization-based forecasting attempts to match the counting exercise with some measure of population service use. Under this approach, desirable physician to population ratios are derived and used as a benchmark. Such approaches have met with increasing level of criticism regarding their ability to account for the dynamics of the health workforce supply and their ability to capture the number of health workers needed to meet population health needs (Canadian Policy Research Network, 2002).

256. The Task Force Two on physician workforce identified various gaps in physician planning in Canada, including data and research gaps, as well as a lack of permanent policy and planning structure to address a wide range of physician supply and demand issues such as education, migration and organizational dynamics. Regarding the demand side, the lack of attention to health needs of the population has been perceived as a factor aggravating boom and bust cycles (Murphy and O'Brien-Pallas, 2002).

257. Learning from these lessons, there is now a growing consensus towards a needs-based and outcomes-directed health workforce planning which accounts from broader social, political, economic, geographic and technological influence on the health system (O'Brien-Pallas et al., 2007; Birch and al; 2007). Under these approaches, there is a recognition that changes in population health needs over time are complex and that projections of population healthcare needs must not assumed to be constant over time. The needs-based forecasting models for instance estimate the health human resources that will be required to meet all health care needs, assuming cost effective methods of addressing the needs⁶⁰.

258. In the 2003 First Minister's Accord on Health Care Renewal, the provinces, territories and federal government made a commitment to work together to improve health human resources planning. Canada has already had some experience and success with collaborative health workforce planning, notably at regional level. For instance, the Atlantic Provinces (Nova Scotia, Newfoundland & Labrador, Prince Edward Island, and New Brunswick) are working together to develop current and future health human resources⁶¹. Similarly, since 2002, the ministries of health and post secondary education in the Western Provinces (British Columbia, Alberta, Saskatchewan, and Manitoba) and the Northern Territories (Yukon, Northwest Territories and Nunavut [since 2005]) have been collaborating within the Western & Northern Health Human Resources Planning Forum (ACHDHR 2005).

259. In September 2005, the Advisory Committee on Health Delivery and Human Resources (ACHDHR) has developed an Framework for collaborative pan-Canadian health human resources planning which is based on three key objectives: (i) overcome barriers to implementing system-design, population needs-based planning; (ii) avoid the risks and duplication associated with the current jurisdiction-by-jurisdiction planning approach; (iii) and increase their health workforce planning capacity⁶².

⁶⁰ Other approaches such as effective demand based forecasting or system-based forecasting have been developed. For a short presentation of all these different approaches see instance CIHI (2002).

⁶¹ The Atlantic Advisory Committee on Health Human Resources (AACHHR), assesses the adequacy of health education and training programmes in the region in relation to the demand. Each province has completed a labour market analysis to determine current and future supply and demand for 30 health occupations based on the current health care system.

⁶² www.hc-sc.gc.ca/hcs-sss/alt_formats/hpb-dgps/pdf/pubs/hhr/2007-frame-cadre/2007-frame-cadre-eng.pdf

260. Improving data collection on health human resources is instrumental to this objective. Canada has undoubtedly developed one of the most advanced and efficient information systems of health human resources of the OECD. CIHI and CAPER databases, cover a wide range of health professions, and provide timely and accurate data and analysis for policy makers and researchers. Building on this experience is key, but sharing information on current and future trends in one thing, while overcoming the tensions that are increasingly apparent between provinces to attract and retain health workers is probably another. Increasing cooperation between all stakeholders seems the only way forward if one wants to avoid replicating some of the disruptive migration movements that have been observed at international levels, within Canada. In other words to avoid cases where active recruiting from one province to another jeopardize the sustainability of provincial health workforce as well as to avoid the temptation for “free rider” types of behaviour in terms of investments in education and training.

261. One way to strengthen the collaboration between provinces and territories would be to impose conditions on some federal funding to provinces or to develop other mechanisms to insure that provinces devote sufficient resources in medical and nursing education to meet their needs.

Moving towards self-sufficiency

262. A growing consensus is emerging in Canada for achieving a greater health workforce self-sufficiency. The Kirby report (2002) has stated that “*one of the major consequences of the growing world-wide shortage of health human resources is that Canada must develop a strategy to enable the country to become self-sufficient in health human resources*” (pp188). More recently, self-sufficiency has been identified as one of the key principles of the federal–provincial–territorial Framework for Collaborative Pan-Canadian Health Human Resources Planning (2005). What does self-sufficiency means exactly in the Canadian context, however, remains unclear.

263. Different interpretations can be given to self-sufficiency. A first approach would suppose no need to recruit internationally. This is more or less what has happened in the 1990s, when Canada had a perfect match between the number of new medical graduates and available positions in postgraduate training; the consequence being that there was almost no room left for foreign-trained doctors to enter the Canadian education system. While such an approach gives a strong signal, one might wonder if this is appropriate in the Canadian context where immigration plays an important role in most sectors of the economy. Furthermore, applying “self-sufficiency” solely to health workers necessarily rise controversies as well as inefficiencies.

264. Less radically, self-sufficiency could mean avoiding being dependent on foreign-trained health workers to deliver health services. From that perspective, few OECD countries would be self-sufficient as migrant doctors and nurses generally play a key role in servicing rural and remote territories or insuring continuity of service for instance during night shifts or week-ends (Dumont and Zurn, 2007). Addressing the need for health care workers in less attractive positions or locations is a challenging task and, as seen before, no single policy will make a difference alone. Increasing education and providing fiscal incentives are important but insufficient policy responses. Indeed, in Canada as well as in other OECD countries, it is most likely that migrant doctors and nurses will continue to play a role in this context.

265. In the case of doctors, self-sufficiency could also simply require to reconcile the accessibility to postgraduate education for IMGs with the relative importance of overall migration in the country or, in other words, to insure that a minimum percentage of residency seats are made available to IMGs⁶³. This looks like a reasonable way to reconnect migration and health workforce management, without jeopardising the quality of the Canadian health care system or the efficiency of the migration system.

⁶³ Whether these positions will be filled or not, will obviously depend of the ability of the candidates to match Canadian standards.

266. Along these lines, in 1999, the Canadian Medical Task Force One recommended increasing the number of postgraduate training positions to a ratio of 120 positions for every 100 graduating Canadian medical students⁶⁴. The recent increases in post graduate training positions available for IMGs partially close the gap with this objective, and in 2008, IMGs, have obtained about 14% of all matches in CaRMS (353 IMGs and 2114 CMG). However, no clear commitment has been made so far regarding the recommendation of Task Force One to have 20% of positions available for IMGs.

267. Taking into account current enrolment levels in medical schools, in four years from now, there will be about 500 more Canadian graduates every year seeking a residency position. Significant investments will therefore be required to finance these additional positions. Reaching the 20% target would imply to offer about 620 first year postgraduate positions for IMGs and thus more than 3 100 in total by 2012 (2 900 if maintaining the 14% ratio). Whether this is more than the needs or more than Canada can afford remains disputable, but challenging the recent efforts made to improve access for IMGs to residency positions in order to finance the lag effects of increased enrolment in Canadian medical school would not be the solution.

Learning from the past

268. Had this report been written 5 years ago, it would have emphasized the issue of recognition of foreign qualification as one of the most critical in the Canadian context, even more so because immigration rules were just relaxed to permit permanent migration of doctors and nurses. In more recent years efforts have been dedicated to help internationally educated health professionals to find their way into the Canadian educational pathway. The number of positions for IMGs in postgraduate training has been increased significantly and more bridging programmes are now available for both doctors and nurses.

269. Should this report have been written one year ago, it would not have taken into account the recent changes both in the migration policy, which tend to put more emphasis on occupational shortages, and in registration systems which tend to develop further temporary schemes. These changes may contribute to drive future immigration trends of health professionals to Canada.

270. Today, the main concern in terms of health human resources seems to have turned back to shortages, notably for nurses and family physicians, but more generally in rural and remote areas and in the provinces that are benefiting the most from economic growth. As a result, competition between provinces and territories to attract and retain health professionals is increasing.

271. Enrolment rates in medical school have been increased substantially which will contribute to scale up the health workforce in a couple of years from now, but in the meantime international recruitments of health professionals are already responding to emerging needs with increasing trends. Entry of permanent migrants intending to work as a doctor have increased more than threefold between 2002 and 2006, when temporary migration was also increasing (+12%).

272. The conjunction of these changes could remind us of what happened in the 1960s, which led to major increases in enrolment, large inflows of migrant doctors and nurses, increasing imbalances between provinces and areas, followed by drastic limitations on new inflows of foreign-trained health professionals and significant cuts in education. A succession of overreactions had paved the way to new imbalances twenty to thirty years later. It has also contributed to build a stock of IMGs seeking for a way to registration and credential recognition in Canada. Is *“Canada beginning the same physician supply cycle again 40 years on”* as claimed by Evans and McGrail (2008)?

⁶⁴ This ratio was also intended to give flexibility for Canadian medical graduates and to provide re-entry training opportunities.

273. Well, if the risk of overreacting to current shortfalls can surely not be ruled out (Dauphinee 2006), the situation is also quite different today from what it was a few decades ago. First, much better data are available and constant monitoring of health human resources is occurring. Second, important efforts have been devoted to improve the cooperation between provinces in the management of health human resources. Third, high level political commitments have been made, at both the federal and provincial levels, to improve access of IMGs to the education system.

