POST-M.D. TRAINING IN FAMILY MEDICINE IN CANADA:
CONTINUITY AND CHANGE OVER A 15-YEAR PERIOD

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CANADA'S DEFINITIVE SOURCE
OF DATA ON POST-M.D. TRAINING

CAPER

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EXECUTIVE SUMMARY

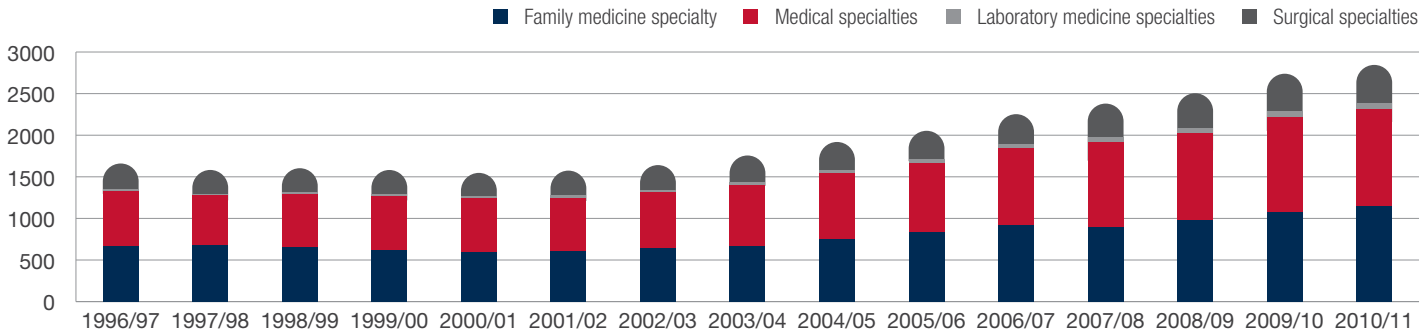
Historically, family physicians and general practitioners have accounted for approximately half of all physicians in Canada. Together, they are the principal providers of primary care and serve as gatekeepers to other specialists and some components of the health care system. Strengthening primary care has been seen by many as the key to health systems renewal and enhancement. Therefore, as the main route to medical practice, it is important to look at trends in family medicine training. In this report, we look at how family physicians in training eventually shape and reshape Canada's physician workforce.

Since the mid-1980s, the Canadian Post-M.D. Education Registry (CAPER) has been collecting a wealth of information on post-M.D. education in Canada. The present study is based primarily on information from the CAPER database. National in scope, this study includes data about family medicine trainees at all 17 faculties of medicine. It is a longitudinal analysis, covering the 15-year period from 1996/97 to 2010/11. The objective of the study is to document how post-M.D. family medicine training has changed—or remained the same—over the last 15 years. The study sheds light on Canada's current physician workforce and suggests how the situation may develop in the future.

The current analysis focuses on four distinct areas: 1. Broad historical trends in post-M.D. training in family medicine; 2. Demographic and other characteristics of family medicine trainees; 3. Comparison of faculties of medicine with respect to the training of family physicians; and 4. Outcomes of family medicine trainees and graduates.

FIGURE 1, TABLE A1

Number of first-year post-M.D. trainees, by broad specialty, **Canada, 1996/97 – 2010/11**



Source: Canadian Post-M.D. Education Registry (CAPER).

TRENDS IN POST-M.D. FAMILY MEDICINE TRAINING.

- The total number of first-year post-M.D. trainees has increased steadily since 2002/03. Throughout the study period, family medicine trainees accounted for a minimum of 37.6% of all first-year trainees, in 2007/08, and a maximum of 42.8%, in 1997/98. In 2010/11, 40.2% of all first-year trainees were in family medicine programs. *(Figure 1, Table A1)*

- The number of trainees exiting family medicine increased 28.4% during the 15-year study period, from 730 in 1996 to 937 in 2010. These exiting trainees account for most of Canada's newly practising family physicians. Throughout the study period, family medicine trainees accounted for a fairly stable proportion of all exiting trainees: 47.9% in 1996/97, 45.0% in 2003/04, and 48.1% in 2010/01. *(Figure 6, Table A6)*

- The number of trainees taking optional third-year family medicine training increased considerably, from 85 in 1996/97 to 242 in 2010/11. Most of them pursued CFPC-accredited emergency family medicine training or other enhanced family medicine skills. Very few took additional training in care of the elderly. *(Figure 4, Table A4)*

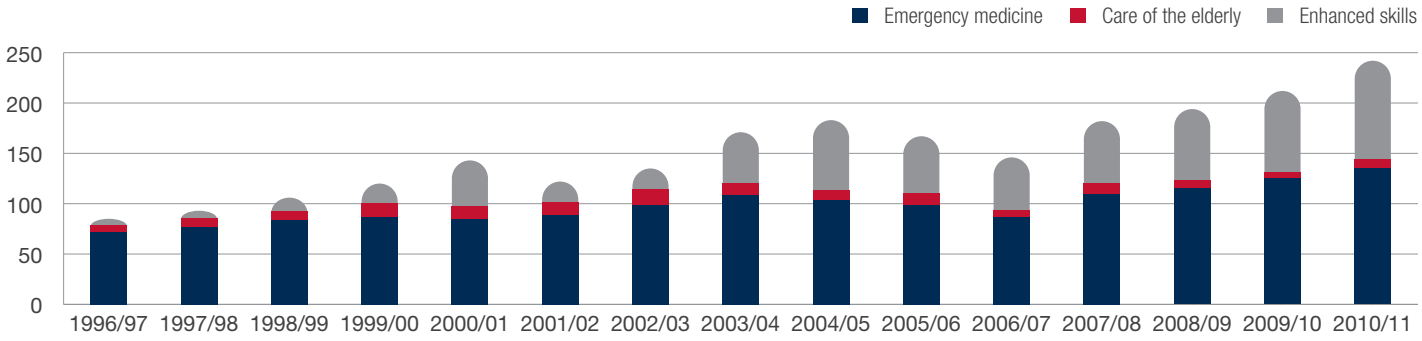
- While a relatively small and decreasing number of trainees switched from one specialty to another, family medicine typically 'gained' trainees from other specialties during the study period. In 2009, 42 trainees switched broad specialty training programs: 14 switched out of family medicine and 28 switched into family medicine, for a net gain of 14 family medicine trainees in one year. The number of trainees switching out of family medicine exceeded the number of trainees switching into family medicine in only one year, 2003. *(Figure 5, Table A5)*

DEMOGRAPHICS/CHARACTERISTICS OF FAMILY MEDICINE TRAINEES.

- Compared to the start of the study period, family medicine trainees are now older at the time of exiting training. Those who exited training in 1996 were an average of 29.8 years old. In 2010/11, the average age for exiting family medicine trainees increased 1.8 years to 31.6 *(Figure 8, Table A8)*. This increase may be due to a larger proportion of international medical graduate (IMG) trainees and more individuals taking optional third-year family medicine training.

FIGURE 4, TABLE A4

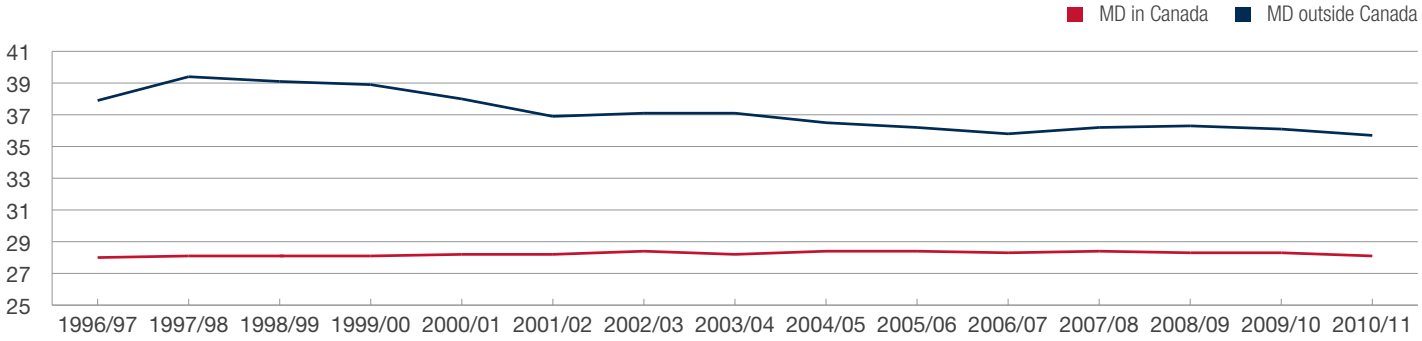
Number of third-year (R-3) family medicine trainees, by field of R-3 training, **Canada, 1996/97 – 2010/11**



Source: Canadian Post-M.D. Education Registry (CAPER).

FIGURE 12, TABLE A12

Average age of family medicine trainees, by trainees' place of MD graduation, **Canada, 1996/97 – 2010/11**



Source: Canadian Post-M.D. Education Registry (CAPER).

- In family medicine, female trainees outnumbered males throughout the study period. Moreover, the proportion of female trainees became larger in more recent years: by 2010/11, 63.2% of all family medicine trainees were women. *(Figure 9, Table A9)*

- The percentage of IMGs increased considerably: in 1996/97, 4.3% of all family medicine trainees were IMGs; this grew to 19.8% in 2010/11. *(Figure 10, Table A10)*

- Family medicine IMG trainees tended to be older than their Canadian medical graduate (CMG) counterparts. In 2010/11, family medicine IMG trainees were, on average, 7.6 years older than family medicine CMG trainees. *(Figure 12, Table A12)*

COMPARISON OF CANADIAN FACULTIES OF MEDICINE.

- The faculties of medicine at Memorial University, Queen's University, and Université de Sherbrooke consistently produced larger proportions of family physicians than the national average. Conversely, the faculties of medicine at McGill University, University of Manitoba, and University of Toronto tended to train smaller proportions of family physicians. *(Figure 16, Table A16)*

- While females typically outnumbered males among family medicine trainees, the ratio varied across faculties of medicine. Throughout the study period, family medicine programs in Quebec tended to have larger proportions of female trainees than the national average. In 2010/11, females accounted for more than 70% of all trainees in all four family medicine programs in Quebec. *(Figure 19, Table A19)*

- IMGs accounted for varying proportions of trainees across family medicine training programs. Those in the prairie provinces—especially Manitoba and Saskatchewan—tended to have larger than average proportions of IMG trainees, while family medicine programs in Quebec tended to have smaller proportions. *(Figure 21, Table A21)*

- Post-M.D. programs recruited trainees from their own faculty of medicine, other faculties within Canada and international medical schools. In 2010/11 (with the exception of McGill University) over 75% of Quebec's family medicine trainees had completed their undergraduate medical degree in Quebec. In contrast, less than 50% of trainees in the western provinces received their M.D. in the province where they were studying family medicine. However, the overall trend was for family medicine training programs, including those in Quebec, to recruit trainees from out of province. *(Figure 23, Table A23)*

OUTCOMES OF FAMILY MEDICINE TRAINEES AND GRADUATES.

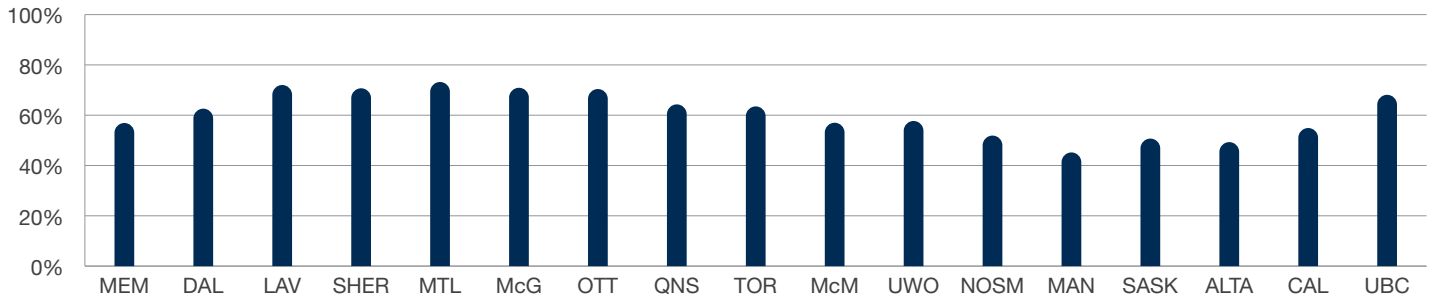
- Throughout the study period, about 75% of family medicine trainees completed their training in two years, with about 20% taking three years. The majority of those who spent three years in the program took third-year advanced family medicine training, but a few may have repeated their first or second year. Relatively few (less than 4%) did not complete their training; most of these had switched to training programs in other specialties. *(Table 3)*

- Throughout the study period, family medicine trainees generally established and maintained practice in the province/region where they exited post-M.D. training. Two-, five- and ten-year practice location was examined for family medicine trainees who exited training in 1997, 1999 and 2001: 63.2%, 64.9%, and 63.8%, respectively, stayed in the province where they trained; 12.6%, 14.9%, and 14.5%, respectively, did not practise in their training province/region two, five or ten years later. *(Table 9)*

- A very large proportion of graduates of family medicine training programs in Quebec (except the McGill program) continued to practise in Quebec. Although not as large as Quebec, programs in Ontario and British Columbia also tended to have substantial proportions of their graduates staying in the province. Those who completed family medicine training in Manitoba, Saskatchewan and Newfoundland and Labrador were less likely to continuing practising in the province.

FIGURE 19, TABLE A19

Percent of all family medicine trainees that are female, by training faculty, **2010/11**



Source: Canadian Post-M.D. Education Registry (CAPER).

DISCUSSION AND CONCLUSIONS

Family physicians and general practitioners are a cornerstone of Canada's primary health care delivery system. In some parts of the country, such as small towns, rural communities, and remote regions, where specialists are few and far between, family physicians have an especially important role to play. By broadening their scope of practice, working in different care settings, and performing certain clinical procedures that would typically be done by specialists in urban centres, they help to fill critical service gaps. It is, therefore, important to know who are being trained to be family physicians and the training programs that equip them with the requisite knowledge, skills, and competence.

This study demonstrates that family medicine trainees, as a proportion of all post-M.D. trainees, remained relatively stable throughout the 15 years. Apprehension about medical students and graduates "abandoning" family medicine has not materialized and, in fact, family medicine typically gains a small number of trainees from other specialty programs. The number of exit-year trainees in family medicine, which closely approximates the number of practice-entry family physicians, increased by close to 30% between 1996 and 2010. While the trends are encouraging, concerns about Canada possibly having an "oversupply" of physicians are beginning to surface again. This situation deserves closer monitoring in order to avoid a repeat of the policy pendulum-swing of the 1990s.

Throughout the study period more family medicine trainees elected to take an additional third-year of training. However, relatively few chose care of the elderly as their third year option. Given the aging population, this situation should be monitored and may warrant a system wide response.

Of note, are the changing demographics of the Canadian family medicine trainees themselves. Women and international medical graduates (IMGs) represent both an increased number and proportion of family medicine trainees. As shown in this study, at the time of post-M.D. training, IMGs are, on average, older than trainees who graduate from Canadian medical schools. Also, past studies report that female physicians spend less time providing direct patient care, compared to male physicians. Again, these findings merit consideration in future workforce planning, in terms of expectations of how much newly graduated physicians will work throughout their careers.

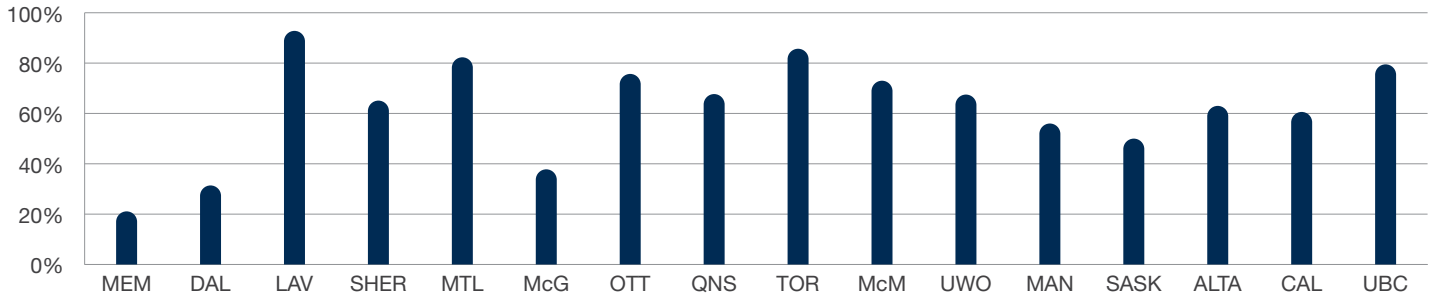
This study describes the relationship between the location of post-M.D. training and eventual practice location. For all of Canada, almost two-thirds of family medicine graduates are found to practice in their jurisdiction of post-M.D. training two, five and ten years after exiting their post-M.D. programs. However, retention rates vary considerably across jurisdictions. Long-term family physician retention is relatively high in British Columbia, Ontario and Quebec. In comparison, fewer trainees who exit family medicine programs in Newfoundland and Labrador, the Maritimes, Manitoba, Saskatchewan and Alberta appear to establish long-term practice in those jurisdictions.

By using data from a unique database that spans many years, this study is an attempt to document how post-M.D. family medicine training in Canada has fared over the last 15 years. It has replicated some studies dealing with similar topics such as the growth in the number of IMG trainees and has updated findings from other studies by using more recent information. It has also explored issues that have received little or no research attention thus far, such as how faculties of medicine differ with respect to their trainees and graduates, and how trainees fare during and after residency. Furthermore, the historical nature of CAPER, including ongoing practice location, permit longitudinal analysis and the tracking of cohorts of trainees over a number of years.

It is hoped that the knowledge and insights gained from this study will enrich our understanding of a range of issues pertaining to family medicine training in Canada. As well, the study provides an opportunity to showcase the utility and richness of the CAPER database and the types of analyses that can be done using this valuable information.