274. If these changes will be sufficient to avoid a repetition of history, however, remains to be seen. Experience shows that fine tuning of supply to demand of health human resources is a challenge that can only be addressed with long term financial commitments, continuous monitoring of the health labour market, coordination between all stakeholders and paying particular attention to policy response processes.

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ANNEX 1: PROVINCE PROFILES

Alberta

Health workforce indicators

		1990	1995	2000	2005	
Doctors	nb of physicians per 1000 pop.	1.9	1.9	1.9	2.2	
	% IMG	30.9%	27.5%	26.5%	26.1%	
	Nb of IMG	1284	1223	1320	1614	
	Graduates	190	181	179	230	
	Total nb of residents R1	159	187	194	275	
	IMG in PGY1	CC/FR	9	2	7	43
		Visa	1	2	8	16
	New registrations	CAN	142	95	103	176
		USA	*	0	0	*
		IMG	54	14	14	75
	Total	196	109	117	251	
	Net interprovincial migration	17	-31	16	30	

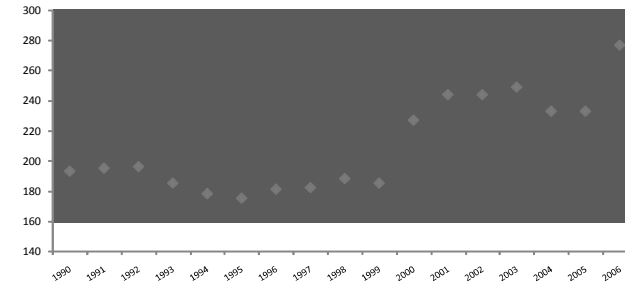
		1990	1995	2000	2005
Registered Nurses	nb of nurses per 1000 pop.	7.4	7.7	7.3	7.9
	% IEN	8.3%	10.5%		4.7%
	Nb of IEN	1586	79		1166
	Graduates			559	1077
	New registrations	CAN	1060	225	516
USA		*	*		
IEN		14			8
Pharmacists	Nb of pharmacists per 1000 pop.	0.88	0.92	0.96	1.05
	New registrations	113	102	104	97
Dentists	Nb of dentists per 1000 pop.	0.53	0.54	0.54	0.55
	New registrations	81	38	33	46

Note. Data on doctor density include residents and interns
 Number of IMGs does not include US graduates. Data on IMG in PGY1 refer to IMGs matched in the Carms system for the year R1
 Data related to IMG new registrations do not include doctors whose country of training is unknown
 Figures of total new registrations could be underestimated by 1 or 2 units
 Medical graduate refers to a MD degree awarded by a Canadian University
 Density of nurses refers only to nurses employed in the nursing sector International educated nurses data do not include US graduated nurses and nurses whose country of training is unknown
 * Value suppressed in accordance with CIHI privacy policy; cell value is from 1 to 2.
 * Represents 2005 or latest year available.
 Sources: CARMS, CAPER, CIHI, Canadian Nurses Association

Recognition of foreign qualifications and specific paths to registration for IMG's

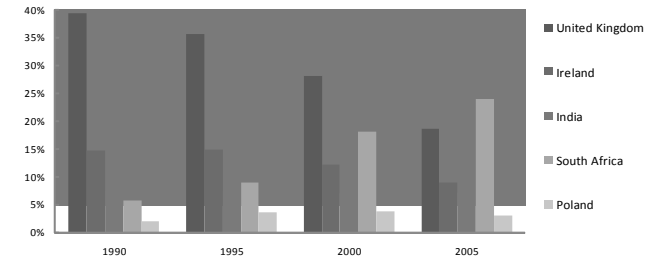
ALBERTA	Eligibility	Length of Program	Supervision	Return to Service Agreement	Next Step
Special Register Part 1 Conditional Non-Specialty Practice	For physicians who hold the Licentiate of the Medical Council of Canada (LMCC). Registration is for the purpose of conducting a general/family medicine practice in a specified community. Must have a degree from a medical school listed in the WHO directory and have 24 months of approved postgraduate training.	no limit	3 months supervision and sponsored throughout register	No (Work in specified community)	Full license but not required
Special Register Part 2 Conditional Defined Practice	For physicians who hold the Licentiate of the Medical Council of Canada (LMCC). Registration is for the purpose of conducting a medical practice limited to the activities of a specialty discipline in a specified practice setting. Must have a degree from a medical school listed in the WHO directory and have Canadian equivalent specialty training.	no limit		No (Work in specified community)	Full license but not required
Special Register Part 5 Provisional Practice	For physicians who do not hold the Licentiate of the Medical Council of Canada (LMCC). Registration is for the purpose of practicing medicine in a community designated as having an emergency requirement by the Alberta Minister of Health. For family physicians preference is given to those with 24 months of post graduate training and they must hold the MCCEE. For specialists preference is given to those with a specialist certification from a country with a similar health care system. To transfer Register Part 1 or 2 the LMCC is required.	30 months	3 months supervision and sponsored by a regional health authority	No (Work in an emergency need region)	Full License but not required or Special Register Part 1 or 2
Main Programs and Websites College of Physicians and Surgeons of Alberta		www.cpsa.ab.ca			

Medical school first year enrolment, 1990-2006, Alberta



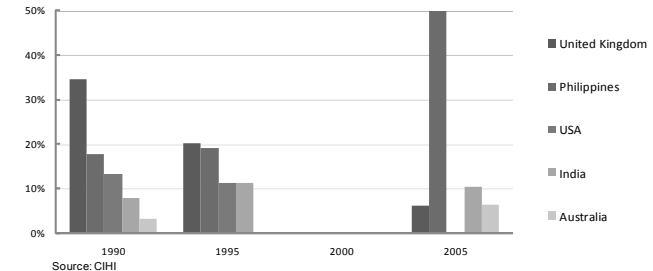
Source: AFMC

Top 5 countries where foreign-trained doctors received medical training 1990-2005, Alberta



Source: CIHI

Top 5 countries where foreign-trained nurses received nursing training, 1990-2005, Alberta



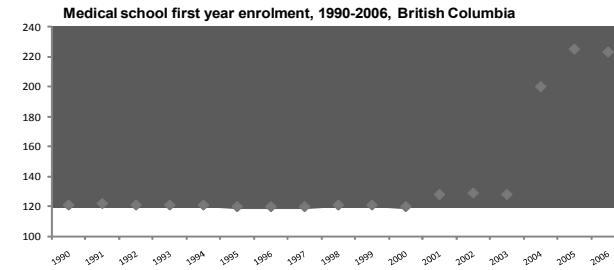
Source: CIHI

British Columbia

Health workforce indicators

		1990	1995	2000	2005 ¹	
Doctors	nb of physicians per 1000 pop.	2.1	2.0	2.1	2.2	
	% IMG	29.8%	28.3%	26.8%	26.5%	
	Nb of IMG	1895	2044	2101	2227	
	Graduates	113	120	123	131	
	Total nb of residents R1	119	132	127	195	
	IMG in PGY1	CC / FR	7	3	4	7
		Visa	1	6	14	9
	New registrations	CAN	187	113	183	189
		USA	5	*	**	14
		IMG	46	41	60	133
Total		238	154	243	336	
Net interprovincial migration		113	76	52	125	

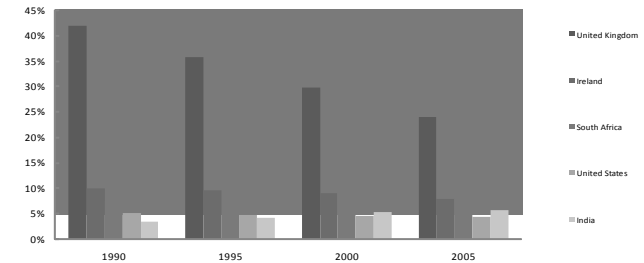
		1990	1995	2000	2005 ¹
Registered Nurses	nb of nurses per 1000 pop.	7.4	7.1	6.8	6.5
	% IEN	1.3%	2.1%	13.2%	14.6%
	Nb of IEN	264	487	3671	4048
	Graduates			445	892
	New registrations	CAN	1010	632	391
USA		6	*	6	**
IEN		6	*	9	14
Pharmacists	Nb of pharmacists per 1000 pop.	0.72	0.73	0.80	0.91
	New registrations	121	108	135	145
Dentists	Nb of dentists per 1000 pop.	0.68	0.59	0.66	0.67
	New registrations	39	52	46	55



Source: AFMC

Note. Data on doctor density include residents and interns
 Number of IMGs does not include US graduates. Data on IMG in PGY1 refer to IMGs matched in the Carms system for the year R1
 Data related to IMG new registrations do not include doctors whose country of training is unknown
 Medical graduate refers to a MD degree awarded by a Canadian university
 Density of nurses refers only to nurses employed in the nursing sector
 International educated nurses data do not include US graduated nurses and nurses whose country of training is unknown
 * Value suppressed in accordance with CIHI privacy policy; cell value is from 1 to 2. ** Cell value is from 3-4
 * Represents 2005 or latest year available.
 Sources: CARMS, CAPER, CIHI, Canadian Nurses Association

Top 5 countries where foreign-trained doctors received medical training 1990-2005, British Columbia

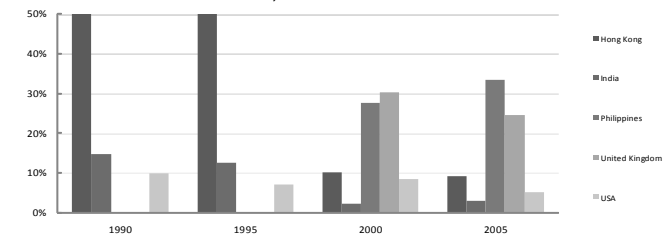


Source: CIHI

Recognition of foreign qualifications and specific paths to registration for IMG's

BRITISH COLUMBIA	Eligibility	Length of Program	Supervision	Return to Service Agreement	Next Step
Temporary Registration (Family practitioners and specialists)	Candidates are deemed eligible by the CPSBC to write the LMCC exams. Applicants must have a medical degree and postgraduate training that is approved by council. To obtain temporary licensure in BC, a job offer from an underserved community, which has been unable to attract a suitable Canadian candidate is required. Temporary licenses may be renewed annually and physicians are expected to aspire to complete the requirements for full licensure. Must pass MCCEE in 1 year and LMCC within 3 years.	1 year license with opportunity for renewal	Under supervision of a fully licensed physician	No (underserved area until they gain full licensure)	Full license
Main Programs and Websites	The College of Physicians and Surgeons of British Columbia IMG BC Health Match BC		www.cpsbc.ca www.imgbc.med.ubc.ca www.healthmatchbc.org		

Top 5 countries where foreign-trained nurses received nursing training, 1990-2005, British Columbia



Source: CIHI

Manitoba

Health workforce indicators

		1990	1995	2000	2005*	
Doctors	nb of physicians per 1000 pop.	2.1	2.0	2.1	2.1	
	% IMG	34.6%	32.8%	31.7%	27.1%	
	Nb of IMG	669	646	657	569	
	Graduates	86	85	74	82	
	Total nb of residents R1	14	9	17	35	
	IMG in PGY 1	CC / PR	14	7	9	26
		Visa	0	2	8	9
	New registrations	CAN	74	60	50	38
		USA	*	*	0	*
		IMG	56	27	37	21
Total		130	87	87	59	
Net interprovincial migration		-28	-15	-11	-28	

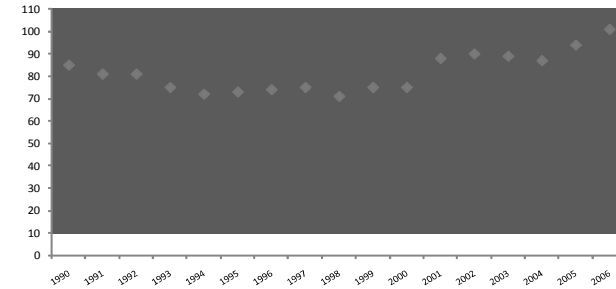
		1990	1995	2000	2005*
Registered Nurses	nb of nurses per 1000 pop.	8.8	9.0	8.8	9.6
	% IEN	6.2%	5.2%	4.2%	6.1%
	Nb of IEN	601	533	427	657
	Graduates			146	338
	New registrations	CAN USA IEN	445	379	1126
*			**	*	*
*			***	**	**
Pharmacists	Nb of pharmacists per 1000 pop.	0.72	0.76	0.78	0.98
	New registrations	41	44	42	45
Dentists	Nb of dentists per 1000 pop.	0.48	0.48	0.49	0.49
	New registrations	28	30	26	33

Note. Data on doctor density include residents and interns
 Number of IMGs does not include US graduates. Data on IMG in PGY1 refer to IMGs matched in the Carms system for the year R1
 Data related to IMG new registrations do not include doctors whose country of training is unknown
 Figures of total new registrations could be underestimated by 1 or 2 units
 Medical graduate refers to a MD degree awarded by a Canadian University
 Density of nurses refers only to nurses employed in the nursing sector
 International educated nurses data do not include US graduated nurses and nurses whose country of training is unknown
 * Value suppressed in accordance with CIHI privacy policy; cell value is from 1 to 2. ** Cell value is from 3 to 4. *** Cell value is 5 or greater
 * Represents 2005 or latest year available.
 Sources: CARMS, CAPER, CIHI, Canadian Nurses Association

Recognition of foreign qualifications and specific paths to registration for IMG's

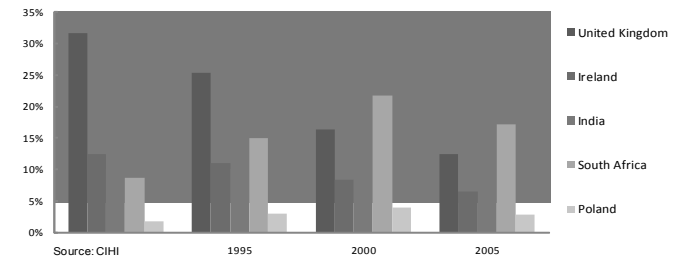
MANITOBA	Eligibility	Length of Program	Supervision	Return to Service Agreement	Next Step
Conditional Registration	Applicants must hold a pass standing of the MCCQE or Part 1 or Part 2 or both of the MCCQE and completed an assessment process acceptable to the College. Applicants must also have postgraduate training deemed acceptable by the College. Requires that the physician practice in an under-serviced area of the province (as declared by the provincial Minister of Health) under specified terms and conditions which include a medical practice advisor.	5 years to complete LMCC and 7 years to obtain Certification	practice supervisor (full term) and mentor (1 year)	No (restricted to underserviced area until full license)	Full license
The Medical Licensure Program for International Medical Graduates (MLPIMG)	This process includes written and oral examinations as well as a clinical assessment using the CAPE process. MLPIMG is a program established to assist physicians applying for conditional registration in obtaining licensure (general practice) in the province of Manitoba who may not meet the postgraduate clinical training requirements or where enhanced training is required. Candidates may apply for conditional registration with the College of Physicians and Surgeons of Manitoba following satisfactory completion of the one year MLPIMG. Preference given to applicants who have demonstrated residency in Manitoba of over 6 months duration.	enhanced training must be completed in max 1 year	monitoring program	N/A	Apply for Conditional Registration
Temporary Registration	Applicants must be a person who was previously registered on the Manitoba Medical Register or who is fully registered and in good standing in another Canadian jurisdiction and is issued a certificate from the Minister of Health stating that the physician is required to provide medical services in a specified community or practice setting. Mostly used for locums.	granted for one or more periods of 18 months	May include a monitoring program	No (Under-serviced area for 12 mths within an 18 mth period)	Can keep renewing temp license
Main Programs and Websites College of Physicians & Surgeons Manitoba		http://www.cpsm.mb.ca			

Medical school first year enrolment, 1990-2006, Manitoba



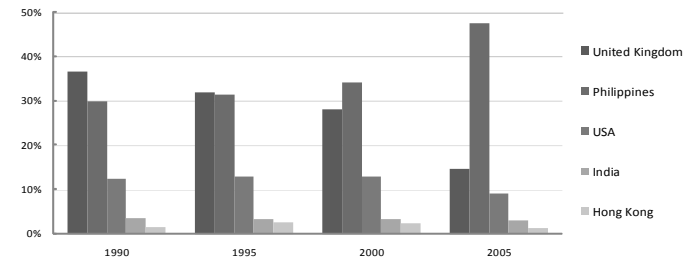
Source: AFMC

Top 5 countries where foreign-trained doctors received medical training 1990-2005, Manitoba



Source: CIHI

Top 5 countries where foreign-trained nurses received nursing training, 1990-2005, Manitoba



Source: CIHI

New Brunswick

Health workforce indicators

		1990	1995	2000	2005*	
Doctors	nb of physicians per 1000 pop.	1.3	1.5	1.5	1.7	
	% IMG	26.1%	23.7%	20.5%	21.6%	
	Nb of IMG	254	262	236	278	
	New registrations	CAN	41	26	16	35
		USA	0	0	0	*
		IMG	6	10	7	18
Total	47	36	23	53		
Net interprovincial migration		-11	16	-11	-13	

		1990	1995	2000	2005*
Registered Nurses	nb of nurses per 1000 pop.	9.2	9.9	9.7	10.0
	% IEN	0.3%	0.8%	0.5%	0.6%
	Nb of IEN	18	60	32	47
	Graduates			134	328
	New registrations	CAN USA IEN	104 72 159	72 159 244	
Pharmacists	Nb of pharmacists per 1000 pop.	0.55	0.63	0.76	0.83
	New registrations				
Dentists	Nb of dentists per 1000 pop.	0.31	0.33	0.35	0.40
	New registrations				

Note. Data on doctor density include residents and interns

Number of IMGs does not include US graduates

No medical education for doctors is provided for the province of New Brunswick

Data related to IMG new registrations do not include doctors whose country of training is unknown

Figures of total new registrations could be underestimated by 1 or 2 units

Medical graduate refers to a MD degree awarded by a Canadian University

Density of nurses refers only to nurses employed in the nursing sector

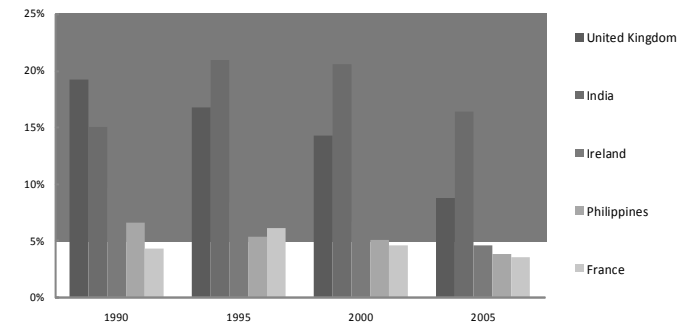
International educated nurses data do not include US graduated nurses and nurses whose country of training is unknown

* Value suppressed in accordance with CIHI privacy policy; cell value is from 1 to 2.