FIGURES 24–39, TABLES A24–A39

Percent of family medicine trainees located in province/region of training ten years after exiting post-M.D. training, by training faculty.
(Based on 2011 practice location of family medicine trainees who exited in 2001)



Source: Canadian Post-M.D. Education Registry (CAPER).

SOMMAIRE

Sur le plan historique, les médecins de famille et les omnipraticiens ont représenté environ la moitié de l'ensemble de la main-d'œuvre de médecins au Canada. Collectivement, ils sont les principaux fournisseurs de soins primaires et font le tri pour les spécialistes et d'autres volets du système de soins de santé. Selon plusieurs, le renforcement des soins primaires est la clé vers le renouveau et l'amélioration des systèmes de santé. Par conséquent, on doit tenir compte des tendances de la formation en médecine familiale, laquelle représente la voie principale vers l'exercice de la médecine. Le présent rapport porte sur les médecins de famille en formation qui façonneront et refaçonneront la main-d'œuvre de médecins au Canada.

Depuis le milieu des années 1980, le Système informatisé sur les stagiaires post-M.D. en formation clinique (CAPER) recueille une mine de renseignements sur l'éducation postdoctorale au Canada. La présente étude est surtout fondée sur des renseignements figurant dans la base de données de CAPER. Cette étude est d'envergure nationale et comprend des données relatives aux médecins de famille en formation dans l'ensemble des 17 facultés de médecine du Canada. Il s'agit d'une analyse longitudinale sur une période de 15 ans, soit de 1996-1997 à 2010-2011. L'étude vise à documenter la manière dont la formation postdoctorale en médecine familiale s'est transformée, ou non, au cours des 15 dernières années. L'étude met en lumière la main-d'œuvre actuelle des médecins canadiens et énonce des hypothèses quant à son avenir.

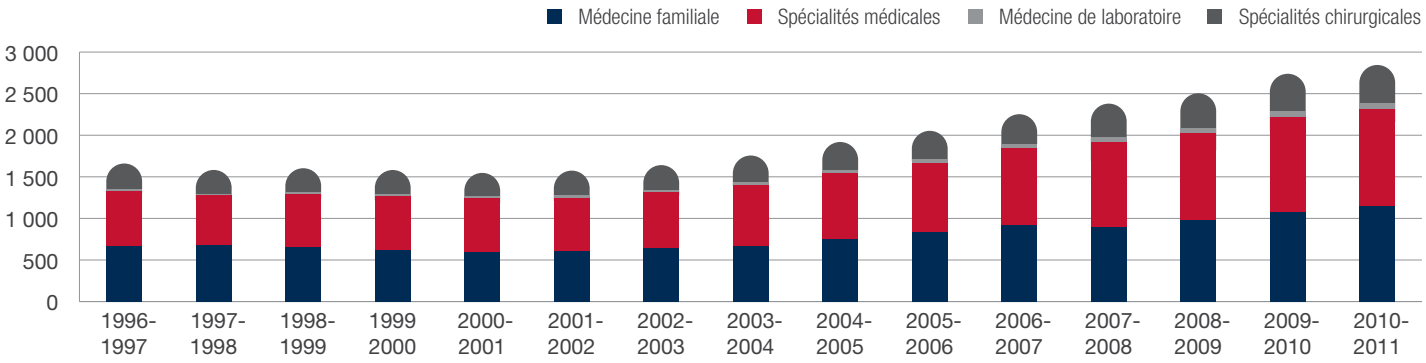
La présente analyse compte quatre domaines particuliers : 1. Les tendances historiques générales de la formation postdoctorale en médecine familiale; 2. Les données démographiques et autres caractéristiques des médecins de famille en formation; 3. La comparaison des facultés de médecine en ce qui concerne la formation des médecins de famille; et 4. Les stagiaires et les diplômés issus de la formation en médecine familiale.

LES TENDANCES DE LA FORMATION POSTDOCTORALE EN MÉDECINE FAMILIALE.

- Le nombre total de stagiaires postdoctoraux de première année connaît une hausse croissante depuis 2002-2003. Pendant la période à l'étude, les stagiaires en médecine familiale représentaient au moins 37,6 % de tous les stagiaires de première année et au plus 42,8 % en 1997-1998. En 2010-2011, 40,2 % de tous les stagiaires de première année faisaient partie de programmes en médecine familiale *(figure 1, tableau A1)*.
- Le nombre de stagiaires achevant des études en médecine familiale a augmenté de 28,4 % pendant la période de l'étude de 15 ans, passant de 730 en 1996 à 937 en 2010. Les stagiaires issus d'une formation en médecine familiale représentent la plupart des nouveaux médecins de famille du Canada. Au cours de la période à l'étude, les stagiaires en médecine familiale représentaient une proportion assez stable de tous les stagiaires achevant leurs études : 47,9 % en 1996-1997, 45,0 % en 2003-2004 et 48,1 % en 2010-2011 *(figure 6, tableau A6)*.
- Le nombre de stagiaires optant pour une formation facultative en médecine familiale lors de leur troisième année a augmenté de manière considérable, passant de 85 en 1996-1997 à 242 en 2010-2011. La plupart d'entre eux ont poursuivi une formation en médecine familiale d'urgence reconnue par le CMFC ou d'autres types de perfectionnement en médecine familiale. Très peu ont suivi une formation supplémentaire en soins des personnes âgées *(figure 4, tableau A4)*.
- Alors qu'un nombre relativement petit et décroissant de stagiaires ont changé de spécialité, en règle générale, la médecine familiale a « gagné » des stagiaires provenant d'autres spécialités pendant la période à l'étude. En 2009, 42 stagiaires ont changé de programmes de formation en une spécialité générale : 14 ont quitté la médecine familiale et 28 ont entamé des études en médecine familiale, une hausse nette de 14 stagiaires en médecine familiale en un an. Le nombre de stagiaires quittant la médecine familiale a surpassé le nombre entamant leurs études en médecine familiale une seule fois, soit en 2003 *(figure 5, tableau A5)*.

FIGURE 1, TABLEAU A1

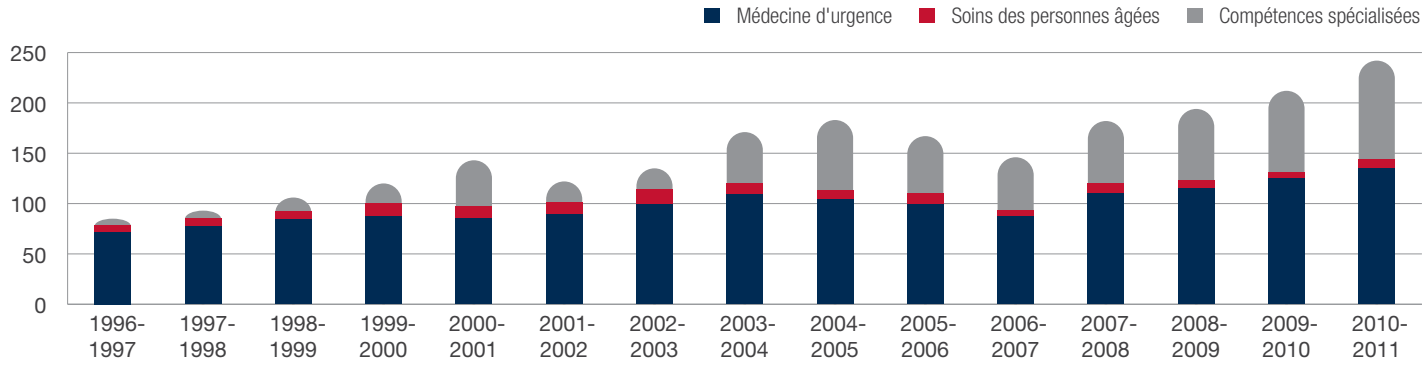
Nombre de stagiaires postdoctoraux de première année selon la spécialité générale,
Canada, de 1996-97 à 2010-11



Source : Système informatisé sur les stagiaires post-M.D. en formation clinique (CAPER).

FIGURE 4, TABLEAU A4

Nombre de stagiaires de troisième année (R-3) en médecine familiale selon le domaine de formation R-3,
Canada, de 1996-1997 à 2010-2011



Source : Système informatisé sur les stagiaires post-M.D. en formation clinique (CAPER).

LES DONNÉES DÉMOGRAPHIQUES ET AUTRES CARACTÉRISTIQUES DES STAGIAIRES EN MÉDECINE FAMILIALE.

- Comparativement au début de la période à l'étude, les stagiaires en médecine familiale achevant leurs études sont maintenant plus âgés. Les stagiaires achevant leur formation en 1996 avaient en moyenne 29,8 ans. En 2010-2011, la moyenne d'âge des stagiaires achevant leur formation en médecine familiale a augmenté de 1,8 an, passant à 31,6 ans *(figure 8, tableau A8)*. Cette hausse pourrait résulter de la proportion plus importante de stagiaires diplômés internationaux en médecine (DIM) et du plus grand nombre de personnes optant pour une formation facultative en médecine familiale lors de leur troisième année.

- En médecine familiale, les femmes stagiaires surpassent les hommes tout au long de la période à l'étude. En outre, la proportion de femmes stagiaires a pris de l'ampleur au cours des dernières années : en 2010-2011, 63,2 % de tous les stagiaires en médecine familiale étaient des femmes *(figure 9, tableau A9)*.

- Le pourcentage de DIM a augmenté de manière considérable : en 1996-1997, 4,3 % de tous les stagiaires en médecine familiale étaient des DIM; en 2010-2011, ce nombre représentait 19,8 % *(figure 10, tableau A10)*.

- Les stagiaires DIM en médecine familiale avaient tendance à être plus âgés que leurs homologues diplômés canadiens en médecine (DCM). En 2010-2011, les stagiaires DIM en médecine familiale étaient, en moyenne, 7,6 ans plus âgés que les stagiaires DCM en médecine familiale *(figure 12, tableau A12)*.

LA COMPARAISON DES FACULTÉS DE MÉDECINE CANADIENNES.

- Les facultés de médecine de l'Université Memorial, de l'Université Queen's et de l'Université de Sherbrooke n'ont cessé de produire des proportions de médecins de famille plus élevées que la moyenne nationale. Inversement, les facultés de médecine de l'Université McGill, de l'Université du Manitoba et de l'Université de Toronto avaient tendance à former de plus petites proportions de médecins de famille *(figure 16, tableau A16)*.

- En générale, les femmes sont plus nombreuses que les hommes parmi les stagiaires en médecine familiale, la proportion variant d'une faculté de médecine à l'autre. Au cours de la période à l'étude, les programmes de médecine familiale au Québec avaient tendance à compter des proportions plus importantes de femmes stagiaires que la moyenne nationale. En 2010-2011, les femmes représentaient plus de 70 % de tous les stagiaires dans l'ensemble des quatre programmes de médecine familiale au Québec *(figure 19, tableau A19)*.

- Les DIM représentaient des proportions variées de stagiaires parmi les programmes de formation en médecine familiale. Les programmes dans les Prairies, notamment au Manitoba et en Saskatchewan, avaient tendance à compter des proportions de stagiaires DIM plus élevées que la moyenne, alors que les programmes en médecine familiale au Québec avaient tendance à compter des proportions plus faibles *(figure 21, tableau A21)*.

- Les programmes postdoctoraux ont recruté des stagiaires de leur propre faculté de médecine, d'autres facultés au Canada et d'écoles de médecine internationales. En 2010-2011 (à l'exception de l'Université McGill), plus de 75 % des stagiaires en médecine familiale du Québec détenaient un diplôme prédoctoral québécois. Par contraste, moins de 50 % des stagiaires dans les provinces de l'ouest avaient obtenu leur diplôme en médecine dans la province où ils étudiaient la médecine familiale. Cependant, la tendance globale des programmes de formation en médecine familiale, y compris ceux au Québec, était de recruter à l'extérieur de la province *(figure 23, tableau A23)*.

LES STAGIAIRES ET LES DIPLÔMÉS ISSUS DE LA FORMATION EN MÉDECINE FAMILIALE.

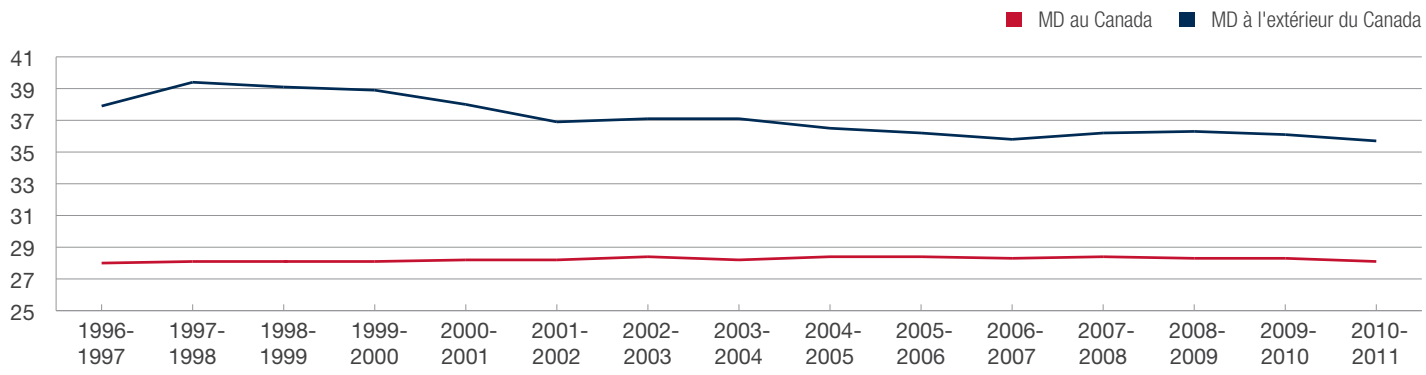
- Tout au long de la période à l'étude, environ 75 % des stagiaires en médecine familiale ont achevé leur formation en deux ans, 20 % l'ayant achevé en trois ans. La plupart des étudiants dans le programme de trois ans ont suivi une formation spécialisée en médecine familiale lors de leur troisième année, mais il est possible que quelques-uns d'entre eux aient repris leur première ou deuxième année. Relativement peu (moins de 4 %) de stagiaires n'ont pas achevé leur formation; la majorité avait changé de programmes de spécialisation *(tableau 3)*.

- Tout au long de la période à l'étude, les stagiaires en médecine familiale ont généralement entamé et continué leur exercice dans la province/région où ils ont obtenu leur diplôme de formation postdoctorale. On a considéré l'emplacement de l'exercice des stagiaires en médecine familiale ayant achevé leur formation en 1997, 1999 et 2001 à deux, cinq et dix ans : respectivement, 63,2 %, 64,9 % et 63,8 % sont demeurés dans la province de formation; 12,6 %, 14,9 % et 14, 5 % ne pratiquaient pas dans la province/région de leur formation à deux, cinq et dix ans *(tableau 9)*.

- Une très grande proportion des diplômés en médecine familiale au Québec (à l'exception du programme de McGill) sont toujours en exercice au Québec. Bien que la proportion au Québec soit plus importante, les programmes en Ontario et en Colombie-Britannique comptaient également des proportions considérables de diplômés demeurant dans leur province de formation. Les personnes achevant leur formation en médecine familiale au Manitoba, en Saskatchewan et à Terre-Neuve et Labrador n'avaient pas tendance à pratiquer dans la province de formation.

FIGURE 12, TABLEAU A12

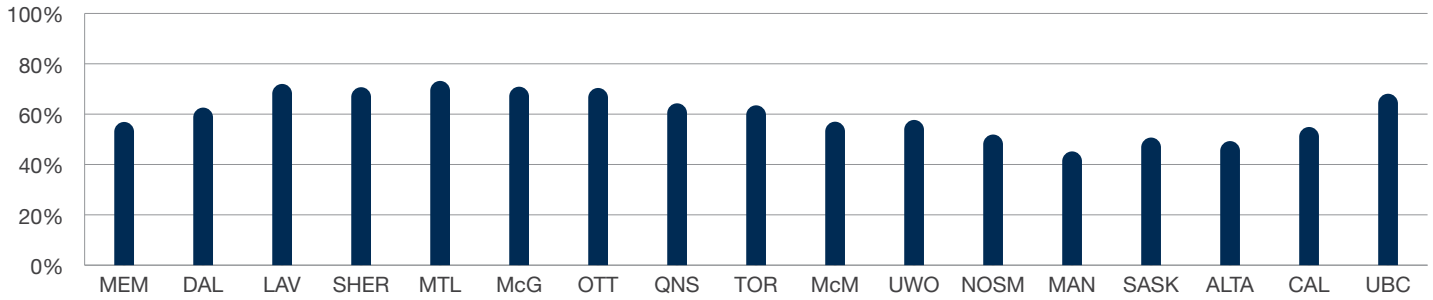
Âge moyen des stagiaires en médecine familiale selon la région géographique de l'université ayant décerné le doctorat en médecine,
Canada, de 1996-1997 à 2010-2011



Source : Système informatisé sur les stagiaires post-M.D. en formation clinique (CAPER).

FIGURE 19, TABLEAU A19

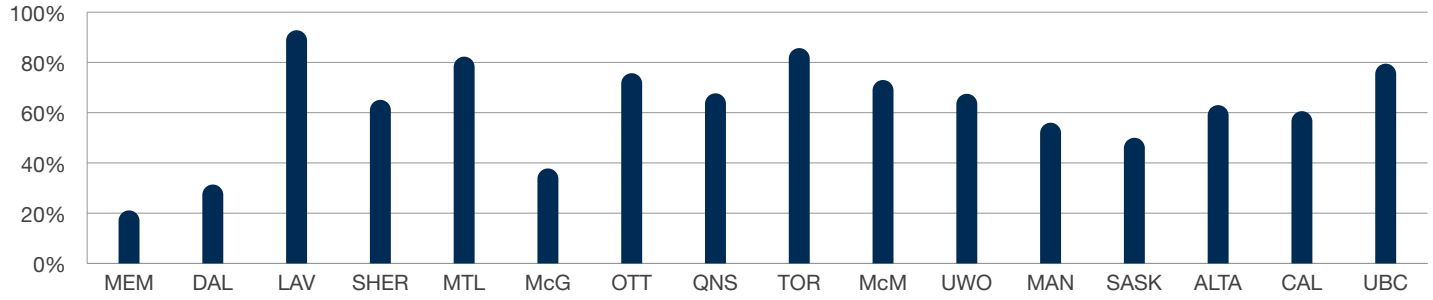
Pourcentage des femmes stagiaires en médecine familiale selon la faculté,
2010-2011



Source : Système informatisé sur les stagiaires post-M.D. en formation clinique (CAPER).