+ Represents 2005 or latest year available.

Sources: CAPER, CIHI, Canadian Nurses Association

Top 5 countries where foreign-trained doctors received medical training 1990-2005, New Brunswick



Source: CIHI

Recognition of foreign qualifications and specific paths to registration for IMG's

NEW BRUNSWICK	Eligibility	Length of Program	Supervision	Return to Service Agreement	Next Step
Restricted Registration Public Service License	A restricted license is available in very limited circumstances, for certain foreign-trained physicians for direct employment by a hospital or institution. There are no specific prerequisites for such licensure. Each application is dealt with on an individual basis. Most such licenses have been granted to specialists, although a small number of family physicians have been accepted. The process of assessment for suitability for licensure varies with the physician's background. In some cases, external assessment tools, such as CSAT, are used. In other cases, an interview process or probationary period of observation may be arranged.	1 year	Work within a department but no direct supervision	No	Full license
Main Programs and Websites	The College of Physicians and Surgeons of New Brunswick www.cpsnb.org The New Brunswick Department of Health and Wellness www.gnb.ca				

New Foundland and Labrador

Health workforce indicators

		1990	1995	2000	2005
Doctors	Nb of physicians per 1000 pop.	1.9	2.0	2.1	2.3
	% IMG	50.2%	46.9%	43.0%	36.8%
	Nb of IMG	461	439	396	365
	Graduates	56	63	60	63
	Total nb of residents R1	66	56	43	61
	IMG in PGY1	4	6	8	8
	CC / PR				
	Visa				
	New registrations	CAN 21	18	27	23
		USA 5	0	0	0
	IMG 40	23	54	15	
	Total 66	41	81	38	
	Net interprovincial migration	-52	-34	-50	-28

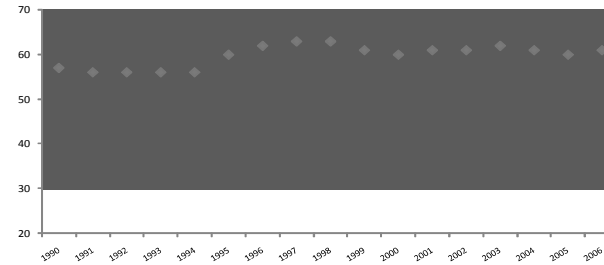
		1990	1995	2000	2005
Registered Nurses	Nb of nurses per 1000 pop.	8.3	9.2	10.3	10.7
	% IEN	3.9%	2.8%		1.7%
	Nb of IEN	188	146		93
	Graduates			170	197
	New registrations	CAN 270	198	235	196
	USA				
	IEN 15				
Pharmacists	Nb of pharmacists per 1000 pop.	0.71	0.86	0.98	1.14
	New registrations	25	33	38	35
Dentists	Nb of dentists per 1000 pop.	0.25	0.25	0.31	0.33
	New registrations				

Note. Data on doctor density include residents and interns. Numbers of IMGs do not include US graduates. Data related to IMG new registrations do not include doctors whose country of training is unknown. Medical graduates refers to a MD degree awarded by a Canadian university. Data on IMG in PGY1 refer to IMGs matched in the Carms system for the year R1. Density of nurses refers only to nurses employed in the nursing sector. International educated nurse data do not include US graduated nurses and nurses whose country of training is unknown. Sources: CARMS, CAPER, CIHI, Canadian Nurses Association

Recognition of foreign qualifications and specific paths to registration

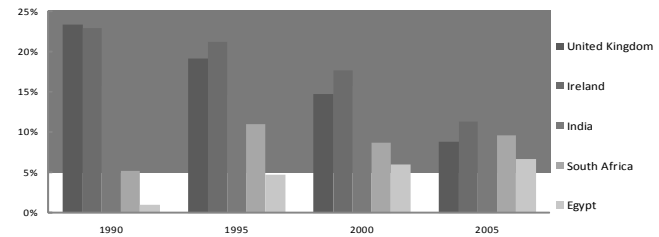
NEWFOUNDLAND	Eligibility	Length of Program	Supervision	Return to Service Agreement	Next Step
	Graduate of a school or faculty of medicine, which is listed with the World Health Organization or FAIMER/IMED Directory of medical schools. Must have a minimum of one year postgraduate training acceptable to the medical board. In the opinion of the board, must have practiced primary care without significant interruption in practice and has passed the MCCEE or Part 1 of the MCCQE. Specialists must have a 4 years of postgraduate training and be eligible to take the RCPSC certification or have passed a specialist higher qualification examination administered by a medical authority responsible for specialist training in the country where the applicant completed postgraduate training.	GP's Must obtain Licentiate of the Medical Council of Canada within 3 years			Full License
CSAT - Clinical Skills Assessment and Training Program	CSAT - Clinical Skills Assessment and Training Program - if they pass successfully through this process, they may receive a recommendation to enter a six-month or less training program, where they are placed on the educational register of CPSNL and have membership with the Canadian Medical Protective Association as a PGY1.			Yes (up to 2 years) dependent	Provisional License
Temporary	The College of Physicians and Surgeons of Newfoundland & Labrador may issue a temporary full license or a temporary provisional license for a period and on terms and conditions established by the College for each person who applies for a license. Work permit sponsorship may be provided for physicians who do not yet have a Canadian status and physician must be certified by the RCPSC.	the period shall not exceed 30 days		No	
Special Funded Postgraduate	These positions are government funded but separate from CaRMS match. For IMGs and physicians returning from practice, Memorial University of Newfoundland offers a limited number of Specially Funded Postgraduate Positions in areas of recognized need in the province. Preference will be given to applicants who have worked in (or have an attachment to) the Province of Newfoundland and Labrador, however consideration will be given to applications from outside the province as well			Yes (1 year for 1 year of training)	
Main Programs and Websites	Medical Act Memorial University College of Physicians and Surgeons of Newfoundland and Labrador			http://www.assembly.nl.ca/ http://www.med.mun.ca/pgme/default.asp http://www.nmb.ca	

Medical school first year enrolment, 1990-2006, Newfoundland



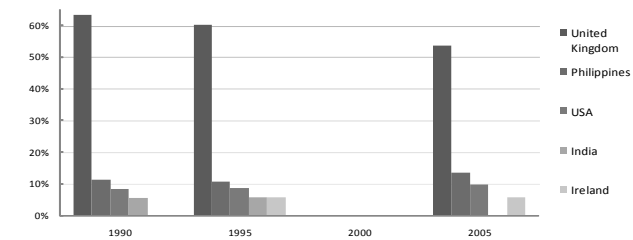
Source: AFMC

Top 5 countries where foreign-trained doctors received medical training 1990-2005, Newfoundland



Source: CIHI

Top 5 countries where foreign-trained nurses received nursing training, 1990-2005, Newfoundland



Source: CIHI

Note. The breakdown by country of training is not available for 2000

Nova Scotia

Health workforce indicators

		1990	1995	2000	2005 ⁺	
Doctors	nb of physicians per 1000 pop.	2.3	2.3	2.4	2.6	
	% IMG	27.3%	25.6%	25.3%	26.9%	
	Nb of IMG	470	436	473	541	
	Graduates	90	83	90	89	
	Total nb of residents R1	106	75	102	112	
	IMG in PGY1	CC / FR	12	3	12	15
		Visa			9	10
	New registrations	CAN	56	33	49	38
		USA	*	*	0	*
		IMG	31	16	21	36
Total		87	49	70	74	
Net interprovincial migration		-19	-2	-4	-3	

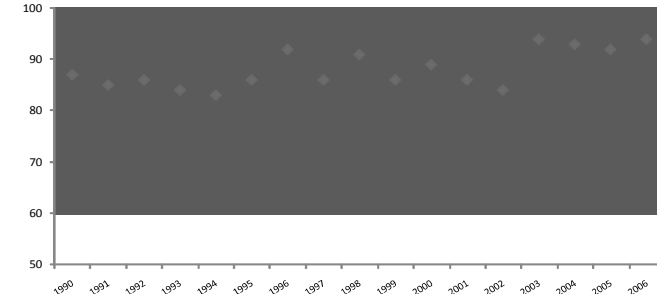
		1990	1995	2000	2005 ⁺
Registered Nurses	nb of nurses per 1000 pop.	9.7	9.5	9.3	9.3
	% IEN	2.1%	1.9%	1.8%	1.8%
	Nb of IEN	187	169	157	154
	Graduates			138	246
	New registrations	CAN	396	184	176
USA		**	**	*	*
IEN		**	*	*	*
Pharmacists	Nb of pharmacists per 1000 pop.	0.76	0.85	1.01	1.14
	New registrations	63	67	66	88
Dentists	Nb of dentists per 1000 pop.	0.46	0.46	0.48	0.53
	New registrations	39	40	42	43

Note. Data on doctor density include residents and interns
 Numbers of IMGs does not include US graduates. Data on IMG in PGY1 refer to IMGs matched in the Carms system for the year R1.
 Data related to IMG new registrations do not include doctors whose country of training is unknown
 Figures of total new registrations could be underestimated by 1 or 2 units
 Medical graduate refers to a MD degree awarded by a Canadian university
 Density of nurses refers only to nurses employed in the nursing sector
 International educated nurse data do not include US graduated nurses and nurses whose country of training is unknown
 * Value suppressed in accordance with CIHI privacy policy; cell value is from 1 to 2. ** Cell value is from 3 to 4.
 + Represents 2005 or latest year available.
 Sources: CAPER, CIHI, Canadian Nurses Association

Recognition of foreign qualifications and specific paths to registration for IMG's

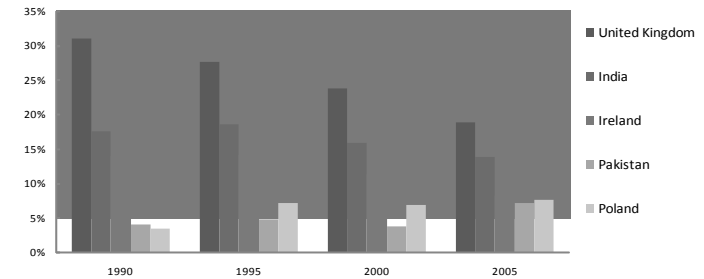
NOVA SCOTIA	Eligibility	Length of Program	Supervision	Return to Service Agreement	Next Step
Defined License - CAPP	Some international medical graduates may be eligible for a defined license for family practice after an assessment by the Clinician Assessment for Practice Program (CAPP). In order to obtain a referral to CAPP applicants must first have their credentials reviewed by the Registration Department of the College of Physicians and Surgeons of Nova Scotia (CPSNS), or be referred by a medical regulatory authority in another province. Candidates must have as a minimum the MCCQE Part I for a referral for the CAPP assessment. If an applicant has at least one year of licensed clinical practice experience in North America, an assessment may not be required.	Once licensed they must pass the LMCC within 4 years	Mentored by a fully licensed physician during 1st year	No	Full License
Temporary License	A temporary license may be granted to applicants employed in the public service of Nova Scotia on a full time basis, on the request of the Minister of Health or applicants employed on a full time basis in clinical, teaching or research duties at Dalhousie University, on the request of the Dean of Medicine at Dalhousie University. As long as physician maintains academic appointment they hold this license. Registrants are not permitted to engage in independent practice of medicine.	unlimited	No	No	Full license however some never follow this route
Main Programs and Websites	The College of Physicians and Surgeons of Nova Scotia Health Team Nova Scotia www.cpsns.ns.ca www.healthteammnovascotia.ca				

Medical school first year enrolment, 1990-2006, Nova Scotia



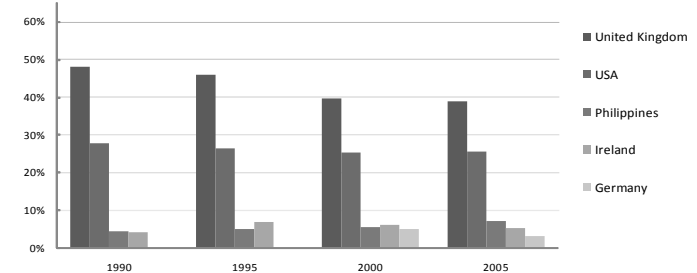
Source: AFMC

Top 5 countries where foreign-trained doctors received medical training 1990-2005, Nova Scotia



Source: CIHI

Top 5 countries where foreign-trained nurses received nursing training, 1990-2005, Nova Scotia



Source: CIHI

Ontario

Health workforce indicators

		1990	1995	2000	2005*	
Doctors	nb of physicians per 1000 pop.	2.1	2.1	2.0	2.0	
	% IMG	27.3%	25.8%	24.3%	23.2%	
	Nb of IMG	5333	5217	5106	5121	
	Graduates	593	607	530	662	
	Total nb of residents R1	643	641	624	782	
	IMG in PGY 1	CC / FR	21	24	26	81
		Visa	2	21	67	63
	New registrations	CAN	760	355	559	414
		USA	10	*	6	5
		IMG	140	68	87	113
Total		910	423	652	532	
Net interprovincial migration		32	24	120	-38	

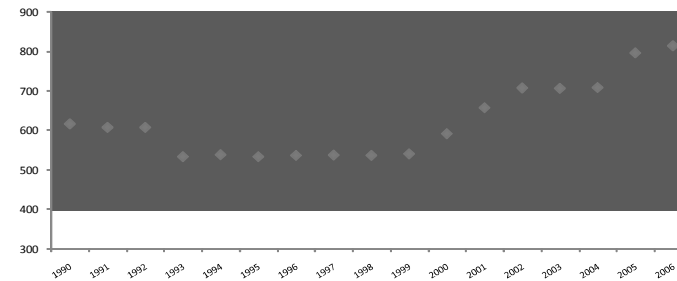
		1990	1995	2000	2005*
Registered Nurses	nb of nurses per 1000 pop.	8.0	7.2	6.9	7.1
	% IEN	11.1%	11.0%	9.6%	11.2%
	Nb of IEN	9165	8691	7846	9952
	Graduates			1539	1575
	New registrations	CAN	3081	1723	2301
USA		41	14	31	14
EN		179	152	215	62
Pharmacists	Nb of pharmacists per 1000 pop.	0.63	0.70	0.72	0.82
	New registrations	159	159	122	165
Dentists	Nb of dentists per 1000 pop.	0.56	0.57	0.60	0.63
	New registrations	136	159	136	171

Note. Data on doctor density include residents and interns
 Number of IMGs does not include US graduates. Data on IMG in PGY1 refer to IMGs matched in the Carms system for the year R1
 Data related to IMG new registrations do not include doctors whose country of training is unknown
 Figures of total new registrations could be underestimated by 1 or 2 units
 Medical graduate refers to a MD degree awarded by a Canadian university
 Density of nurses refers only to nurses employed in the nursing sector
 International educated nurses data do not include US graduated nurses and nurses whose country of training is unknown
 * Value suppressed in accordance with CIHI privacy policy; cell value is from 1 to 2.
 * Represents 2005 or latest year available.
 Sources: CARMS, CAPER, CIHI, Canadian Nurses Association

Recognition of foreign qualifications and specific paths to registration for IMG's

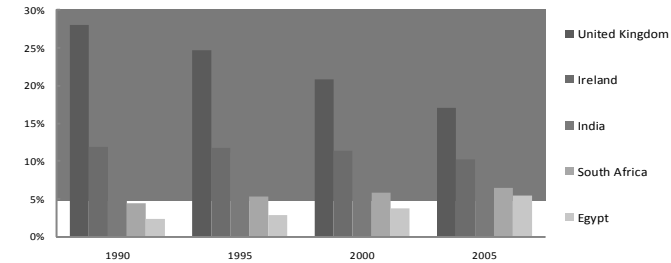
ONTARIO	Eligibility	Length of Program	Supervision	Return to Service Agreement	Next Step
Restricted Certificate	Physicians who are missing the Medical Council of Canada Qualifying Examination Parts 1 and 2, and/or Royal College of Physicians and Surgeons of Canada (RCPC) or College of Family Physicians of Canada (CFPC) certification, but are officially eligible to take these examinations, are issued a time-limited restricted certificate to practice. Physicians are restricted to a supervised setting until they are eligible to write the exam or the term of the certificate expires.	Max is for 3 years or when their eligibility expires	assessed if require "low" or "moderate" supervision	No	Apply to full license
RPA - Registration through Practice Assessment	Funded by the Ontario Ministry of Health and Long-Term Care to introduce qualified physicians who are not certified as a specialist to gain access to registration through an evaluation of their clinical skills. The RPA program assesses internationally trained medical graduates who have at least five years of independent practice experience and are currently practicing in a jurisdiction outside of Ontario (in Canada or the United States). The program focuses on the skills and abilities of the individual doctor rather than grades.	up to year 1	Duration of Training	Yes (up to five years)	Full license
Repatriation	Offers funded training positions to physicians who have completed postgraduate training outside of Canada and require up to two years additional training to meet the certification requirements of the RCPC. Applicants must be a Canadian citizen or landed immigrant. General specialists who wish to pursue sub-specialty training are not eligible for this program.	Up to 2 years	1 or 2 years	Yes (equal to the length of training received)	Apply to full license or restricted license
Main Programs and Websites	Health Workforce Ontario Centre for the Evaluation of Health Professionals Educated Abroad College of Physicians & Surgeons of Ontario	www.healthforontario.ca www.cehpea.ca www.cpso.on.ca			