FIGURES 24–39, TABLEAUX A24–A39

Pourcentage des stagiaires en médecine familiale pratiquant dans la même province/région que la formation 10 ans après avoir achevé la formation postdoctorale selon la faculté (d'après l'emplacement de l'exercice en 2011 des stagiaires en médecine familiale diplômés en 2001)



Source : Système informatisé sur les stagiaires post-M.D. en formation clinique (CAPER).

DISCUSSION ET CONCLUSIONS

Les médecins de famille et les omnipraticiens sont une pierre angulaire du système de prestation des soins de santé du Canada. Dans certaines parties du pays, comme les petites villes, les communautés rurales et les régions éloignées, où les spécialistes se font rares, la présence des médecins de famille revêt une importance particulière. En élargissant l'étendue de l'exercice, œuvrant dans différents milieux de soins et réalisant certaines interventions cliniques qui relèvent habituellement de spécialistes en centres urbains, ils aident à combler des écarts de service critiques. Il est donc important d'identifier les médecins de famille de demain et les programmes par l'entremise desquels ils puisent leur savoir, leurs habiletés et leur compétence.

Selon la présente étude, la proportion de stagiaires en médecine familiale parmi l'ensemble des stagiaires postdoctoraux est demeurée relativement stable au cours des 15 années. L'appréhension quant à l'« abandon » de la médecine familiale par les étudiants et les diplômés en médecine n'a pas de fondement. On voit même qu'un petit nombre de stagiaires passent d'un autre programme de spécialité à la médecine familiale. Le nombre de médecins achevant leur formation en médecine familiale, qui représente à peu près le nombre de médecins de famille entamant l'exercice de la médecine, a augmenté de près de 30 % entre 1996 et 2010. Quoique les tendances promettent, les préoccupations touchant à un surplus possible de médecins au Canada recommencent à faire surface. On doit surveiller de près cette situation afin d'éviter le retour du pendule stratégique des années 1990.

Au cours de la période à l'étude, un plus grand nombre de stagiaires en médecine familiale ont opté pour une année supplémentaire de formation. Cependant, un nombre relativement faible ont choisi d'étudier les soins aux personnes âgées pendant cette troisième année. Étant donné le vieillissement démographique, on doit faire preuve de vigilance, voire même agir à l'échelle du système.

Notons aussi les changements démographiques chez les stagiaires canadiens en médecine familiale. Les femmes et les diplômés internationaux en médecine (DIM) représentent une hausse du nombre et de la proportion des stagiaires en médecine familiale. Comme le montre la présente étude, les DIM en formation postdoctorale sont, en moyenne, plus âgés que les stagiaires diplômés d'école de médecine canadiennes. En outre, selon des études antérieures, les femmes médecins passent moins de temps à fournir des soins directs aux patients comparativement aux hommes médecins. Encore une fois, ces résultats méritent réflexion lorsqu'il est question de planification de la main-d'œuvre future, à savoir le temps que les médecins nouvellement diplômés consacreront à leur carrière tout au long de celle-ci.

La présente étude décrit la relation entre l'emplacement de la formation postdoctorale et l'emplacement éventuel de l'exercice. Dans l'ensemble du Canada, près des deux tiers des stagiaires en médecine familiale pratiquent dans le ressort territorial de leur formation postdoctorale à deux, cinq et dix ans après son achèvement. Cependant, les taux de maintien de l'effectif varient considérablement d'une région à l'autre. Le taux de conservation à long terme des médecins de famille est relativement élevé en Colombie-Britannique, en Ontario et au Québec. Par contre, un nombre plus faible de stagiaires en médecine familiale à Terre-Neuve et Labrador, dans les Maritimes, au Manitoba, en Saskatchewan et en Alberta s'y installent pour l'exercice à long terme.

À l'aide des données provenant d'une seule base de données s'étendant sur plusieurs années, la présente étude tente de dresser un portrait de la formation en médecine familiale au Canada au cours des 15 dernières années. On a reproduit certaines études sur des thèmes connexes tels le nombre croissant de stagiaires DIM et on a mis à jour les résultats d'autres études à l'aide de renseignements plus récents. On a également touché à des enjeux qui, jusqu'à présent, ont mérité peu ou pas d'attention de la part de la recherche, comme les différences entre les stagiaires et les diplômés d'une faculté de médecine à l'autre et leur réussite pendant la résidence et une fois la résidence achevée. De plus, la nature historique de CAPER, y compris l'emplacement de l'exercice continu, permet une analyse longitudinale et le suivi des cohortes de stagiaires sur plusieurs années.

Il est à souhaiter que le savoir et les perspectives découlant de la présente étude étofferont notre compréhension des enjeux relatifs à la formation en médecine familiale au Canada. La présente étude est aussi une occasion de mettre en valeur la pertinence et la richesse de la base de données de CAPER et les types d'analyses pouvant être fondées sur ces précieux renseignements.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

1 INTRODUCTION

How many new family physicians does Canada produce each year? Has that number changed over the years? Which medical school trains the largest/smallest number of family doctors? Which province produces a greater/lesser proportion of family physicians relative to its share of the national population? Who are the family medicine trainees? Are there more international medical graduates among family medicine trainees in recent years? Do most new family physicians stay in the province where they train? Answers to these and other questions are important not just to medical schools, but also to health care planners and health policy-makers, as they have implications for Canada's physician workforce. This study seeks to provide answers to some of those questions.

Historically, family physicians and general practitioners account for approximately 50% of all physicians in Canada. They are the principal providers of primary care and serve as the gatekeepers to other specialists and some components of the health care system. Strengthening primary care has been seen by many as the key to health systems renewal and enhancement in Canada (Romanow 2002). In some parts of the country, such as small towns, rural communities, and remote regions, where specialists are few and far between, family physicians have an especially important role to play. By broadening their scope of practice, working in different care settings, and performing certain clinical procedures that would typically be done by specialists in urban centres, they help to fill critical service gaps (Pong and Pitblado 2005; Pong et al. 2012). It is, therefore, important to know who are being trained to be family physicians and the training programs that equip them with the requisite knowledge, skills, and competence.

WHAT WE KNOW ABOUT FAMILY MEDICINE TRAINING

The nature of family medicine training has attracted considerable attention. There have been policy pronouncements and debates. Some of the policy statements are about medical education in general (but are also applicable to family medicine training) while others specifically address issues concerning the training of family physicians. An example of the former is a Canadian Medical Association policy statement on flexibility in medical education (Canadian Medical Association 2009). Examples of the latter include "Advancing Canada's Family Medicine Curriculum: Triple C" (Oandasan 2011) and "Family Medicine in Canada: Vision for the Future (College of Family Physicians of Canada 2004). Others (e.g., McWhinney 1981) have discussed how family medicine should be taught. There are also debates about family medicine training. For instance, there was a debate about whether family medicine is a specialty (Bailey and Hennen 2007); another focused on whether family medicine residency should be three years in duration (Lehmann and Raîche 2009).

There is no shortage of research on family medicine training in Canada. There are general studies on such topics as: difficulties encountered by residents in a family medicine residency program in Quebec (Boulé and Girard 2003); the demand for optional third-year training (or PGY3) in family medicine residency programs (Green et al. 2009); care of the elderly training in family medicine (Frank and Seguin 2009); and training for rural practice (Chan et al. 2006; Krupa and Chan 2005; Rourke and Rourke 1995; Tesson et al. 2006).

One area that has attracted considerable research attention is whether family medicine is losing its appeal among medical students. An example of this research is a study by Bethune and associates (2007) who tracked the career-choice decisions of medical students at one Canadian medical school. They found that the number of students planning to become family physicians dropped significantly from the first to the second year. Other writers have also sought to understand why family medicine has become less attractive by examining the views of those in the medical education system. One study (Beaulieu et al. 2008) examined how medical educators and residents viewed the professional identity of family practice. Another (Morra et al 2009) studied medical students' views on the future income potential of family medicine versus other specialties. However, a study by Scott and associates (2011) found that a stated preference for family medicine at medical school entry was a strong predictor of an exit career choice in family medicine.

The changing demographics of the physician population in Canada have been previously noted by several writers. The substantial increase in the numbers of female medical students and physicians has caught the attention of many, as has the increase in the number of international medical graduates (IMGs)[1]. A study by Szafran and associates (2005) compared the demographic and educational characteristics of two categories of IMGs—immigrants with an overseas medical degree and Canadians who studied medicine abroad. Mok and colleagues (2011), on the other hand, compared Canadian medical graduates (CMGs) with IMGs[2]. They found that the latter tended to be older, were more likely to be men, and were more likely to pursue family medicine. However, these and other similar studies are primarily about physicians in general, not specifically about family physicians. Even less has been written about the changing demographics of family physicians in training. In fact, no studies examining the training and/or production of family physicians in Canadian faculties of medicine have been found.

The lack of research into this area is surprising, given the significant differences among medical schools and family medicine training programs. There are regional and linguistic differences; some faculties of medicine are much larger than others; some appear to focus on specialty training and research, while others put the emphasis on educating physicians for community practice or primary care (Beaulieu et al. 2008). For example, the family medicine training programs at Memorial University and Queen's University have a "declared mandate" to prepare family physicians for rural and remote practice (Pullon 2011). The relatively new Northern Ontario School of Medicine (NOSM) probably belongs in this category as well. With such diversity, one would expect differences between faculties of medicine in the types and numbers of trainees they recruit and physicians they produce.

Similarly, little is known about the outcomes of family medicine training, particularly at the national level. What proportion of trainees complete residency programs? How many take the optional R-3 training? How long does it take to complete family medicine training? What do graduates do as family physicians and where do they practise? However, there are a few studies that follow physicians after completion of their training; for example, Buske and Thurber (2000) and Ryan and Stewart (2007) have examined where family physicians practise after residency training. However, most of these studies are short-term only and are based on small samples of physicians or a particular training program.

1. A list of abbreviations can be found in Appendix B.
2. Canadian medical graduates (CMGs) refer to Canadian citizens and permanent residents who have graduated from Canadian medical schools. International medical graduates (IMGs) refer to individuals, including Canadian citizens or permanent residents, who have graduated from foreign medical schools.

OBJECTIVES AND SCOPE OF THE STUDY

This study attempts to build on the previous research and fill some of the existing knowledge gaps where feasible. It differs from other studies in several respects. First, the present study is primarily based on data from the Canadian Post-M.D. Education Registry (CAPER) database. Second, it is national in scope and includes all 17 faculties of medicine. Lastly, it is a longitudinal analysis, looking at how family medicine training in Canada has changed or remained the same over a 15-year period. It also examines another form of change: how trainees progress over a number of years following the beginning or completion of family medicine training.

Since the mid-1980s CAPER has been collecting and archiving a wealth of information on post-M.D. education in Canada, including data on family medicine training at the 17 medical schools. In addition to publishing the *Annual Census of Post-M.D. Trainees*, CAPER has supported researchers to facilitate medical education-related studies as well as medical educators to assist with program evaluation and planning. The vast amount of data that CAPER has gathered over the years also affords an excellent opportunity to examine the development of post-M.D. training from a historical perspective.

Because the data for the present study are primarily taken from the CAPER database, it should not be considered a comprehensive review of family medicine training in Canada. All studies based on secondary data analysis, including this one, share one common handicap, namely, the analysis is strictly limited by what the databases contain, how those data are collected, and what the variables denote. For example, the CAPER database has no information about why trainees choose family medicine or why they select a particular training program. It contains no information about the training process, where training activities take place, and where the trainees come from. Similarly, for international medical graduates (IMG), CAPER does not distinguish between immigrants who have obtained medical degrees from other countries prior to coming to Canada and Canadians who have studied medicine abroad. But the CAPER database does have a number of strengths and unique characteristics. For example, it contains standardized, high-quality data gathered from all medical schools in Canada on an annual basis since the mid-1980s. It thus provides an excellent source of information for comparison purposes and for examining development over time.

The data analysis part of the study comprises four components. The first outlines broad historical trends in post-M.D. training in family medicine. The second part examines demographic and other characteristics of family medicine trainees from a historical perspective, identifying changes over time. In the third part, this study fills an important knowledge gap by comparing faculties of medicine with respect to the training of family physicians. Lastly, the study examines the outcomes of family medicine trainees and graduates following their training. However, because of data limitations, only two issues will be addressed: how the trainees fared in the training process and where the graduates practise during the first ten years of their medical career.

HISTORICAL AND POLICY BACKDROP

The focus of the study is on continuity and change in post-M.D. family medicine training in Canada over a 15-year period from 1996 to 2010. Although family medicine residency training has a much longer history and although CAPER started collecting data in the mid-1980s, 1996 was chosen as the starting point of this analysis for a number of reasons. Of particular importance, the rotating internship was terminated in the early1990s and family medicine residency became the sole training avenue for medical school graduates who wish to become primary care physicians. As of 1996, no new general practitioners completed rotating internship as their post-M.D. training—all new physicians would be either family physicians or specialists in non-primary care disciplines. The elimination of the rotating internship also meant that all primary care physicians would need at least two years of post-M.D. training before certification.

It was also a turbulent period for medical education in general, and for family medicine training in particular, as there were several major developments that buffeted the Canadian medical education system. A number of these factors are noted below.

- The decision by federal and provincial ministries of health, triggered by the "Barer-Stoddart report" (Barer and Stoddart 1991), to cut medical school enrolment in the early 1990s. As a result, medical schools across the country curtailed the intake of new students by about 10%.

- The realization, by the turn of the century, that Canada would likely face a physician shortage due to reduced physician production coupled with a growing and aging population. There were also concerns about the aging of the medical workforce and the number of physicians due for retirement in the coming years (Pong 2011). In addition, complaints by many Canadians about difficulties in finding a family doctor, as well as media reports about long waiting lists, forced federal and provincial governments to take action. This led to a

major policy reversal in the form of expanding medical school enrolment across the country (Canadian Medical Association 2004) and allowing more international medical graduates to access post-M.D. training, with a view to increasing the supply of physicians more quickly.

- There was a growing trend toward specialization and subspecialization in medicine with a concomitant decline in interest in primary care among medical students and graduates. According to an Organization for Economic Cooperation and Development (OECD) report, specialists greatly outnumber generalists on average across OECD countries, including Canada, although the gap between specialists and generalists in Canada is much smaller than in many other OECD countries (OECD 2007). It further suggests that the advance of medical technology is driving ever greater specialization in medicine. Many (e.g., Beaulieu et al. 2008; Canadian Medical Association 2006; Morra et al. 2009; Rosser 2002; Thurber and Busing 1999) have commented on the apparent decline of family medicine as a career choice among Canadian medical students and graduates. In 2003, only 24% of medical students made family medicine their first choice discipline in the Canadian Resident Matching Service (CaRMS) process (Collier 2010). However, since 2003 many provincial governments have made additional investments with a view to making family medicine more attractive.

- Canada and other industrialized nations have come to the realization that primary care is the key to success in their attempts to make medical services more accessible, to reduce fragmentation in the system, to enhance continuity of care, and to control health care costs (Beaulieu et al. 2008; College of Family Physicians of Canada 2011; Romanow 2002; Starfield et al. 2005). There are also suggestions that people tend to have better health outcomes if they have their own family physician.

An awareness of these crosscurrents in health care policy and medical education could help us understand the changes that took place in family medicine training during the most recent 15-year period. Policies adopted by individual provinces or medical schools may also have affected some training programs or trainees. But since this study focuses on the national scene, these factors are given less attention. Broader social, demographic, and economic trends in Canada are also relevant, such as more women entering occupations that were once dominated by men, changing sources of new immigrants, and new Canadians seeking more equal representation in the job market.

ORGANIZATION OF THE STUDY

As noted previously, the data analysis part of the study is divided into four sections: broad historical trends of family medicine training; an examination of the changes in demographic characteristics of family medicine trainees; a comparative analysis of faculties of medicine with respect to the production of family physicians from a historical perspective; and an outline of the outcomes for family physicians during and after family medicine residency. The final section of the report summarizes the salient findings and discusses their implications for medical education and medical workforce planning in Canada.

For ease of reading, graphs, bar graphs, and simple tables accompany the text in the report proper. Data tables corresponding to the graphs and bar graphs appear in Appendix A for those who wish to view the data in greater detail.

2 DATA AND METHODS

The primary source of data used in this study is the CAPER database. The mandate of CAPER is to provide accurate information that may be used for medical education and workforce planning on a national and provincial basis.

Individual records of all post-M.D. trainees under the supervision of each Canadian faculty of medicine are provided to CAPER by the postgraduate medical education office of the respective faculty. All post-M.D. trainees (both residents and fellows) in training positions on November 1 of the current academic year are reported to CAPER. The reported information includes:

- the faculty of medicine supervising post-M.D. training;
- socio-demographic information of the trainees;
- previous medical education and certification; and
- field of current post-M.D. training.

This information is collected by all faculties at the time of registration for post-M.D. training each year and is sent to CAPER in coded form. CAPER checks the submitted information for incorrect or missing items. Reports are then sent back to the appropriate postgraduate medical education offices of the medical schools for further verification.