Medical school first year enrolment, 1990-2006, Ontario



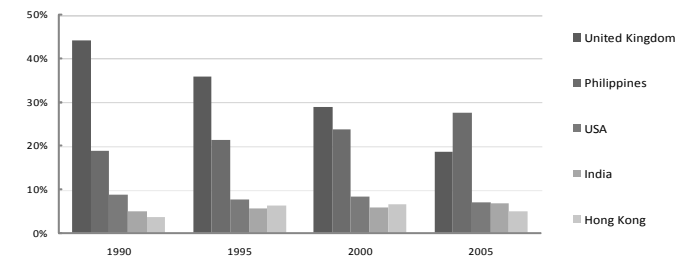
Source: AFMC

Top 5 countries where foreign-trained doctors received medical training 1990-2005, Ontario



Source: CIHI

Top 5 countries where foreign-trained nurses received nursing training, 1990-2005, Ontario



Source: CIHI

Québec

Health workforce indicators

		1990	1995	2000	2005*	
Doctors	nb of physicians per 1000 pop.	2.3	2.4	2.4	2.4	
	% IMG	13.5%	12.4%	11.2%	10.5%	
	Nb of IMG	1873	1862	1763	1702	
	Graduates	526	545	464	561	
	Total nb of residents R1	518	561	476	643	
	IMG in PGY1					
	CC / PR	19	10	2	55	
	Visa	18	18	38	50	
	New registrations	CAN	487	372	419	298
		USA	5	**	**	5
IMG		68	38	59	48	
Total		560	410	478	351	
Net interprovincial migration						
		-13	-19	-48	-8	

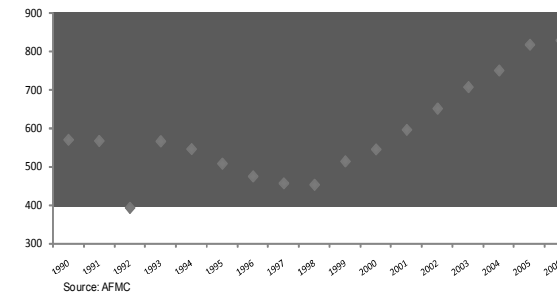
		1990	1995	2000	2005*	
Registered Nurses	nb of nurses per 1000 pop.	8.2	8.6	8.0	8.4	
	% IEN	3.1%	2.4%	0.9%	2.3%	
	Nb of IEN	1752	1209	526	1494	
	Graduates			1529	3003	
	New registrations	CAN	2435	2631	2389	2516
		USA	*			*
IEN		12	**	*	29	
Pharmacists	Nb of pharmacists per 1000 pop.	0.62	0.74	0.77	0.89	
	New registrations	119	105	149	185	
Dentists	Nb of dentists per 1000 pop.	0.45	0.51	0.54	0.53	
	New registrations	149	209	154	177	

Note. Data on doctor density include residents and interns
 Numbers of IMGs does not include US graduates. Data on IMG in PGY1 refer to IMGs matched in the Carms system for the year R1
 In 2002, data refers only to McGill University Data related to IMG new registrations do not include doctors whose country of training is unknown
 Figures of total new registrations could be underestimated by 1 or 2 units
 Medical graduate refer to a MD degree awarded by a Canadian University
 Density of nurses refers only to nurses employed in the nursing sector
 International educated nurses data do not include US graduated nurses and nurses whose country of training is unknown
 * Value suppressed in accordance with CIHI privacy policy; cell value is from 1 to 2. ** Cell value is from 3 to 4.
 + Represents 2005 or latest year available.
 Sources: CARMS, CAPER, CIHI, Canadian Nurses Association

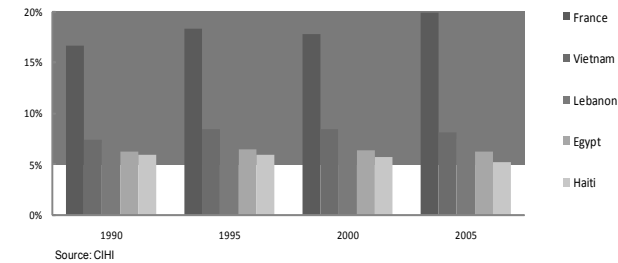
Recognition of foreign qualifications and specific paths to registration for IMG's

QUEBEC	Eligibility	Length of Program	Supervision	Return to Service Agreement	Next Step
Restrictive Permit	Open to physicians who are ready to practice and includes an evaluation period rather than post graduate training and must hold a medical degree from a school registered in the WHO directory. Candidates must fulfill a medical staffing need identified by the MSSS and show, to the satisfaction of the Collège des médecins du Québec (CMQ), that they have the qualifications required to practice medicine in Québec. Physicians must have a pass standing on the MCCCE and undergo an evaluation period.	1 year renewable	No	Restricted to a particular ministry	May renew or try to go on the regular register
Main Programs and Websites	Collège des médecins du Québec	www.cmq.org/			

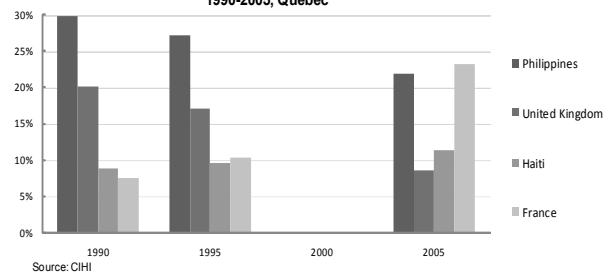
Medical school first year enrolment, 1990-2006, Québec



Top 5 countries where foreign-trained doctors received medical training 1990-2005, Québec



Top 4 countries where foreign-trained nurses received nursing training, 1990-2005, Québec



Prince Edward Island

Health workforce indicators

		1990	1995	2000	2005*	
Doctors	nb of physicians per 1000 pop.	1.3	1.3	1.3	1.4	
	% IMG	18.3%	20.0%	14.2%	15.1%	
	Nb of IMG	32	35	25	30	
	First year trainees post MD				5	
	New registrations	CAN	**	*	*	0
		USA	0	0	0	0
		IMG	*	0	*	0
Net interprovincial migration	3	0	-3	0		

		1990	1995	2000	2005*
Registered Nurses	nb of nurses per 1000 pop.	9.1	8.8	9.2	10.4
	% IEN	0.6%	0.8%	0.6%	0.9%
	Nb of IEN	5	9	8	13
	Graduates			18	51
	New registrations	CAN	*	52	20
USA					*
IEN					
Pharmacists	Nb of pharmacists per 1000 pop.	0.64	0.83	0.87	1.16
	New registrations				
Dentists	Nb of dentists per 1000 pop.	0.38	0.35	0.44	0.45
	New registrations				

Note. Data on doctor density include residents and interns

Number of IMGs does not include US graduates

No medical education for doctors is provided for the province of Prince Edward Island

Data related to IMG new registrations do not include doctors whose country of training is unknown

Medical graduate refers to a MD degree awarded by a Canadian university

Density of nurses refers only to nurses employed in the nursing sector

International educated nurse data do not include US graduated nurses and nurses whose country of training is unknown

* Value suppressed in accordance with CIHI privacy policy; cell value is from 1 to 2. ** Cell value is from 3 to 4

+ Represents 2005 or latest year available.

Sources: CAPER, CIHI, Canadian Nurses Association

Recognition of foreign qualifications and specific paths to registration for IMG's

PRINCE EDWARD ISLAND	Eligibility	Length of Program	Supervision	Return to Service Agreement	Next Step
Temporary and Limited Registrations	The Council looks at the individual training of each applicant separately but requires 24 months of postgraduate medical education. If this is in question, the applicant may need to have their postgraduate training assessed by the Newfoundland and Labrador assessment program (CSAT). The individual must be sponsored by the region or the Department of Health. The MCCEE is required for anyone entering family practice unless they are doing a short-term locum. In theory, Specialists must be eligible to write the RCPSC certification to obtain this license however in practice the specialist will already hold this certification. Physicians placed on this register may have certain conditions placed on their licenses, assessed case by case. For example some physicians may be required to have a mentor or complete the LMCC in 2 years or some may be prevented from doing a specific duty such as emergency room work.	10 - 26 weeks, with option for renewal Family physicians must obtain certification in 3 years and specialists in 5 years	Yes Length depends on qualifications	2 to 5 years if physician accepts full time position	Full license
Main Programs and Websites	Government of P.E.I. College of Physicians and Surgeons of P.E.I.	www.gov.pe.ca www.cpspei.ca			

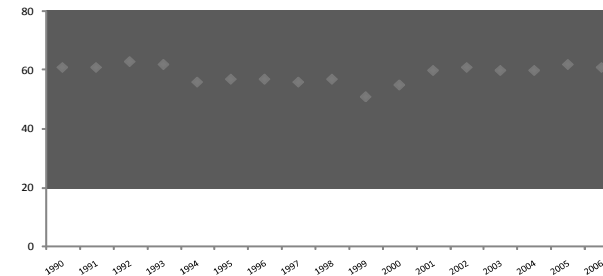
Saskatchewan

Health workforce indicators

		1990	1995	2000	2005*	
Doctors	1000 pop.	1.7	1.7	1.8	1.8	
	% IMG	49.1%	53.6%	51.5%	50.6%	
	Nb of IMG	732	813	805	780	
	Graduates	54	55	58	57	
	Total nb of residents R1	81	49	59	66	
	IMG in PGY 1	CC / PR	24	9	9	24
		Visa	3	1	2	2
	New registrations	CAN	32	25	32	15
		USA	0	0	0	0
IMG		72	22	62	48	
Total		104	47	94	63	
Net interprovincial migration		-42	-15	-51	-36	

		1990	1995	2000	2005*
Registered Nurses	1000 pop.	8.3	8.3	8.5	8.7
	% IEN	3.1%	2.6%	2.1%	2.4%
	Nb of IEN	262	219	175	200
	Graduates			138	224
	New registrations	CAN	796	161	103
USA		6			*
IEI		*		13	**
Pharmacists	No of pharmacists per 1000 pop.	0.96	1.03	1.10	1.19
	New registrations	71	73	74	80
Dentists	No of dentists per 1000 pop.	0.37	0.34	0.35	0.37
	New registrations	19	26	22	27

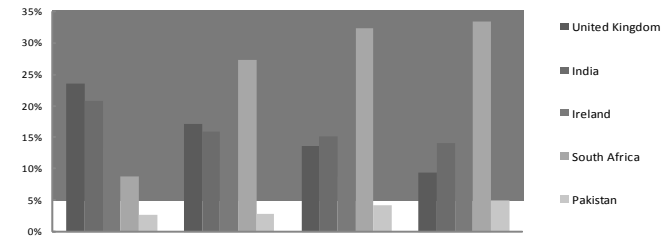
Medical school first year enrolment, 1990-2006, Saskatchewan



Source: AFMC

Note. Data on doctor density include residents and interns
 Number of IMGs does not include US graduates . Data on IMG in PGY1 refer to IMGs matched in the Carms system for the year R1
 Data related to IMG new registrations do not include doctors whose country of training is unknown
 Figures of total new registrations could be underestimated by 1 or 2 units
 Medical graduate refers to a MD degree awarded by a Canadian University
 Density of nurses refers only to nurses employed in the nursing sector
 International educated nurses data do not include US graduated nurses and nurses whose country of training is unknown
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 + Represents 2005 or latest year available.
 Sources: CARMS, CAPER, CIHI, Canadian Nurses Association

Top 5 countries where foreign-trained doctors received medical training 1990-2005, Saskatchewan

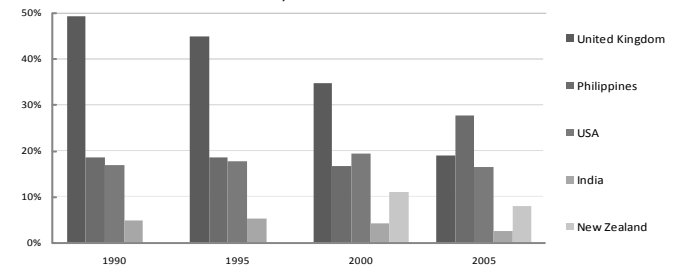


Source: CIHI

Recognition of foreign qualifications and specific paths to registration for IMG's

SASKATCHEWAN	Eligibility	Length of Program	Supervision	Return to Service Agreement	Next Step
Temporary License	IMGs must have a medical degree from a school listed on the WHO directory and postgraduate training from a jurisdiction with a similar medical education system. Physicians must have full licensure or a pass standing on an evaluating exam (eg. MCCEE or USLME) Physicians working on a temporary license must have a named physician who is responsible to assist them in becoming aware of Saskatchewan practice issues. They will also be required to practice in a particular Saskatchewan community for a defined period. Supervised until an assessment by CAPE, then they would apply to a provisional license.	1 year with no extension or renewal	1 year post grad - 12 - 18 months supervision 2 years post grad - mentor / no supervision	No (work in a defined community with their sponsor)	Provisional License
Provisional License	These licenses are available to both family physicians and specialists who are eligible to challenge the certification examinations of the Medical Council of Canada. Family physicians must have a full license from the country where they trained or have passed the MCCEE. Physicians without the MCCEE must pass the exam in 2 years. Then they must pass the MCCQE Part 1 within four years and the Part 2 within 5 years. Specialists must obtain certification with the RCPSC within the period of their eligibility, usually 3 years, and must obtain the LMCC designation within 5 years.	Must pass the LMCC within 5 years	No	Yes (3 years)	Full License
Special licenses	This category of license is only available to physicians with specialty credentials and are not eligible for licensure through other means. It includes special licenses for physicians who are not certification eligible with the Royal College but who meet other defined criteria. There must be an unmet need for the physician's services that cannot be met by a Royal College certified or certification-eligible physician. The physician must hold specialty credentials that are recognized by the Saskatchewan College.	Must pass the LMCC within 5 years	No	Yes (3 years)	Most wont be able to go on full license
Main Programs and Websites The College of Physicians and Surgeons of Saskatchewan		www.quadrant.net/cpps			

Top 5 countries where foreign-trained nurses received nursing training, 1990-2005, Saskatchewan



Source: CIHI

ANNEX 2: SOURCE AND METHODS FOR IDENTIFYING IMMIGRANTS INTO THE HEALTH WORKFORCE

In Canada, two main data sources are available to measure the contribution of immigrants to the health workforce:

- The 2006 Canadian census provides a mean to identify people employed by detailed occupation according to the National Occupational Classification for Statistics 2006 [NOC-S 2006], by place of birth and by place of training.
- The Canadian Institute for Health Information (CIHI) administers the Scott's Medical database (SMDB), which provides information on the supply, distribution and migration patterns of Canadian physicians (between Canadian jurisdictions and internationally). For other health occupations, including nursing, CIHI gathers data from provincial/territorial regulatory authorities. These data are available broken down by place of graduation.

There are obvious reasons why the data by place of birth, from the census, and by place of training, can differ. A comparison between foreign-born and foreign-trained health professionals generally indicates lower percentages for the latter than for the former. This is mainly due to the fact that many foreign-born were actually trained in Canada. Some have arrived at younger ages, most probably accompanying their family or in the context of family reunification, while others came to Canada particularly to pursue tertiary education and have stayed after completion of their study. Both elements are important in the Canadian context, which contributes to explain why the discrepancy between the share of foreign-born and foreign-trained health professionals is higher in Canada than in most other OECD countries.

There are also a number of differences between the data on the foreign-trained coming from the 2006 Canadian Census and from CIHI. Firstly, the population coverage is slightly different between the two sources. Data provided to the OECD by CIHI did not include resident doctors but included all active physicians and nurses (including if working as administrators, teachers, etc., and not engaged in any private clinical practice)^{65,66}. Conversely, the census data include resident physicians⁶⁷ but exclude those not employed, or employed in other occupations. In all cases, foreign-trained data include people trained in the United States and does not make a difference by country of birth or citizenship.

Secondly, the definition of the place of training varies according to the data source. CIHI data for instance identifies International Medical Graduates (IMG) and Internationally Educated Nurses (IEN) based on the country where their medical school or the nursing school was located. This definition does not take into account the place where post graduate training took place. On the contrary, the census considers the country where the most advanced certificate, diploma or degree was obtained. Doctors who were fully licensed in another country other than Canada or the United States, had in most cases to redo all

⁶⁵ Active means physicians or nurses who maintain a medical license, excluding retirees

⁶⁶ No distinction is made in the data between full and temporary licences. According to CIHI, the data excludes 5 100 active resident physicians and about 200 military doctors in 2005 (CIHI 2005).

⁶⁷ Yearly graduating nurses are included in the census data.

or part of their residency training to be fully registered in Canada. As a result, these people may well be identified as Canadian trained in the census, but as an IMG in SMDB.

A third point is that, in the census data made available to the OECD, the place of training is only recorded for those holding a university degree at bachelor level or higher. While this is not a matter of concern for data on doctors, pharmacists or dentists who have to undertake postgraduate training, the fact that the nursing curricula has been upgraded progressively from a diploma to a baccalaureate degree in most provinces over the last 10 years implies that the place of training is only recorded for about one third of the registered nurses in the census data⁶⁸. The corresponding figure for licensed practical nurses is just above 5%. Consequently, for all categories of nurses CIHI data on foreign-trained were used.

Taking into account the differences in definition and coverage described above, there are about 79 000 people employed as a general practitioner or a specialist in the 2006 Canadian Census (16 360 foreign-trained) but only 61 600 active physicians (13 700 IMG) in the SMDB in 2005. Similarly, the 2006 Canadian census records 288 500 people employed as a registered nurse, whereas CIHI has 249 000 active registered nurses (19 200 IEN).