CAPER maintains individual longitudinal files containing socio-demographic information and details of the current and past training programs of each resident or fellow in training on November 1 of each year. CAPER has been collecting such information since 1986 and the database is Canada's definitive source of information on the numbers and types of physicians being trained in Canadian medical schools.

For the current study, all data retrieval and tabulations were done by CAPER staff at the request of the author. The tabulated information was then transmitted to the author electronically. Although information is held by CAPER in an individual longitudinal format to permit the study of the flow of trainees through post-M.D. training, no information pertaining to individual trainees

was released to the author. To protect the privacy and confidentiality of individuals, no personally-identifiable information was released. No research ethics review was deemed necessary for this study because no new information was collected, all information used was in aggregate form, and individuals could not be identified.

Although the CAPER database contains data for all post-M.D. trainees (including regular ministry-funded post-M.D. trainees, visa trainees, and fellows), the present study does not include fellows and visa trainees. Fellows are excluded from the study because they are quite rare in family medicine training programs. Visa trainees are not included because this study is interested in the workforce implications of family medicine training in Canada and since most visa trainees return to their countries of origin upon completion of training, they tend not to have an impact on Canada's medical workforce.

As noted earlier, data for this study were mostly from the CAPER database. However, there were two notable exceptions. The study relied on the Canadian Medical Association Master File (CMA Master File) for practice locations of post-training physicians. This is because the CAPER database contains no information about trainees once they have exited their training programs, but the CMA Master File contains yearly practice location information for each physician. A record linkage technique was used to interface the two databases. The matching of records from the CAPER database and records from the CMA Master File was achieved by means that ensured any confidential proprietary information was not shared in the process. The other minor exception was the use of Statistics Canada's census data and population estimates in some of the analysis.

Although the focus of the present study is on family medicine trainees, some data on trainees in medical specialties, laboratory medicine specialties, and surgical specialties were reported in order to compare family medicine trainees to trainees in the other specialties.

Data are reported for "entry-year trainees", "exit-year trainees", and "all trainees"—it is important to note their differences. Entry-year trainees (or entry trainees or first-year trainees) refers to those who are in the first year of a training program. Exit-year trainees (or exit trainees) refers to those who are in the final year of training. In the case of family medicine, the exit-year could correspond to the second year of residency training, at which time trainees are typically at rank level two (R-2). Alternatively, family medicine residents may exit after an optional third year of training, at which time trainees are typically at rank level three (R-3). All trainees refers to trainees in all years of a training program. Similarly, the report refers to family medicine training programs and all training programs. The former is self-explanatory and the latter refers to training programs in family medicine as well as those in medical, surgical and laboratory medicine specialties.

Lastly, although this study examines developments in family medicine training in a 15-year period, in order to avoid being overwhelmed by a massive amount of information, data for only three "salient" years are typically presented and discussed in the text. The three years—1996/97, 2003/04, and 2010/11—represent the beginning, midpoint, and end of the study period. However, data for all or most years are displayed in a series of tables in Appendix A for those who wish to peruse the data in greater detail.

3 BROAD HISTORICAL TRENDS IN FAMILY MEDICINE TRAINING

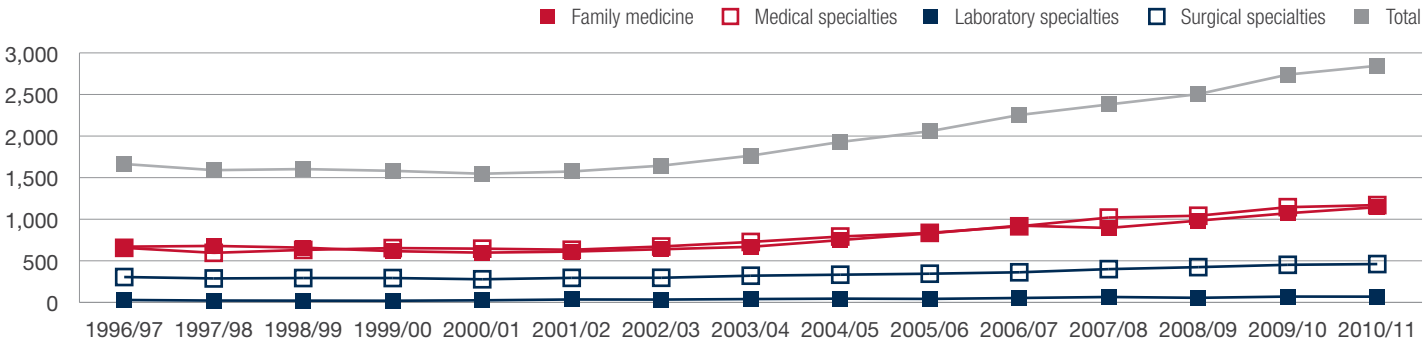
This section describes some broad historical trends in post-M.D. family medicine training with a view to providing a context for subsequent sections.

As Figure 1 shows, the total number of all first-year post-M.D. trainees (i.e., trainees in all family medicine, medical, surgical and laboratory specialties, but excluding visa trainees and fellows) hovered around 1,600 during the first seven years (1996/97 – 2002/03) of the study period, but quickly expanded since 2003/04. The number reached 2,845 in 2010/11, an increase of slightly over 70% during the 15-year study period. Similarly, the number of first-year family medicine trainees grew from 670 in 1996/97 to 1,145 in 2010/11, an increase of just over 70%.

However, in terms of the number of family medicine trainees as a proportion of all trainees, there were no major changes over the years. Medical specialties and family medicine had the largest proportions of trainees in all years; laboratory

FIGURE 1

Number of First-Year Trainees in Post-M.D. Training Programs, by Broad Specialty, Canada, **1996/97 – 2010/11**



Source: CAPER

medicine specialties had the smallest proportions. In the first three years of the study period, the proportions of first-year trainees in family medicine were slightly larger than those in medical specialties. But this has not been true since 1999/2000—from that year onward there were more medical specialty trainees than family medicine trainees. As Table A1 in Appendix A shows, family medicine had its largest proportion of first-year trainees in 1997/98 (at 42.8%), but dropped to the smallest in 2007/08 (at 37.6%)—a decline of about five percentage points. The figure climbed back to 40.2% in 2010/11. The proportion of trainees in laboratory medicine specialties increased from 1.7% in 1996/97 to 2.4% in 2010/11. On the other hand, the proportion of trainees in surgical specialties dropped slightly from 18.4% to 16.2% during the same period.

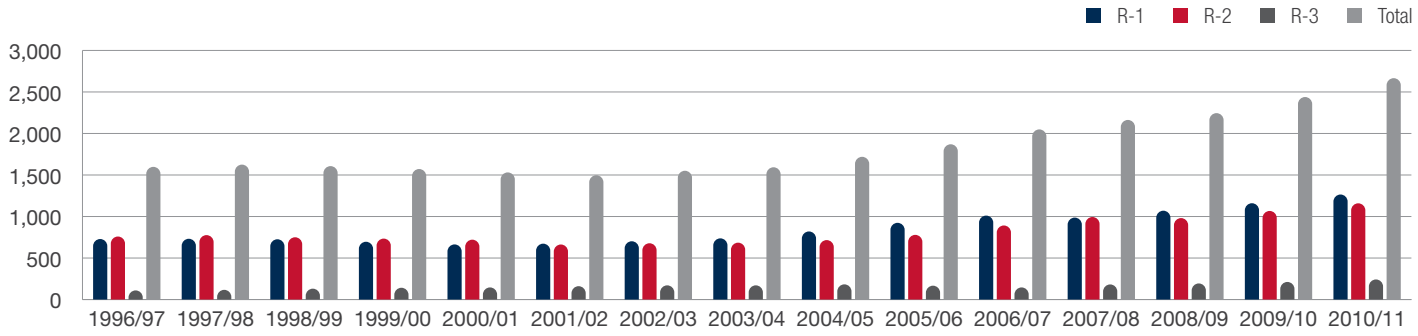
A breakdown of all family medicine trainees into the three training years is shown in Figure 2. In the most recent year, R-1, R-2, and R-3 trainees in family medicine accounted for 47.4%, 43.5%, and 9.1%, respectively (for more detailed data, see Table A2 in Appendix A). The number of all trainees in family medicine increased from 1,598 in 1996/97 to 2,666 in 2010/11.

Figure 3 presents the proportions of all trainees in family medicine (i.e., R-1, R-2, and R-3) by province[3] in 1996/97, 2003/04, and 2010/11. Over the 15-year period, while most provinces saw a slight decline in the proportion of total family medicine trainees (e.g., the proportion of total residents in Quebec family medicine programs declined from 34.5% in 1996/97 to 29.4% in 2010/11), there was an increase in Ontario (from 33.7% in 1996/97 to 37.5% in 2010/11) and British Columbia (from 6.7% in 1996/97 to 9.4% in 2010/11). For numbers and percentages of all family medicine trainees in all 15 years, see Table A3 in Appendix A.

Figure 3 also shows the provincial populations in those three years. Although there is no reason to believe that the proportions of family medicine trainees should match the proportions of population in all provinces, it is interesting to note that some

FIGURE 2

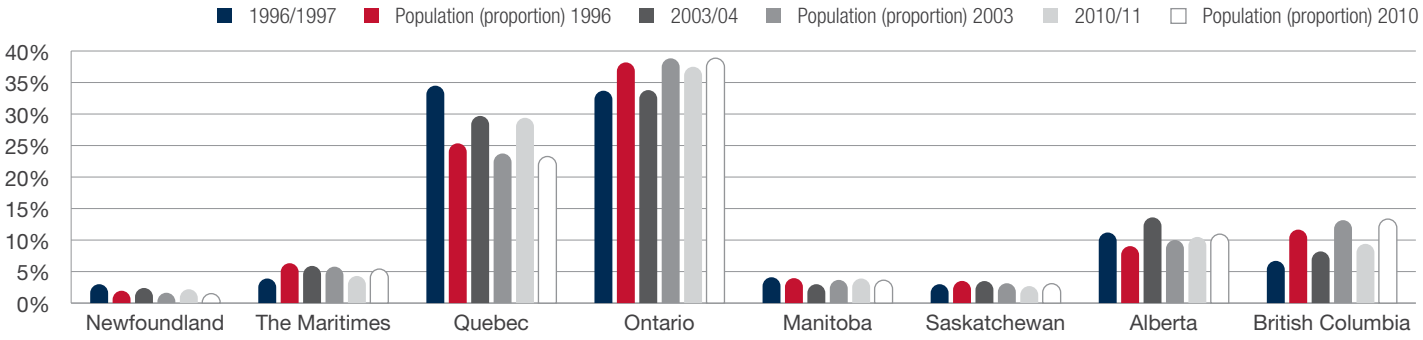
Number of All Family Medicine Trainees in Post-M.D. Training Programs, By Training Level, Canada,
1996/97 – 2010/11



Source: CAPER

FIGURE 3

Percentage of All Family Medicine Trainees per Region, and Proportion of Population per Region; Canada,
1996/97, 2003/04, 2010/11



Source: CAPER; StatsCan

3. Nova Scotia, New Brunswick, and Prince Edward Island are grouped into "The Maritimes". While the latter two provinces do not have medical schools, they fund designated post-M.D. positions at Dalhousie University.

provinces train more family physicians, while others train less, relative to their shares of the national population. Using 2010/11 as an example, the proportions of family physicians trained in Ontario, Manitoba, Saskatchewan, and Alberta roughly matched their shares of the national population. Newfoundland and Labrador and Quebec trained a somewhat larger proportion of family physicians, while the Maritimes and British Columbia trained less, the latter being the province that consistently trained a relatively smaller proportion of family physicians.

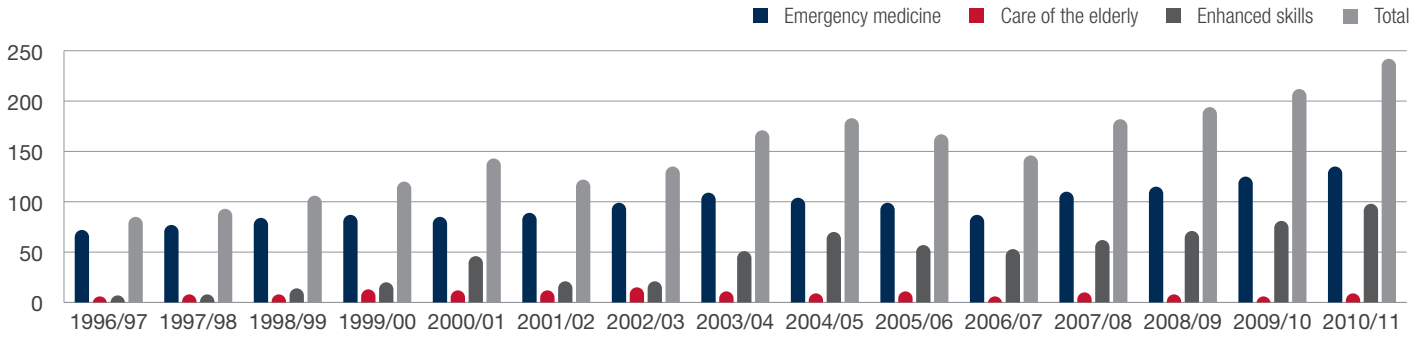
R-3 training in family medicine, which is optional, is divided into three major categories: training in emergency medicine (CFPC), training in the care of the elderly, and enhanced training related to specific skills. Figure 4 shows the number of trainees in those three categories from 1996/97 to 2010/11 (for detailed data, see Table A4 in Appendix A). The total number of R-3 trainees almost tripled in the 15-year period. The number of trainees taking R-3 training in emergency medicine almost doubled from 72 in 1996/97 to 135 in 2010/11. The number of those taking training in care of the elderly was relatively small and showed no increase over the 15 years. On the other hand, the number of individuals taking training in other enhanced skills increased more than tenfold from 7 in 1996/97 to 98 in 2010/11.

Not all trainees in family medicine training programs end up being family physicians. Some switch to other specialty training programs before or after they complete their family medicine residency. Likewise, some trainees in other specialties switch to family medicine. Figure 5 shows the numbers of family medicine trainees switching to other specialties and the numbers of trainees in other specialties switching to family medicine over the years (for detailed data on switching from family medicine to medical, laboratory medicine, and surgery specialties and vice versa, see Table A5 in Appendix A).

Two broad trends are worth noting. First, the number of switches (in both directions) has been declining, even though the total number of trainees increased considerably in the last decade. For instance, 1999 was the year with the largest number of switches (104 switches) during the study period; that number declined to 76 in 2004 and to 42 in 2009. Second, for most years, the number of trainees switching from other spe-

FIGURE 4

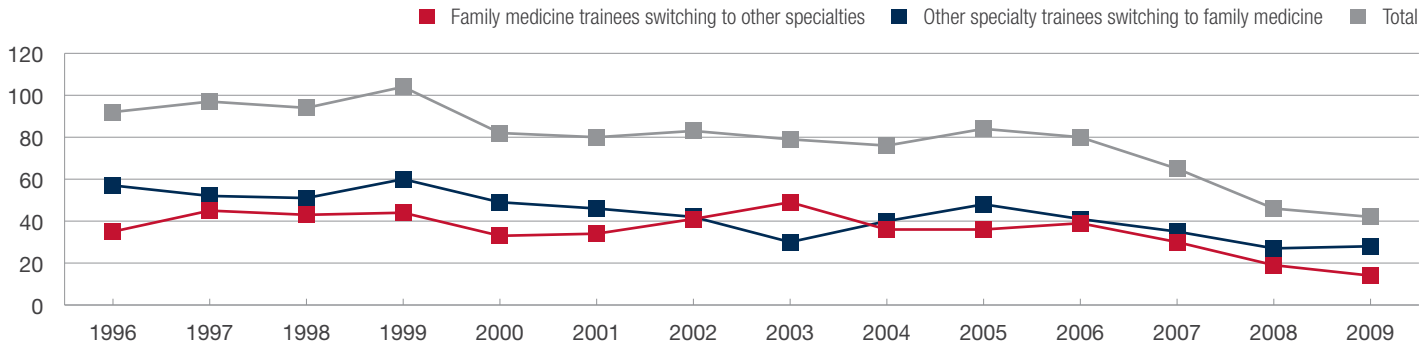
Number of R-3 Family Medicine Trainees, By Field of Post-M.D. Training, Canada,
1996/97 – 2010/11



Source: CAPER

FIGURE 5

Number of Post-M.D. Trainees Involved in Broad Program Switches, by First Recorded Year od Post-M.D. Training, Canada,
1996 – 2009



Source: CAPER

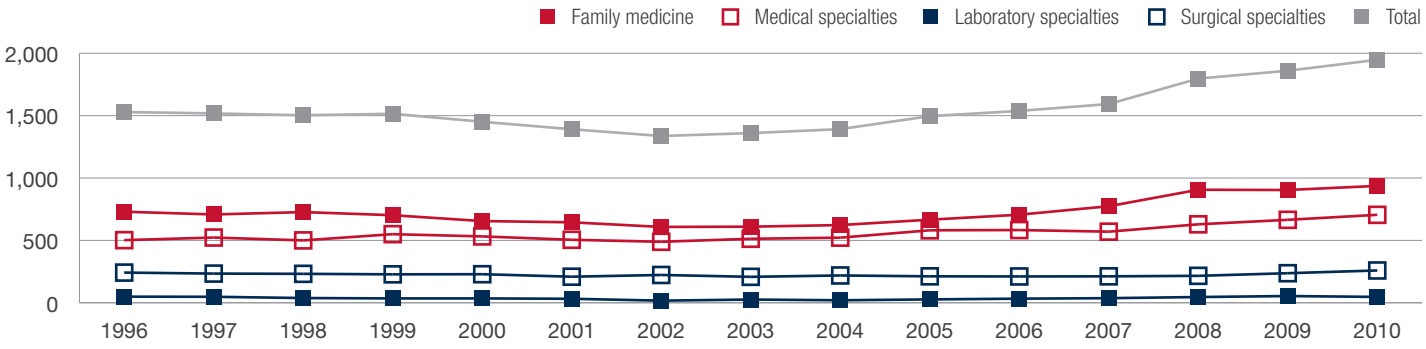
cialties to family medicine was larger than the number of family medicine trainees moving to other specialties. For instance, in 2009 there were ten family medicine trainees switching to medical specialties and four to surgical specialties, for a total of 14. In that same year, there were 21 medical specialty trainees, one laboratory medicine specialty trainee, and six surgical specialty trainees switching to family medicine, for a total of 28. In other words, family medicine had a "net gain" of 14 trainees from the other specialties.