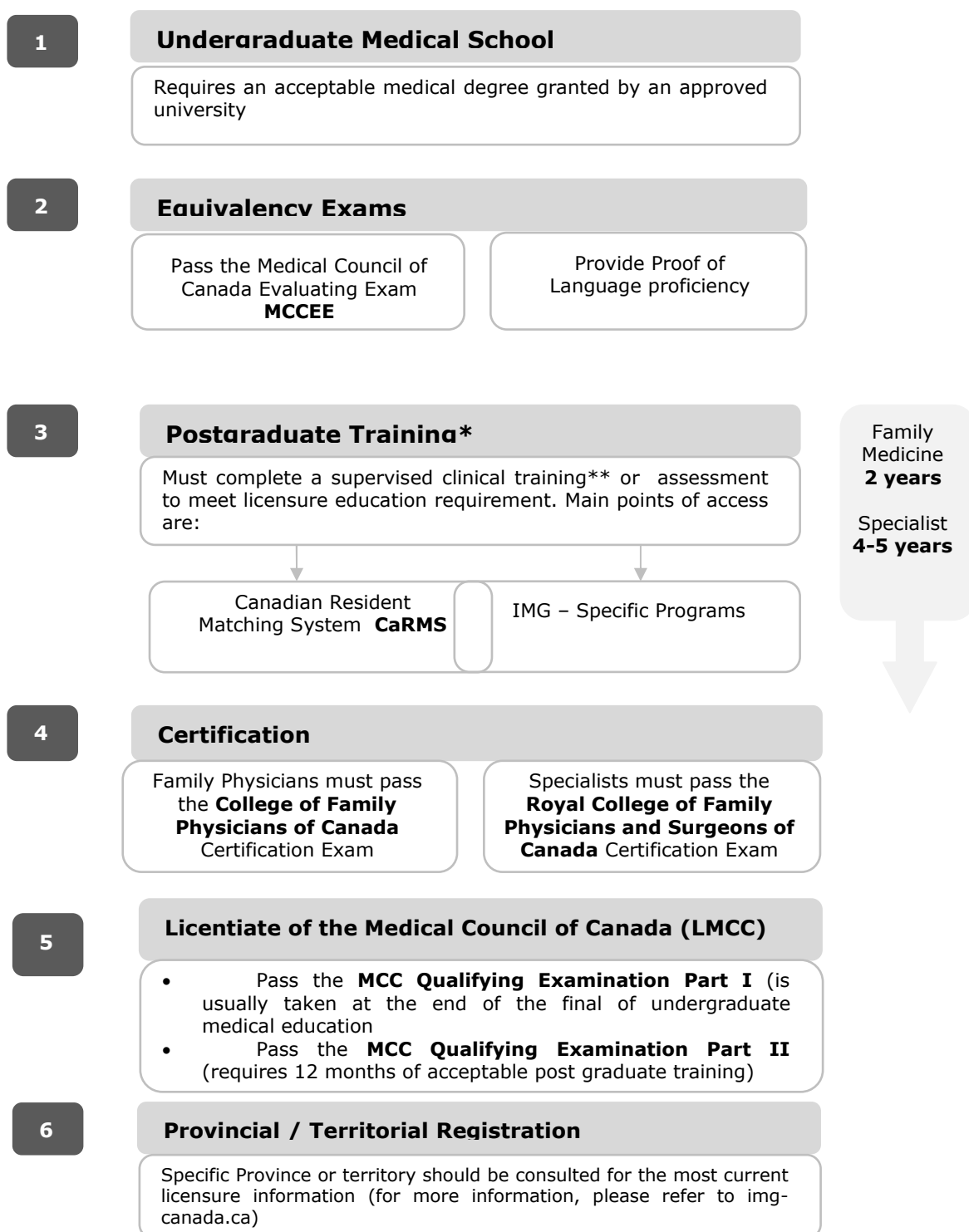
The different data sources and definitions offer complementary pictures of the migrant health workforce that can be used according to the issue at hand. For instance, international comparisons of foreign-trained health professionals using professional registers tend to be more difficult and less straightforward than for foreign-born health professionals (see Dumont and Zurn 2007 for a detailed discussion). In addition, only about half of the OECD countries for doctors and one third for nurses, have a national professional register which identifies the foreign-trained. Census data are interesting, particularly because they focus on employed people, however, they are not available on a regular basis and Canada is, to our knowledge, the only country which has included a direct question on where the highest diploma was obtained in the last round of census.

In the context of this study, the census data by place of birth are used for international comparisons but in most cases, and notably for the analysis of the Canadian health workforce, the definition by place of training will be preferred. The 2006 Canadian Census is used in particular for comparisons across occupations or to look at the issue of recognition of foreign qualifications. CIHI data are the main source for aggregated figures at national and provincial levels. Information on permanent and temporary migration, provided by Citizenship and Immigration Canada, complement these sources to illustrate migration trends.

⁶⁸ This is consistent with the fact that in 2006, 35.8% of registered nurses had a degree (ie. Baccalaureate, Master or Doctorate) (CIHI, 2007d).

ANNEX 3: PATHWAYS TO LICENSURE FOR DOCTORS AND NURSES IN CANADA

Registration to Practice Medicine in Canada Full Licensure



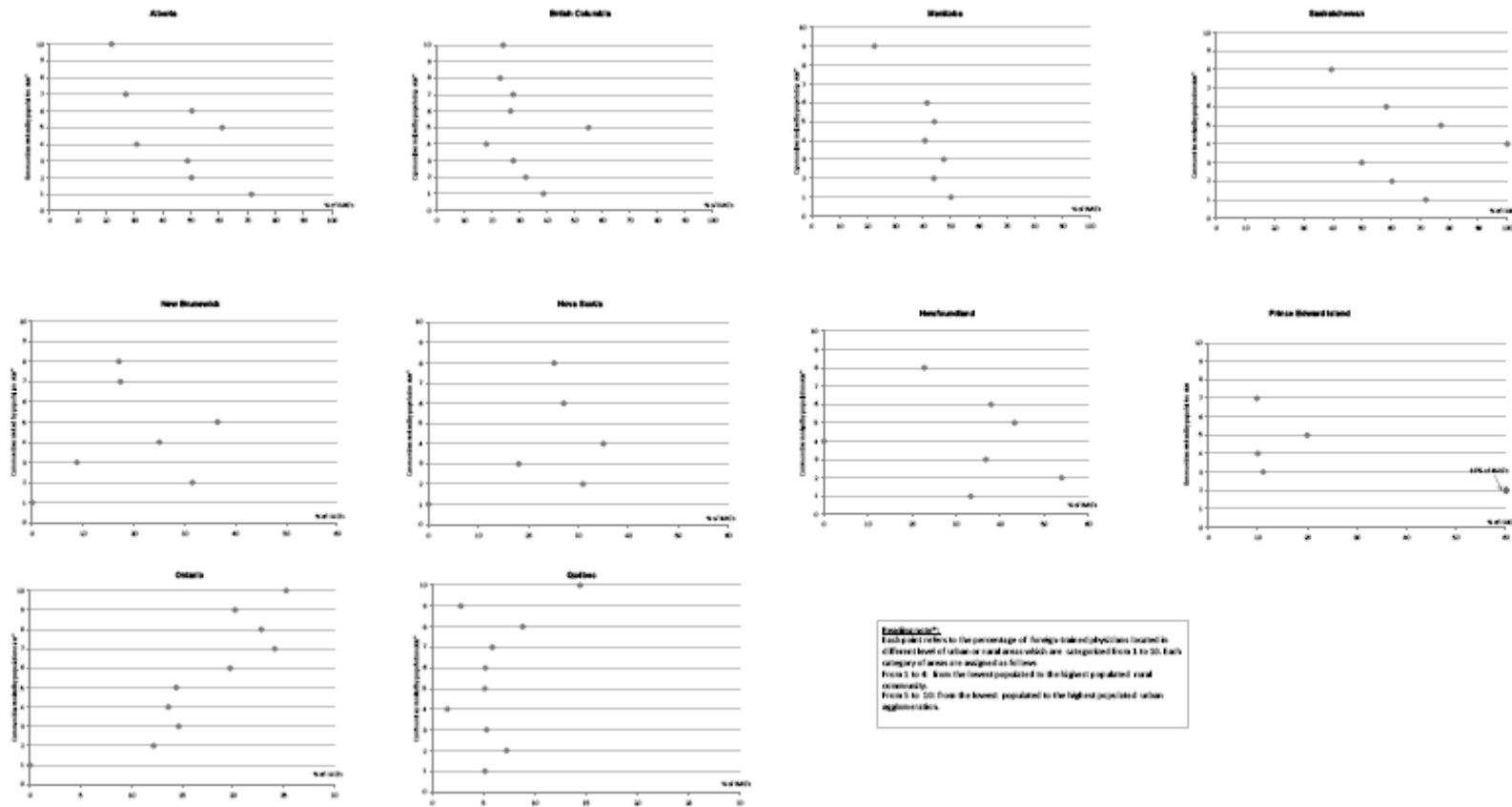
Note: * Some specialists may be permitted to take the certification exams without additional postgraduate training through special assessments by the RCPSC.** Clinical observations period (usually 3 to 6 months, depending on the jurisdiction) could lead to further postgraduate training or lead to provisional/supervised licensure.

Registration to Practice Nursing in Canada

- 1** **Nursing Program**
 - Completion of acceptable nursing program
- 2** **Evidence of Practice**
 - Evidence that competencies are equivalent to those practised in Canada
- 3** **National Nursing Exam**
 - Must pass the Canadian Registered Nurse Exam
- 4** **Fluency in English / French**
 - Required to provide proof of language proficiency
- 5** **Eligibility of Registration**
 - Must have been registered in the country where their nursing program was completed
- 6** **Good Character and Fitness to Practice**
 - May include a criminal record check, character reference etc. to identify factors that may affect ability to practise

Note: All Canadian provinces and territories, with the exception of Québec, require that you write the CRNE as part of the registration or licensure process. The Professional Examination of the Ordre des infirmières et infirmiers du Québec is required in Québec.

ANNEX 4: SHARE OF INTERNATIONAL MEDICAL GRADUATES IN EACH PROVINCE BY COMMUNITY POPULATION SIZE (10 CATEGORIES)



Source: CIHI

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