Figure 6 shows the number of trainees exiting post-M.D. training programs by broad specialty from 1996/97 to 2010/11 (re-entry trainees not included). The numbers of trainees exiting training programs are a more realistic indication of the production of practice-entry physicians, as the numbers are not inflated by the number of years needed to complete training. It should be pointed out that CAPER does not know the number of trainees who have successfully completed residency training, as faculties of medicine do not report such information to CAPER. It is assumed that trainees who exit training programs at a rank level commensurate with completion of training have successfully completed their training. Because the number of unsuccessful trainees at this stage is small, it is assumed that the number of trainees exiting training closely approximates the number of practice-entry physicians produced by Canadian faculties of medicine.

As reported earlier (see Figure 1), the number of entry trainees in medical specialties was typically larger than the number of entry trainees in family medicine. This is not true insofar as exit trainees are concerned. As Figure 6 shows, family medicine surpassed all other specialties in all years with respect to the number of exit-year trainees (see Table A6 in Appendix A). Between 1996/97 and 2010/11, there was an increase of 28.4% in the number of exit trainees in family medicine. Similarly, there was an increase of 40.4%, -4.3%, and 7.0% in the number of exit trainees in medical specialties, laboratory medicine specialties, and surgical specialties, respectively, over the 15-year period.

FIGURE 6

Number of Post-M.D. Trainees Exiting Training Programs, by Broad Specialty, Canada, **1996 – 2010**



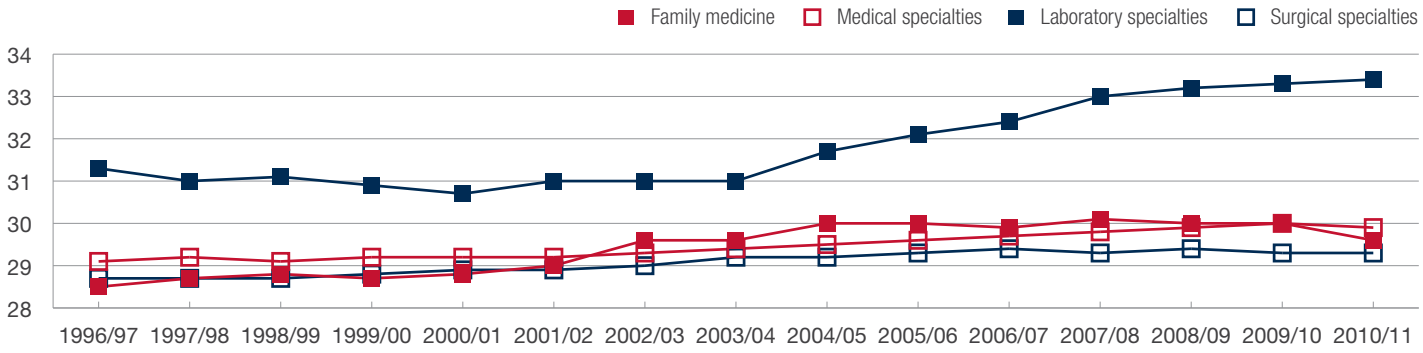
Source: CAPER

4 WHO ARE THE FAMILY MEDICINE TRAINEES?

This section describes the characteristics of family medicine trainees. The analysis focuses on three aspects—the age-sex structure of the trainee population, place of graduation (i.e., whether the trainees are graduates of Canadian medical schools or international medical graduates), and the characteristics of R-3 trainees.

FIGURE 7

Mean Age of All Post-M.D. Trainees During Training, by Broad Specialty, Canada, **1996/97 – 2010/11**



Source: CAPER

AGE-SEX STRUCTURE

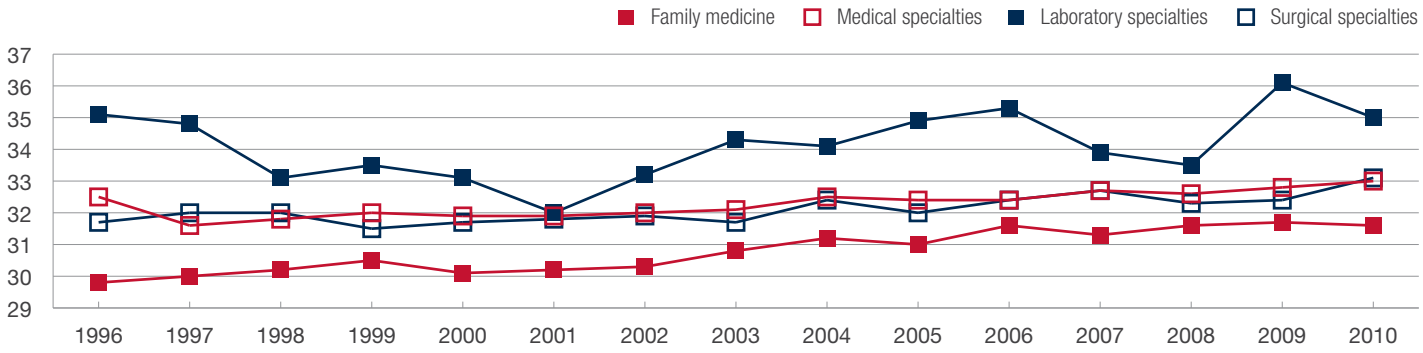
Figure 7 shows the mean age for all trainees in each of the broad specialty groups for each of the 15 years (for more detailed information, including median age data, see Table A7 in Appendix A). Generally speaking, the average age of family medicine trainees was not substantially different than medical specialty and surgical specialty trainees; however, laboratory medicine specialty trainees tended to be somewhat older. In 2010/11, the average age of all trainees in family medicine, medical specialties, laboratory medicine specialties, and surgical specialties was 29.6 years, 29.9 years, 33.4 years, and 29.3 years, respectively.

Figure 8 shows the average age of trainees at year of exit from post-M.D. training programs. In 2010, the mean age of exit-year trainees in all training programs was 32.4 years (for more detailed information, including median age data, see Table A8 in Appendix A). The mean age of exit-year trainees in family medicine was 31.6 years. The mean age at year of exit in other specialty training programs was higher, which may be explained by the longer training periods in the medical, laboratory medicine, and surgical specialties.

Of note, the average age of exit-year trainees in family medicine increased gradually, from 29.8 years in 1996 to 30.8 years in 2003 and to 31.6 in 2010. The mean age of exit-year trainees in other specialties also showed an increase over the years, but not to the same extent. The higher average age of exit-year trainees in family medicine in more recent years could, in part, be due to a sizeable increase in the number of IMG trainees in the last decade. As will be shown later on, the proportion of IMGs is higher in family medicine training programs than in other specialty training programs (with the exception of laboratory medicine). Furthermore, IMG trainees tend to be considerably older than CMG trainees.

FIGURE 8

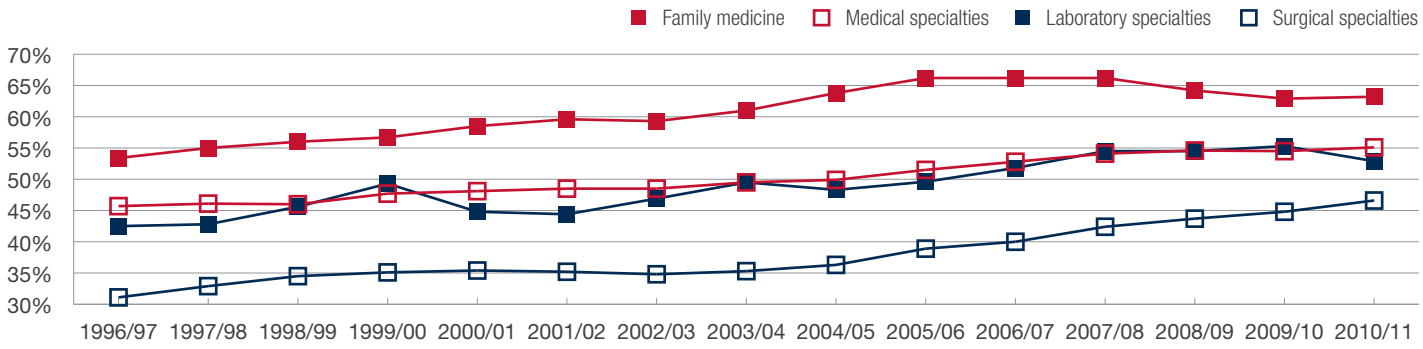
Mean Age at Year of Exit From Post-M.D. Training, by Broad Specialty, Canada, **1996 – 2010**



Source: CAPER

FIGURE 9

Percentage of Female Post-M.D. Trainees, by Broad Specialty, Canada,
1996/97 – 2010/11



Source: CAPER

The most dramatic change in the demographic profile of the post-M.D. trainee population during the 15-year study period was the rapid increase in the number and proportion of females. The rising percentages of female trainees in the four broad specialty groups are shown in Figure 9. In 1996/97, 56.1% of all trainees were male. The proportion of male trainees declined to 51.2% in 2003/04 and to 44.8% in 2010/11 (for complete data, see Table A9 in Appendix A). In family medicine, female trainees outnumbered their male counterparts throughout the study period with the proportion of female trainees becoming larger in more recent years. The proportional representation of women in family medicine training programs reached a plateau in the three-year period from 2005/06 to 2007/08, when female trainees accounted for 66.2% of all family medicine trainees. The proportion of female trainees declined slightly in the last few years. In 2010/11, 63.2% of all trainees in family medicine were women. In that same year, 55.1% of all medical specialty trainees were female and 52.9% of all trainees in laboratory medicine specialties were female. Surgical specialties were the only broad specialty group where male trainees still outnumbered their female counterparts. But even in surgical specialties, the number of female trainees was growing quickly—by 2010/11, 46.6% of all surgical specialty trainees were women (compared with 31.1% in 1996/97).

These data can also be examined using a sex ratio analysis, which is the number of males per 100 females. As shown in Table 1, the sex ratio for all trainees in all training programs in 1996/97 was 127.6, declining to 104.9 in 2003/04 and to 81.2 in 2010/11. For all trainees in family medicine, the sex ratio was 87.3, 63.9, and 58.3 in 1996/97, 2003/04, and 2010/11, respectively.

A similar trend is observed when examining the data for exit-year trainees in family medicine. In 1996, females accounted for 49.6% of all exit trainees in family medicine. The proportion of females increased over the years, accounting for 58.4% and 61.4% of all exit trainees in family medicine programs in 2003 and 2010, respectively. In other words, by 2010, at least six of every ten new family physicians joining the Canadian medical workforce were female.

PLACE OF GRADUATION

Another major development in the post-M.D. trainee population over the years has been the growing number and proportion of trainees who obtained their M.D. degree abroad. International medical graduates (IMGs) include both former foreign nationals who studied medicine in other countries before immigrating to and becoming permanent residents or citizens of Canada and those born and raised in Canada who, after studying in foreign medical schools, returned to Canada and undertook residency training in this country. Szafran et al. (2005), in their study on IMGs, call the former "immigrant IMGs" and the latter "Canadian IMGs." However, the CAPER database is unable to differentiate between these two categories of IMG trainees.

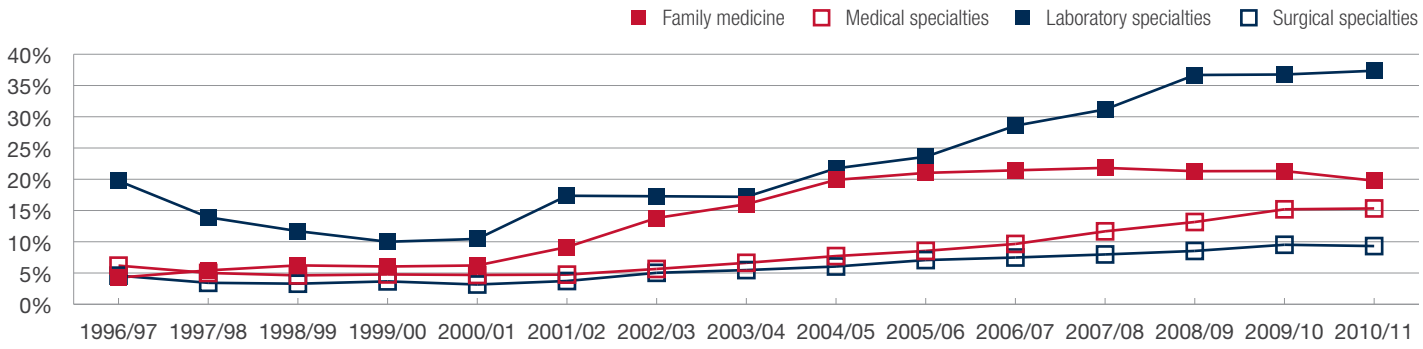
TABLE 1

Sex Ratio of All Post-M.D. Trainees, by Specialty Group, Canada,
1996/97, 2003/04, and 2010/11

	Family Medicine	Medical Specialties	Lab Medicine Specialties	Surgical Specialties	Total
1996/97	87.3	118.9	135.4	221.7	127.6
2003/04	63.9	102.2	102.1	183.6	104.9
2010/11	58.3	81.4	89.1	114.7	81.2

FIGURE 10

Percentage of IMG Trainees in Post-M.D. Training, by Broad Specialty, Canada,
1996/97 – 2010/11



Source: CAPER

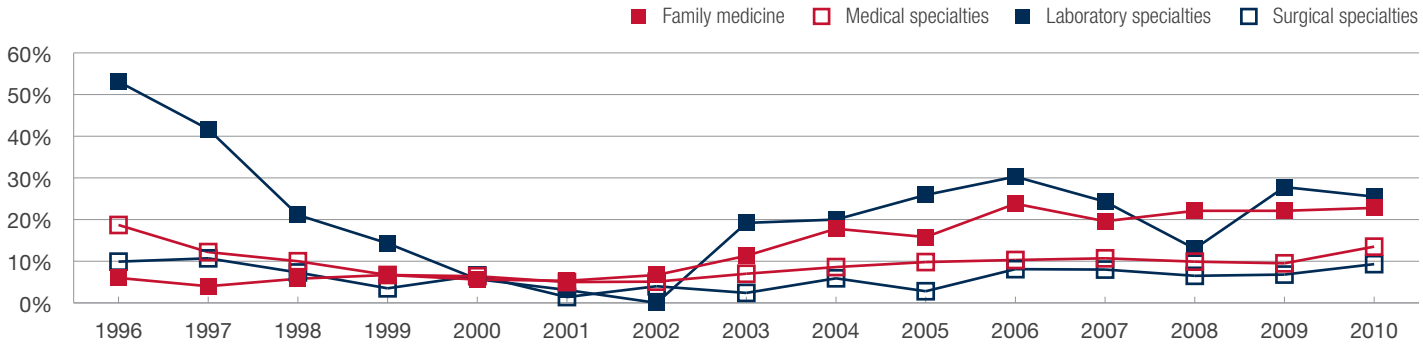
Figure 10 and Table A10 (in Appendix A) show the numbers and proportions of IMGs in different specialty groups during the study period. Overall, the number of IMGs more than quadrupled from 402 in 1996/97 to 1,771 in 2010/11. In terms of proportion, IMGs accounted for just 5.8% of all trainees in all post-M.D. training programs in 1996/97, but 15.8% in 2010/11. Although the number of IMG trainees in laboratory medicine was relatively small (because it was the smallest specialty group), these specialty training programs tended to have the largest proportions of IMG trainees and experienced the most substantial gain in IMG trainees—from 19.7% in 1996/97 to 37.4% in 2010/11. Family medicine was a distant second in terms of gains in IMG trainees—in 1996/97, 4.3% of all family medicine trainees were IMGs. The proportion of IMGs in family medicine training programs reached a peak in 2007/08, when 21.8% of all trainees were IMGs. There was a slight decline of two percentage points—to 19.8%—in the proportion of IMGs among all family medicine trainees from 2007/08 to 2010/11.

IMGs had an even bigger presence among exit-year trainees, particularly in family medicine. In 2010, 17.7% (n = 345) of all trainees exiting post-M.D. training programs at a rank level compatible with completion of training were IMGs. In 1996, 6% (n = 44) of exit-year family medicine trainees were IMGs. The proportion of IMGs among exit-year family medicine trainees increased to 11.3% (n = 69) in 2003 and to 22.8% (n = 214) in 2010 (see Figure 11 and Table A11 in Appendix A).

IMGs differ from CMGs with respect to some demographic characteristics. As Figure 12 shows, IMG trainees in family medicine tended to be considerably older than their CMG counterparts. As previously noted this, coupled with the fact that family medicine training programs tended to have a higher proportion of IMG trainees than other training programs (with the exception of laboratory medicine training programs), has contributed to the "aging" of the family medicine trainee population.

FIGURE 11

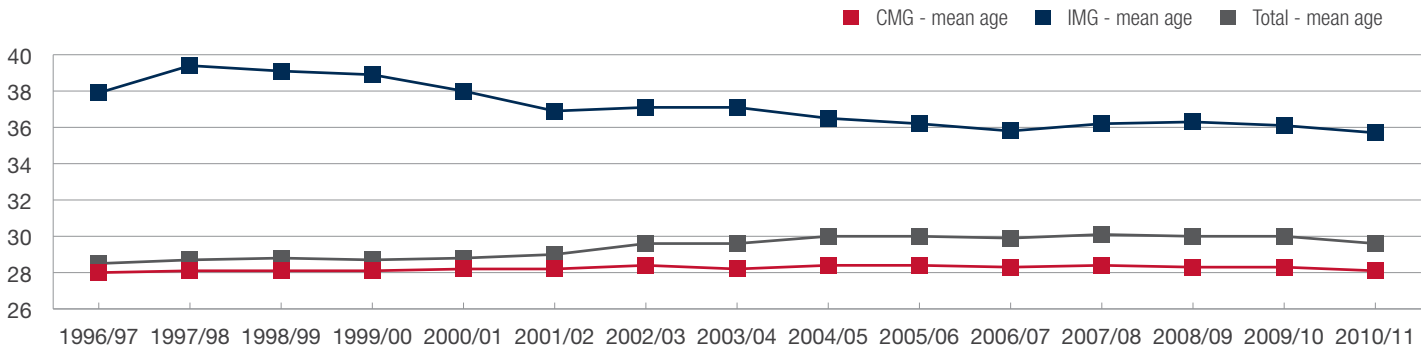
Percentage of IMGs at Year of Exit From Post-M.D. Training, by Broad Specialty, Canada,
1996/97 – 2010/11



Source: CAPER

FIGURE 12

Mean Age of All Family Medicine Trainess, by Place of Graduation, Canada,
1996/97 – 2010/11



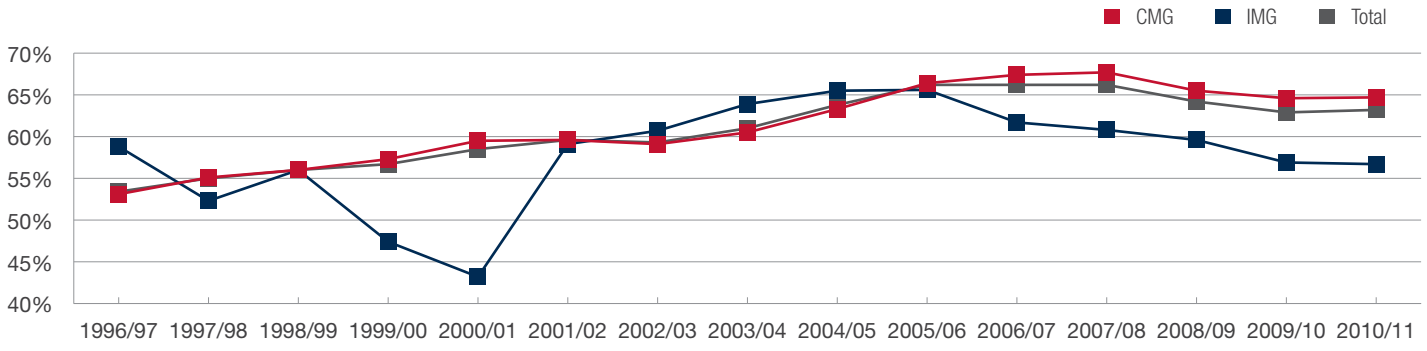
Source: CAPER

Also, while the average age of CMG trainees in family medicine remained more or less unchanged (at about 28 years of age), the average age of IMG trainees in family medicine declined slightly during the study period. The average age of IMG family medicine trainees dropped from 39.4 years in 1997/98 to 35.7 years in 2010/11. As a result, the age gap between IMGs and CMGs narrowed in recent years, from 9.9 years in 1996/97 to 7.6 years in 2010/11.

Like their CMG counterparts, IMG trainees in family medicine were more likely to be females, though not to the same extent. With the exception of two years (1999/00 and 2000/01), there were more female than male IMGs in family medicine training programs. As shown in Figure A13 (and Table 13 in Appendix A), the line representing female IMG trainees fluctuates widely, particularly in earlier years. This could be due to the relatively small number of IMG trainees in family medicine in those years, resulting in possible random variations from year to year. The proportion of female IMG trainees reached a high of 65.6% in 2005/06 and gradually declined to 56.7% in 2010/11. Table 2 presents the same information, but in terms of sex ratio (i.e., number of males per 100 females). Whereas the sex ratio has become increasingly skewed among CMG trainees, there appears to be a shift toward a more balanced sex ratio among IMG trainees in more recent years.

FIGURE 13

Percentage of All Female Family Medicine Trainees, by Place of Graduation, Canada,
1996/97 – 2010/11



Source: CAPER

TABLE 2

Sex Ratio of All Family Medicine Trainees, by Place of Graduation, Canada,
1996/97, 2003/04, and 2010/11

	Canadian Medical Graduates	International Medical Graduates	Total
1996/97	88.2	70.0	87.3
2003/04	65.4	56.4	63.9
2010/11	54.4	76.3	58.3

Where did IMG trainees in family medicine come from? As noted earlier, an IMG trainee could be an individual born and raised in Canada who studied medicine abroad and returned to this country to pursue residency training. Other IMGs are foreign nationals who complete the M.D. degree abroad and then emigrate to Canada. Therefore, the "country of M.D. graduation" is not necessarily an IMG's "country of origin."

The major countries of M.D. graduation have not remained constant over the years. Three years—1996/97, 2003/04, and 2010/11—have been chosen to illustrate the changing sources of IMG trainees in family medicine. There were 68 IMG trainees in family medicine in 1996/97—the top five countries of graduation, in descending order of frequency, were: China (n=9), Egypt (n=8), India (n=8), Romania (n=8), and Vietnam (n=5). The total number of IMG family medicine trainees in 2003/04 was 255, and the top five countries were: India (n=22), Egypt (n=21), Pakistan (n=20), Romania (n=18), and Iran (n=12). There were 527 IMG family medicine trainees in 2010/11 and the top seven countries of graduation were: Republic of Ireland (n=49), Pakistan (n=40), India (n=37), Netherlands Antilles (n=28), Iran (n=28), Australia (n=27), and Egypt (n=25).

R-3 TRAINEES IN FAMILY MEDICINE

The above analysis examines either all trainees or exit-year (i.e., both R-2 and R-3) trainees in family medicine; the following data are specifically about those in R-3 family medicine. Since R-3 training, or PGY3, is an optional year, it is possible that those electing to take this option are different than other family medicine trainees. The purpose of the following analysis is to find out who they are and how the characteristics of R-3 trainees have changed over time.

R-3 training in family medicine has changed in several respects. For one, the number of individuals taking R-3 training in family medicine in 2010/11 (n = 242) is almost three times the number in 1996/97 (n = 85). There were also shifts in area of interest. Although, emergency medicine remained the top choice for R-3 trainees throughout the study period, there was a sizeable increase in the number of trainees taking enhanced skills in other areas—from 7 in 1996/97 to 51 in 2003/04 and to 98 in 2010/11. Thus, by 2010/11, those taking emergency medicine accounted for 55.8% of all R-3 trainees, while those taking other enhanced skills accounted for 40.5%. Notably, the number of individuals taking additional training in care of the elderly remained largely unchanged—this number never exceeded 15 and was less than ten in many of the study years. The percentage of those interested in care-of-the-elderly training actually dropped, in light of the increase in the number of R-3 trainees. For instance, in 1996/97, of the 85 R-3 trainees, six (or 7.1%)

took training in care of the elderly; in 2010/11, of the 242 R-3 trainees, only nine (or 3.7%) pursued further training in care of the elderly. These R-3 training trends are summarized in Figure 4 and Table A4 in Appendix A.

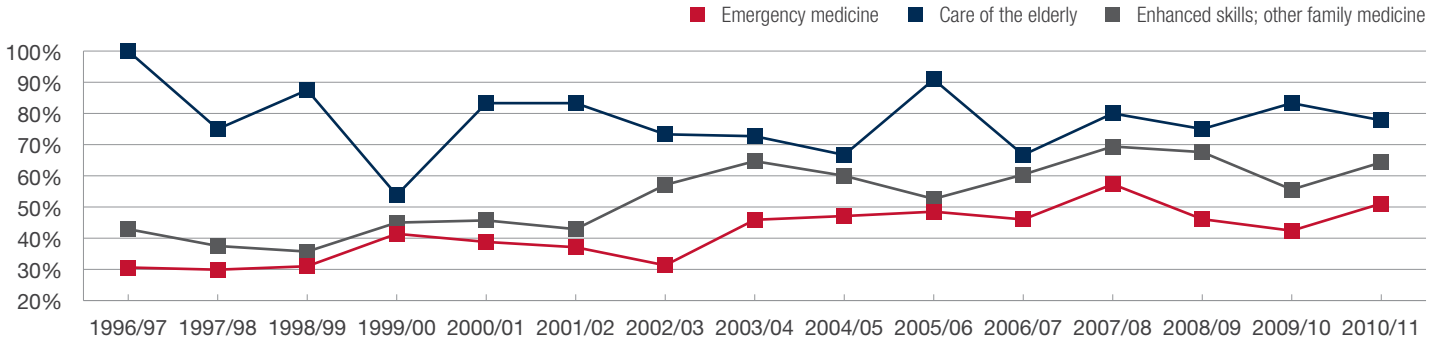
There were also changes in the demographic characteristics of R-3 trainees. Given the growth in the number of female and IMG trainees in family medicine over the years, it is not surprising to find an increase in the number of females and IMGs among R-3 trainees. In 1996/97, 36.5% of the R-3 trainees were female. Females accounted for 53.2% of R-3 trainees in 2003/04 and 57.4% in 2010/11. In the early years, most of those in R-3 emergency medicine training were males (69.4% male in 1996/97). The proportion of males in emergency medicine dropped to 54.1% in 2003/04 and to 48.9% in 2010/11. In earlier years, males slightly out-numbered females among R-3 enhanced skills family medicine trainees. But since 2002/03, there were more female than male trainees. In 2010/11, 63 females and 35 males took R-3 training in other enhanced skills.

Throughout the study period, training in care of the elderly was dominated by females. In 1996/97, all six trainees in care of the elderly were female; in 2003/04, there were eight female and three male trainees; and in 2010/11, of the nine trainees, seven were female. The proportional representation of female trainees in R-3 family medicine programs in shown in Figure 14 and Table A14 in Appendix A.

The number and percentage of IMGs in R-3 family medicine programs also increased, though IMGs never out-numbered CMGs. In 1996/97, only 2.4% of R-3 trainees were IMGs, but by 2010/11 they accounted for 15.3% of R-3 trainees. In 2010/11, IMGs accounted for 11.1%, 44.4%, and 18.4% of R-3 trainees in emergency medicine, care of the elderly, and enhanced skills programs, respectively (see Figure 15 and Table A15 in Appendix A).

FIGURE 14

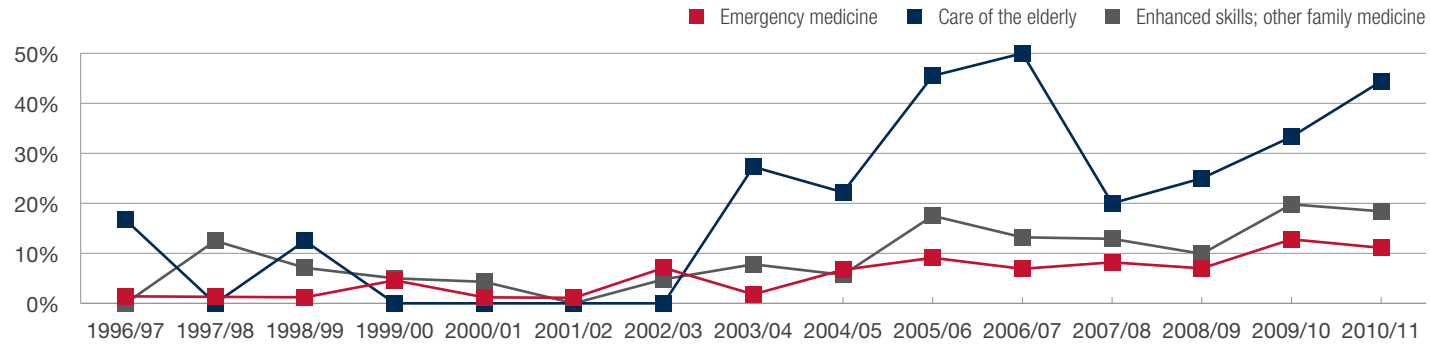
Percentage of Female R-3 Family Medicine Trainees, by Program, Canada, **1996/97 – 2010/11**



Source: CAPER

FIGURE 15

Percentage of IMG R-3 Family Medicine Trainees, by Program, Canada, **1996/97 – 2010/11**



Source: CAPER

5 FOCUSING ON FACULTIES OF MEDICINE

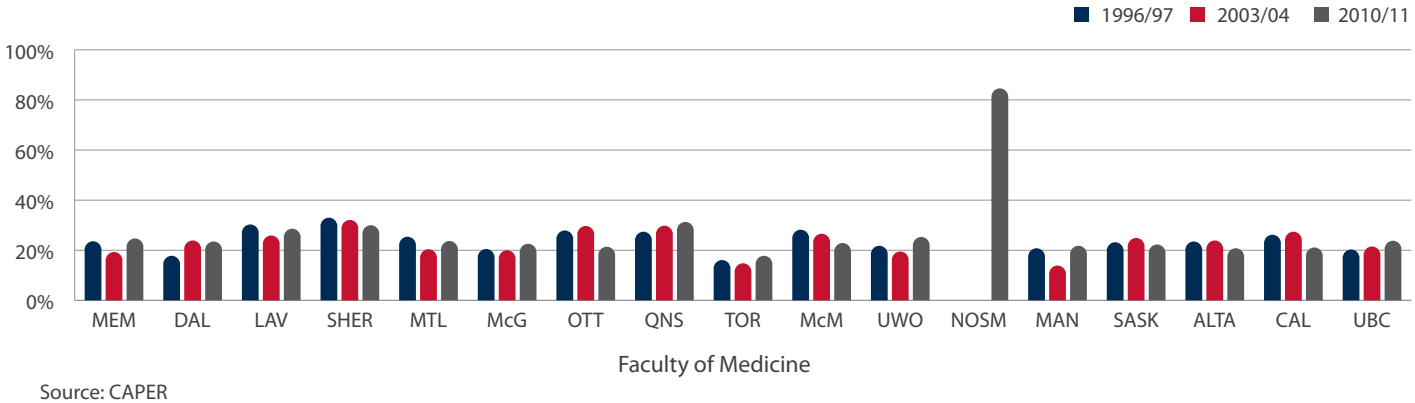
The last two sections have focused on the trainees in family medicine; this section focuses on faculties of medicine in the production of family physicians. A number of questions will be addressed. For example, have the roles of the faculties of medicine changed over the years? Which medical school produces the largest number of family physicians? Which faculty of medicine has the largest proportion of IMG trainees in family medicine? Which faculty of medicine is most likely to recruit its family medicine trainees from within the same province?

WHERE WERE FAMILY PHYSICIANS TRAINED?

Figure 16 (and Tables A16 in Appendix A) shows the percentage of family medicine trainees in each of the faculties of medicine in 1996/97, 2003/04, and 2010/11. For instance, 23.6% of all trainees at the Memorial University medical school were in family medicine (compared to 47.3% in medical specialties, 4.4% in laboratory medicine specialties, and 24.6% in surgical specialties—not shown in Figure 16) in 1996/97; this proportion dropped to 19.3% in 2003/04, but rose again to 24.7% in 2010/11.

FIGURE 16

Percentage of Post-M.D. Family Medicine Trainees, by Faculty of Medicine, Canada, **1996/97, 2003/04, 2010/11**



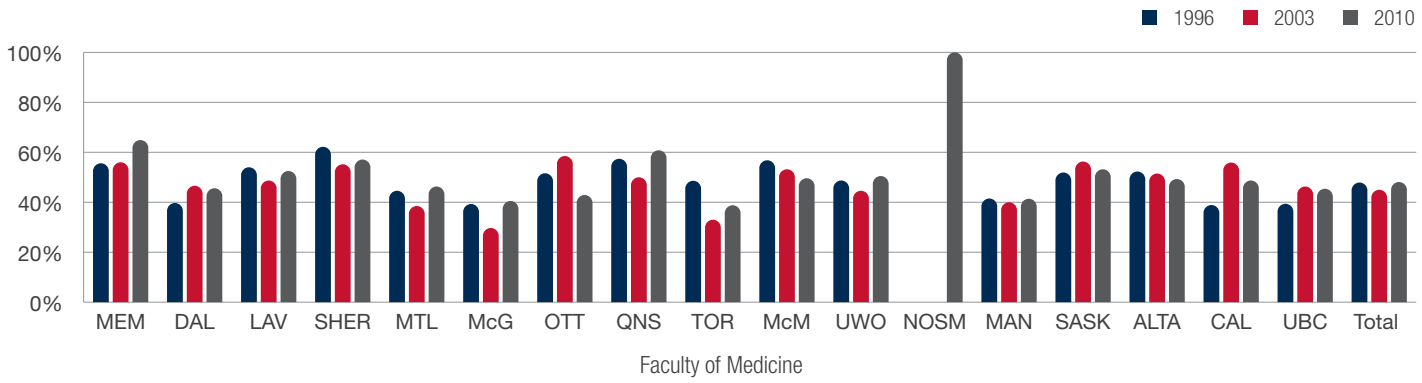
Source: CAPER

Across the country, 23.1%, 22.4%, and 23.8% of all trainees were in family medicine training programs in 1996/97, 2003/04, and 2010/11, respectively. This reflects remarkable consistency over a 15-year period, even though the actual number of trainees changed substantially over time (from 1,598 family medicine trainees in 1996/97 to 2,666 trainees in 2010/11). A few faculties of medicine were consistently above or below the national average. For example, the Université de Sherbrooke medical school had larger (but slightly decreasing) proportions of family medicine trainees (33.0% in 1996/97, 32.1% in 2003/04, and 30.0% in 2010/11), while the University of Toronto medical school had smaller proportions (16.1% in 1996/97, 14.8% in 2003/04, and 17.8% in 2010/11). The faculty of medicine at McMaster University also saw a decline in the percentage of family medicine trainees across the three time periods. At the Northern Ontario School of Medicine (NOSM), 84.6% of its post-M.D. trainees were in family medicine in 2010/11. However, NOSM should be considered a special case because it is a relatively new medical school and its post-M.D. training programs are still being established.

The above data encompass all family medicine trainees; however, the variable length of training among specialty groups must be considered. Family medicine training requires two or three years to complete, whereas the other specialties have longer training periods. In other words, the larger numbers of trainees in the other specialties is due, in part, to their longer training periods. Therefore, it may be more appropriate to focus on the number of exit-year trainees, which reflects the number of practice-entry physicians produced each year. Again, using the Memorial University faculty of medicine as an example, one can see that in 1996/97, 55.6% of its exit-year trainees were in family medicine. The comparable figures for 2003/04 and 2010/11 are 56.0% and 64.9%, respectively (see Figure 17 and Table A17 in Appendix A).

FIGURE 17

Percentage of Family Medicine Trainees Exiting Training Programs, by Faculty of Medicine, Canada, **1996, 2003, 2010**



Source: CAPER

In 1996/97, 1,523 trainees exited post-M.D. training programs at the 16 faculties of medicine at a rank level compatible with completion of training and 730 of them (or 47.9%) were from family medicine training programs. In 2003/04, 610 out of 1,357 (or 45.0%) exit-year trainees from the 16 faculties of medicine were in family medicine. In 2010/11, 937 out of 1,948 (or 48.1%) exit-year trainees from the 17 faculties of medicine (a new medical school—NOSM—started in 2005) were from family medicine training programs. In other words, the proportions of post-M.D. trainees completing family medicine training were fairly stable throughout the study period, even though the yearly total number of post-M.D. trainees showed considerable fluctuation.

In 2010/11, faculties of medicine that produced substantially smaller proportions of new family physicians than the national average were those at the University of Toronto (38.8%), McGill University (40.5%), and the University of Manitoba (41.4%). With the exception of NOSM (100%), which is a special case as noted earlier, medical schools that produced substantially larger proportions of new family physicians than the national average were those at Memorial University (64.9%), Queen's University (60.8%), and Université de Sherbrooke (57.1%). It appears that the 2010/11 figures were not a "one-off" phenomenon. Throughout the study period, Memorial, Sherbrooke, and Queen's faculties of medicine tended to train larger proportions of family physicians than the national average, whereas the McGill and Manitoba faculties of medicine tended to train smaller proportions. The University of Toronto medical school presents an interesting case—in 1996/97, 48.6% of its exit-year trainees (just above the national average) were in family medicine, but that dropped sharply to 33% in 2003/04 and rebounded slightly to 38.8% in 2010/11. The relative stability of these statistics suggest that some faculties of medicine may have made the training of family physicians part of their long-term mandates, while others may have adopted training objectives focused on other specialties or subspecialties.

TRAINEE CHARACTERISTICS BY FACULTY OF MEDICINE

AGE

The average age of all trainees exiting family medicine programs at a rank level compatible with completion of training increased by almost two years from the beginning to the end of the study period (see Figure 18 and Table A18 in Appendix A). In 1996/97, the mean age of all exit-year family medicine trainees was 29.8 years. At 27.1 years, exit-year family medicine trainees at the Université de Sherbrooke had the lowest average age. At 31.9 years, exit-year trainees at the University of Saskatchewan had the highest average age. In 2010/11, the mean age of all exit-year family medicine trainees reached 31.6 years. Trainees in the Université de Sherbrooke program had the lowest average age (27.1 years) and those in the University of Western Ontario program had the highest average age (35.0 years).

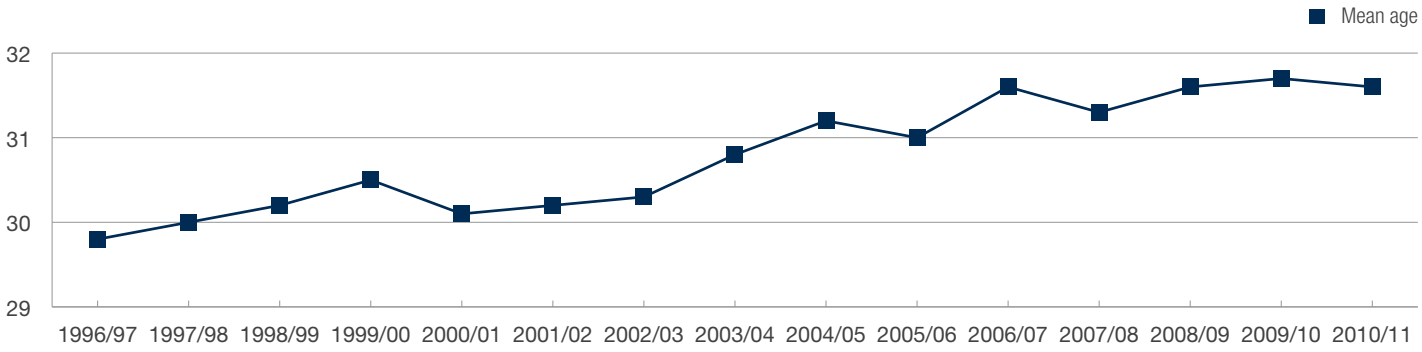
Two factors may help explain the differences between family medicine training programs with respect to average age: the proportion of R-3 trainees and the proportion of IMG trainees in a program. It is hypothesized that those family medicine programs with greater proportions of R-3 and IMG trainees are likely to have a higher average age.

FEMALE TRAINEES

As noted earlier, female trainees out-numbered male trainees in family medicine during the entire study period, and the proportion of the former increased steadily, reaching an historical high of 66.2% for three consecutive years starting 2005/06. It dropped slightly to 63.2% in 2010/11. The proportion of female trainees increased in every family medicine training program, although not necessarily in a linear fashion. Some smaller programs witnessed considerable fluctuations from year to year, possibly because of random variations due to small numbers.

FIGURE 18

Mean Age of All Exit-Year Family Medicine Trainees, Canada, **1996/97 – 2010/11**



Source: CAPER

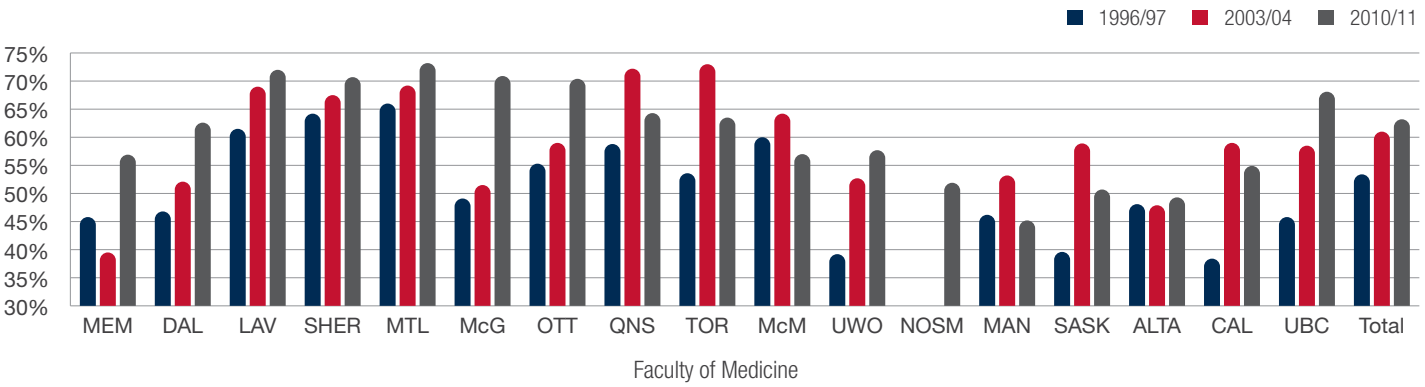
All family medicine training programs had a larger proportion of female trainees in 2010/11 than in 1996/97, with a few minor exceptions (see Figure 19 and Table A19 in Appendix A).

As Figure 19 (and Table A19 in Appendix A) shows, family medicine training programs in Quebec were unique in that they consistently had a larger proportion of female trainees. As early as 1996/97, females accounted for more than 60% of all family medicine trainees in Quebec-based training programs, with the exception of McGill University, where just less than half of all trainees were female. Training programs in Quebec continued to lead the country to 2010/11, when females accounted for more than 70% of all trainees in all four family medicine programs. In that year, the proportion of female trainees in the other family medicine programs ranged from a low of 45.2% at the University of Manitoba to a high of 70.4% at the University of Ottawa. The national average was 63.2%.

With respect to exit-year family medicine trainees, the big picture remains largely unchanged, although minor discrepancies appear when data for all trainees are compared with data for exit-year trainees. Using 2010/11 as an illustration, Figure 20 (and Table A20 in Appendix A) shows that in that year, 61.4% of all exit-year trainees were female. Three of the four family medicine training programs in Quebec had females accounting for over 70% of exit-year trainees (the exception being the McGill program). Other programs with a large proportion of females were those at the University of Calgary (72.4%) and Dalhousie University (72.2%). Conversely, programs with a smaller proportion of females were those at the University of Alberta (42.4%), University of Saskatchewan (44.0%), and University of Manitoba (44.4%).

FIGURE 19

Percentage of Female Family Medicine Trainees by Faculty of Medicine, Canada, **1996/97, 2003/04, 2010/11**



Source: CAPER

IMG TRAINEES

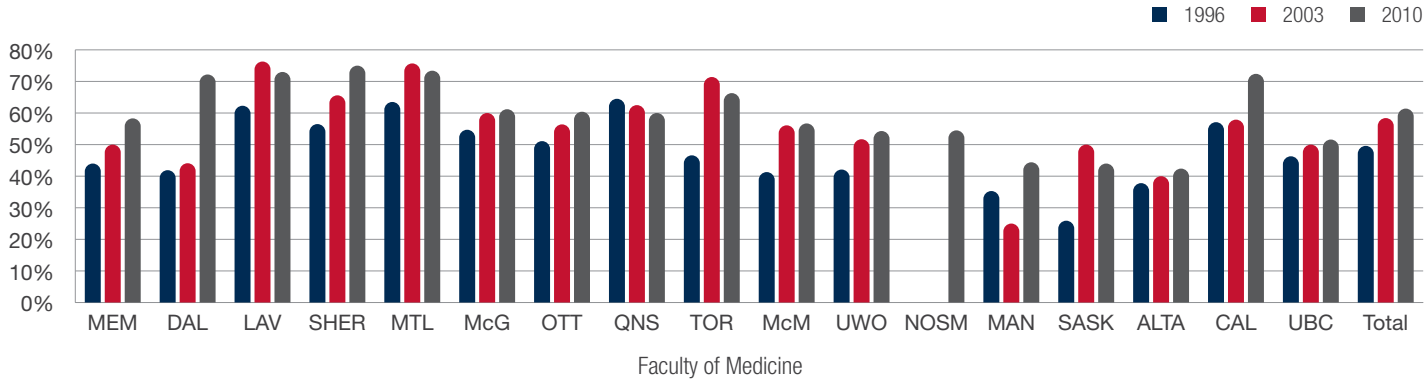
The number of IMG trainees has increased considerably in recent years, particularly in family medicine training programs. In 1996/97, there were 68 IMG trainees in family medicine, accounting for just 4.3% of all family medicine trainees. The number of IMGs reached 255 in 2003/04, representing 16.0% of all family medicine trainees, but by 2010/11, there were 527 IMG trainees, accounting for 19.8% of all trainees in family medicine.

However, IMG trainees were not evenly distributed among family medicine training programs. Greater concentrations of IMGs were found in certain regions of the country and in certain faculties of medicine. As Figure 21 (and Table A21 in Appendix A) shows, in 1996/97, most family medicine programs had very few IMG trainees and some had none (e.g., Dalhousie, Queen's, Alberta, and Calgary). The exceptions were the University of Toronto medical school, where IMGs accounted for 13.7% of all family medicine trainees, and the University of Manitoba medical school, where IMGs represented 9.2% of all family medicine trainees. By 2003/04, a very different picture had emerged. With IMGs representing just over 10% of all family medicine trainees, the University of Toronto could no longer claim to have a high proportion of IMG trainees in family medicine. Instead, larger concentrations of IMG trainees were found in several smaller family medicine training programs, such as those at Saskatchewan (57.1%), Manitoba (27.7%), Dalhousie (27.7%), Western Ontario (27.0%), Calgary (27.0%), and Memorial (26.3%). In 2010/11, IMG trainees had a much larger-than-average representation in several family medicine training programs in the Prairie provinces, such as those at Manitoba (47.1%), Saskatchewan (39.7%), and Alberta (29.1%), as well as at Western Ontario (41.1%). Family medicine programs in Quebec consistently had much smaller proportions of IMG trainees.

When the focus is narrowed from all family medicine trainees to exit-year trainees, there are inevitable but minor differences. For example, in 2010/11 (see Figure 22 and Table A22 in Appendix A) 22.8% of exit-year family medicine trainees across the country were IMGs (slightly larger than the 19.8% of IMGs among

FIGURE 20

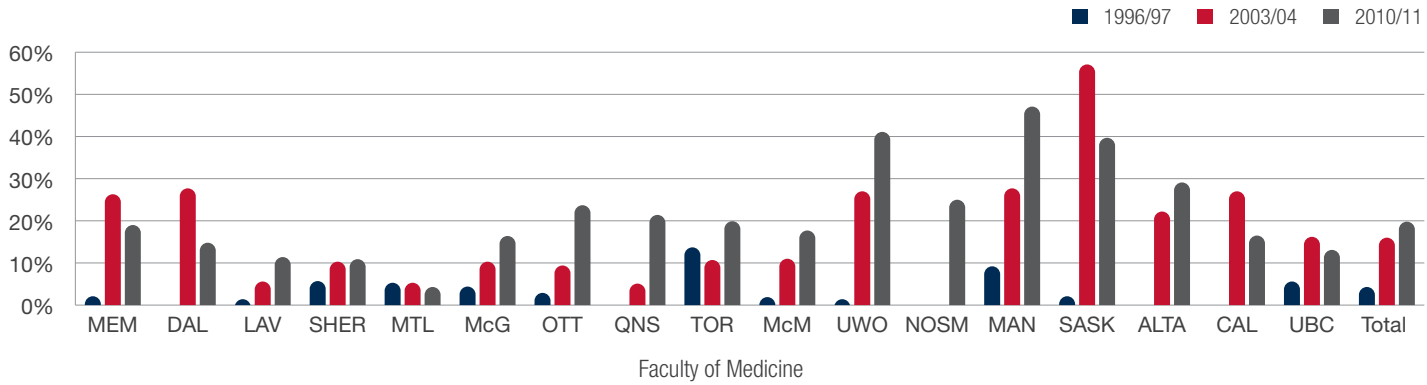
Percentage of Family Medicine Trainees, Who Were Females, Exiting Training Programs, by Faculty of Medicine, Canada,
1996, 2003, 2010



Source: CAPER

FIGURE 21

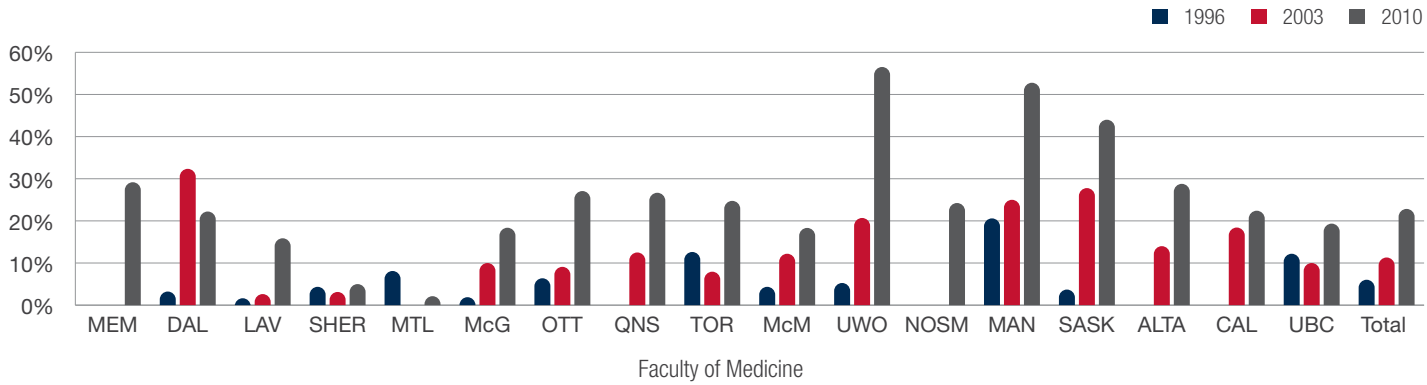
Percentage of IMG Family Medicine Trainees by Faculty of Medicine, Canada,
1996/97, 2003/04, 2010/11



Source: CAPER

FIGURE 22

Percentage of Family Medicine Trainees, Who Were IMGs, Exiting Training Programs, by Faculty of Medicine, Canada,
1996, 2003, 2010



Source: CAPER

all family medicine trainees). Training programs in Quebec had smaller-than-average proportions of IMG trainees (with the Université de Montréal program having the smallest proportion at 2.1%). On the other hand, family medicine training programs at Western Ontario, Manitoba, and Saskatchewan had the largest proportions of IMGs (at 56.5%, 52.8%, and 44.0%, respectively). The rest fell in between these two extremes.

SOURCES OF TRAINEES IN FAMILY MEDICINE

Post- M.D. trainees typically come from three sources: the same faculty of medicine (i.e., after obtaining their degrees individuals continue their post-M.D. training at the same medical school), other faculties of medicine in the same province or other provinces, and from foreign medical schools. The following data examine the sources of family medicine trainees at the 17 faculties of medicine.

Figure 23 (and Table A23 in Appendix A) show the proportion of family medicine trainees who received post-M.D. training in the province where the M.D. was received ; results are shown for 1996/97, 2003/04, and 2010/11. A family medicine training program is described as geographically "endogenous," if more than 75% of its trainees are from the same medical school or other faculties of medicine in the same province. Conversely, a program is described as geographically "exogenous," if less than 50% of its trainees are from the same medical school or other faculties of medicine in the same province. Lastly, a program is classified as geographically "mixed," if 50% to 75% of its trainees are from the same medical school or other medical schools in the same province.

In 1996/97, there were eight endogenous family medicine training programs: Laval, Sherbrooke, Montréal, Ottawa, McMaster, Western Ontario, Manitoba, and Alberta. There were four exogenous family medicine training programs: Memorial, Dalhousie, Calgary, and British Columbia. The rest were in the mixed category. In 2003/04, there were only three endogenous programs: Laval, Sherbrooke, and Montréal. The number of exogenous programs increased to six: Dalhousie, McGill, Saskatchewan, Alberta, Calgary, and British Columbia. The rest, including all programs in Ontario, were in the mixed category. In 2010/11, there were the same three endogenous programs: Laval, Sherbrooke, and Montréal. There were six exogenous programs: Dalhousie, Manitoba, Saskatchewan, Alberta, Calgary, and British Columbia. The rest, including all training programs in Ontario, were in the mixed category.

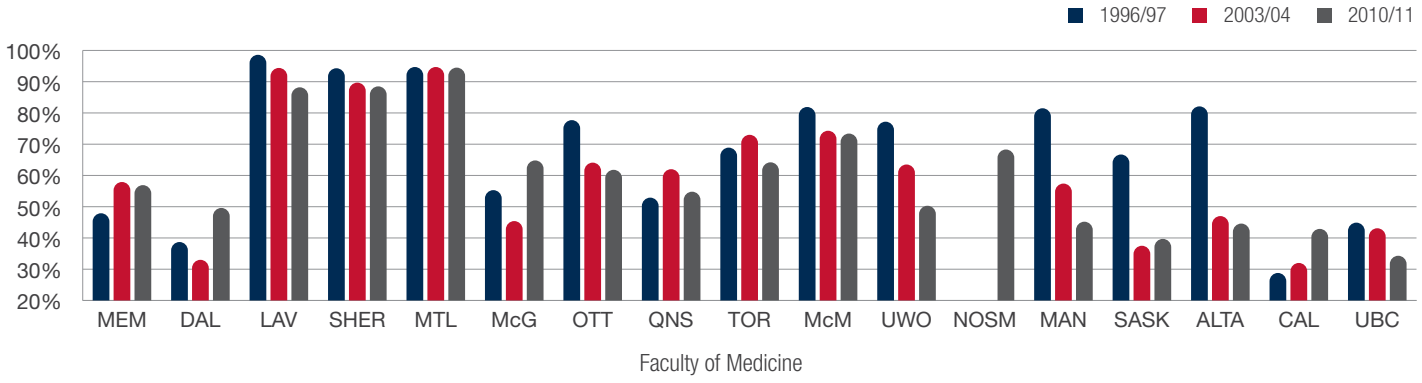
Several regional patterns are discernible. Family medicine programs in Quebec, with the exception of the McGill program, were consistently endogenous. The Université de Montréal program was the most endogenous—in all three years, over 94% of its trainees were graduates of medical schools in Quebec. The McGill program provided family medicine training to a sizeable number of graduates of Ontario medical schools, although the number of Ontario graduates at McGill declined over time.

Family medicine training programs in the prairie provinces, with the exception of the University of Calgary, changed from either endogenous or mixed in the earlier years to decidedly exogenous in 2010/11. The program at the University of Calgary was exogenous in all three years. Likewise, the program at the University of British Columbia was consistently exogenous. On the other hand, the programs in Ontario were firmly entrenched in the mixed category. The two training programs in Atlantic Canada were in either the mixed or exogenous category.

The overall trend was for family medicine training programs to become more exogenous; even the Quebec programs became less endogenous. One possible reason is the increase in the number of IMG trainees in family medicine over the years. In 1996/97, there were only 68 IMGs in family medicine training programs, accounting for 4.3% of family medicine trainees. The number of IMG trainees in family medicine steadily increased to 527 (or 19.8%) in 2010/11. It is hypothesized that those programs with more IMGs were more likely to be exogenous and, conversely, those with fewer IMGs tended to be endogenous or mixed.

FIGURE 23

Percentage of All Family Medicine Trainees that Received Post-M.D. Training in the Province Where M.D. Degree was Received, by Faculty of Medicine, Canada, **1996/97, 2003/04, 2010/11**



Source: CAPER

The next research question is: To what extent did a family medicine program train individuals who had obtained M.D. degrees from the medical school to which the program belongs? This is an extension of the previous analysis. In this case, an endogenous program is one that recruits a large proportion of its trainees from its own associated medical school. Again, data from 1996/97, 2003/04, and 2010/11 were used for the analysis (detailed data not shown). For those provinces with only one medical school, such as Manitoba and Saskatchewan, the findings are identical to those reported above. Thus, the following analysis is restricted to the three provinces with two or more medical schools: Quebec, Ontario, and Alberta.

In 1996/97, the most endogenous family medicine training programs in the three provinces were: Université Laval (where 79.0% of its family medicine trainees were graduates of the Laval medical school), Université de Montréal (75.0%), and University of Alberta (74.5%). The least endogenous was the Queen's University program (8.8%). In 2003/04, the most endogenous training programs were at the Université de Montréal (75.9%) and Université Laval (73.8%). The program at the University of Alberta was no longer in the endogenous category, with only 34.2% of its trainees from the University of Alberta medical school. The least endogenous was Queen's University (16.5%). In 2010/11, the most endogenous family medicine training programs were at the Université de Montréal (71.1%) and Université Laval (62.6%). Again, the program at Queen's University was the least endogenous (11.1%). The Queen's program actually had more trainees with M.D. degrees from the University of Toronto, McMaster University, and overseas universities than from Queen's University.

SOURCES OF FUNDING FOR FAMILY MEDICINE TRAINING

Post-M.D. training is supported by two main sources of funding: Funds from within-province ministries of health and funds from other sources, such as out-of-province health ministries, clinical training sites, charitable organizations, business/industry and foreign government funding. The great majority of family medicine trainees obtained funding support from provincial ministries of health. The number of family medicine trainees funded by other sources increased from 50 in 1996/97 to a high of 102 in 2007/08, then dropped to 88 in 2010/11 (detailed data not shown). The percentages of trainees supported by other sources of funding remained relatively small and static at approximately 4% throughout the study period (ranging from a low of 2.3% in 2005/06 to a high of 6.3% in 2002/03).

Some family medicine training programs were more likely than others to receive funding support from sources other than provincial ministries of health (detailed data not shown). In 1996/97, some programs were supported exclusively by regular ministry funds (e.g., programs at Memorial, Montréal, Saskatchewan, and Alberta). Programs with a larger proportion of trainees receiving funds from other sources were those at the University of Calgary (10 out of 73 trainees), Queen's University (7 out of 68 trainees), and University of British Columbia (9 out of 107 trainees). In 2003/04, six family medicine training programs received no support from other funding sources: programs at Memorial, Laval, Sherbrooke, Montréal, Western Ontario, and Manitoba. Programs with a larger proportion of trainees receiving funds from other sources were those at Dalhousie (12 out of 94 trainees), British Columbia (16 out of 130 trainees), and Queen's (7 out of 79 trainees). In 2010/11, only two programs had no funding support from other sources: programs at Université de Montréal and University of Toronto. The program with the largest number, by far, of trainees supported by other funds was the Université de Sherbrooke program (33 out of 174 trainees). At least 12% of its family medicine trainees received funding support from other sources since 2007/08.

6 HOW DID TRAINEES AND GRADUATES FARE?

This section examines outcomes of trainees enrolled in family medicine training programs. It is divided into two parts. The first focuses on family medicine trainees and answers questions such as: Did they complete their residency training? How long did it take? If they did not, did they switch to other training programs? The second part focuses on the graduates, particularly on their practice location two, five, and ten years after exit: Did they practise where they trained or did they relocate to other provinces/territories/countries? Methodologically, both analyses rely on tracking individuals in a cohort of entry or exit trainees over a number of years in relation to their training outcomes or practice locations.

TRAINING OUTCOMES

What happens to those who have chosen family medicine as their post-M.D. training option? While every family medicine training program is unique, the data below reflect trainees from all programs. Three entry-year cohorts were used in the analysis to illustrate how family medicine trainees fare. Entry-year trainees refer to those R-1 trainees who were in post-M.D. training for the first time. Those who were repeating an R-1 year and those who were switching to R-1 family medicine training from other specialty programs were excluded from the analysis. Three cohorts—the 1996/97, 2001/02, and 2005/06 entry cohorts—were used in the analysis in order to avoid the possibility of selecting an atypical cohort. The analysis entailed tracking each and every individual in an entry cohort over a six-year period in order to ensure almost all of them had completed their training or had the opportunity to terminate training. Because of this six-year "waiting period" requirement, the most recent cohort included in the analysis was the 2005/06 entry cohort.

Data from this analysis are presented in Tables 3 – 8. Although minor variations exist, the data from the three cohorts are highly consistent, suggesting that the three cohorts (and possibly other cohorts as well) shared a fairly common experience. Because of this relative consistency and for reasons of parsimony, only data pertaining to the 2001/02 entry cohort are discussed in detail.

As Table 3 shows, slightly over 70% of the 2001/02 cohort of trainees undertook two years of family medicine training and just under 25% undertook three years of training. Twenty-five trainees did not complete their family medicine training. Of those who completed three years of training, 62.6% spent the third year in an optional R-3 training in emergency medicine (CFPC), 5.4% in care-of-the-elderly training, and 32% in enhanced training in other areas of medicine (see Table 4). As for those who did not complete family medicine training, most of them had switched to other training programs (see Table 5).

TABLE 3

1996/97, 2001/02, and 2005/06 Cohorts of First-Year Family Medicine Trainees and Type of Family Medicine Program Completed

	1996/97 Cohort		2001/02 Cohort		2005/06 Cohort	
	N	%	N	%	N	%
Two-year family medicine program	530	79.1	439	71.8	647	78.0
Three-year family medicine program	115	17.2	147	24.1	153	18.4
Did not complete family medicine program	25	3.7	25	4.1	30	3.6
Total	670	100.0	611	100.0	830	100.0

TABLE 4

1996/97, 2001/02, and 2005/06 Cohorts of First-Year Family Medicine Trainees and R-3 Family Medicine Program

	1996/97 Cohort		2001/02 Cohort		2005/06 Cohort	
	N	%	N	%	N	%
Emergency medicine (CFPC) training	72	62.6	92	62.6	98	64.1
Care-of-the-elderly training	6	5.2	8	5.4	8	5.2
Enhanced training in other areas	37	32.2	47	32.0	47	30.7
Total	115	100.0	147	100.0	153	100.0

TABLE 5

1996/97, 2001/02, and 2005/06 Cohorts of First-Year Family Medicine Trainees and Program Switching

	1996/97 Cohort		2001/02 Cohort		2005/06 Cohort	
	N	%	N	%	N	%
Switched to other specialties after completion of family medicine training	29	4.3	17	2.8	14	1.7
Switched to other specialties before completion of family medicine training	18	2.7	21	3.4	25	3.0
Did not switch	623	93.0	573	93.8	791	95.3
Total	670	100.0	611	100.0	830	100.0

TABLE 6

1996/97, 2001/02, and 2005/06 Cohorts of First-Year Family Medicine Trainees and Number of Years in Family Medicine Training *

	1996/97 Cohort		2001/02 Cohort		2005/06 Cohort	
	N	%	N	%	N	%
One year	22	3.3	23	3.8	25	3.0
Two years	482	71.9	388	63.5	553	66.7
Three years	156	23.3	182	29.7	221	26.6
Four years	8	1.2	16	2.6	25	3.0
Five years	2	0.3	1	0.2	0	0.0
Six or more years	0	0.0	1	0.2	6	0.7
Total	670	100.0	611	100.0	830	100.0

* This table shows all trainees from each of the three cohorts, including those who did not complete family medicine training. The number of years in family medicine training does not include breaks in training, mentioned in Table 8. Most of those in the "One year" row did not complete family medicine training, including some who had switched to other specialty training programs and some who failed to complete any program.

TABLE 7

1996/97, 2001/02, and 2005/06 Cohorts of First-Year Family Medicine Trainees and Time Span in Family Medicine Training (including breaks) *

	1996/97 Cohort		2001/02 Cohort		2005/06 Cohort	
	N	%	N	%	N	%
One year	22	3.3	23	3.8	25	3.0
Two years	482	71.9	386	63.2	538	64.8
Three years	150	22.4	173	28.3	222	26.7
Four years	5	0.8	19	3.1	32	3.9
Five years	4	0.6	4	0.6	1	0.1
Six or more years	7	1.0	6	1.0	12	1.5
Total	670	100.0	611	100.0	830	100.0

* This table shows the time span, measured in years, from first to final year in family medicine training. The time span includes "breaks" in training, mentioned in Table 8.

TABLE 8

1996/97, 2001/02, and 2005/06 Cohorts of First-Year Family Medicine Trainees and Break in Training of Two or More Years

	1996/97 Cohort		2001/02 Cohort		2005/06 Cohort	
	N	%	N	%	N	%
Took break before switching to other specialties	15	2.2	10	1.6	2	0.2
Took no break before switching to other specialties	32	4.8	28	4.6	37	4.5
Took break before completing family medicine	8	1.2	6	1.0	6	0.7
No break, no switch	615	91.8	567	92.8	785	94.6
Total	670	100.0	611	100.0	830	100.0

Twenty-one had switched to medical, laboratory medicine, or surgical specialty training programs before completion of family medicine residency. Another 17 switched to other specialties after they had completed family medicine training. Also, of those who left family medicine, 28 took no break before switching to other training programs and ten took a break before switching (see Table 8). Of the 38 who switched to other training programs, ten chose to specialize in anesthesiology, five in obstetrics/gynecology, four in psychiatry, and the rest in a variety of other specialties ranging from cardiology to ophthalmology (detailed data not shown).

In the 2001/02 entry cohort, 63.2%, completed their family medicine training in two years and 28.3% completed it in three years (see Table 7). The majority of the latter took R-3 training, but a few may have repeated their R-1 or R-2 year. Twenty-nine trainees took four or more years to complete training, of whom six took a break before completing family medicine training, possibly for sick leave, maternity leave, or other reasons. If those who took "breaks" were excluded, only 18 trainees (or 3%) took four or more years to complete their training (see Table 6).

PRACTICE LOCATIONS TWO, FIVE, AND TEN YEARS LATER

Of all the changes that happen after a trainee completes residency and becomes a full-fledged family physician, this analysis focuses on only one: Where does the family physician practise two, five, and ten years after exiting a training program?[4] Although each career path is unique, most family physicians fit into a few discernible patterns with respect to practice locations and geographic mobility. Furthermore, these location and mobility patterns are shaped, to a certain degree, by the faculties of medicine and the provinces where training takes place. Thus, in addition to identifying where family physicians work, the following analysis seeks to examine the extent to which the location of family physician training is related to the patterns of practice location and geographic mobility in the first ten years of their post-training medical career.

The analysis entails tracking three cohorts of exit-year trainees: the 1996 exit cohort (i.e., those who exited family medicine training programs in 1996 at a rank level compatible with completion of training), the 1998 exit cohort, and the 2000 exit cohort. Three exit cohorts were used in order to avoid the possibility of selecting an atypical cohort. Since each cohort must be tracked for at least ten years, the most recent exit cohort included in the analysis is the 2000 cohort. As pointed out in the Data and Methods section, practice location data were obtained from the CMA Master File and the analysis was done by linking the CAPER database with the CMA Master File.

An individual exiting the University of Saskatchewan family medicine training program could, for example, be practising in Saskatchewan two years later, or have moved to one of the other eleven provinces and territories in Canada or could have relocated overseas. That same family physician could again stay or move within five years and/or ten years. Ten possible practice locations (Newfoundland and Labrador, the Maritimes, Quebec, Ontario, Manitoba, Saskatchewan, Alberta, British Columbia, Territories, and outside Canada) and three points in time (two, five, and ten years after exit) produce 1,000 (10^3) possible location-mobility combinations or patterns, which are bewilderingly complex. To be analytically manageable, the practice locations were collapsed to three possibilities: Practice in the same province where training took place (identified in Table 9 as "same"), practice in a different province/territory in Canada ("different"), and practice overseas ("overseas"), thus yielding 27 (3^3) possible location-mobility patterns (e.g., "same-same-same, " "same-overseas-overseas," "different-overseas-same"). Admittedly, this is a simplified, perhaps even simplistic, sketch, because physicians could relocate multiple times between the second and fifth year and/or between the fifth and tenth year after exit. Theoretically, a physician could also relocate multiple times within a single year. All this notwithstanding, it does present a broad—but meaningful—picture of the extent to which a family physician who has obtained family medicine training in a province becomes part of its medical workforce, part of the medical workforce of another province/territory, or is "lost" to Canada.

4. The use of two years, five years, and ten years after exit was for two reasons: It was constrained by the 15-year study period and it adopted a similar analysis strategy used by Buske and Slade (2009) in order to replicate their study and update their findings.

TABLE 9

Practice Location-Mobility Patterns of Three Exit Cohorts Two Years, Five Years an Ten Years After Exit from Family Medicine Training

Exit Year 1996/97

Geographic Mobility from Training to Practice	Province Providing Post-M.D. Training									
	Newfoundland and Labrador		The Maritimes		Quebec		Ontario		Manitoba	
	N	Col %	N	Col %	N	Col %	N	Col %	N	Col %
2 Yr – Same, 5 Yr – Same, 10 Yr – Same	3	12.0%	11	35.5%	173	73.9%	189	71.3%	13	38.2%
2 Yr – Same, 5 Yr – Same, 10 Yr – Different					1	.4%	2	.8%	2	5.9%
2 Yr – Same, 5 Yr – Same, 10 Yr – Overseas	1	4.0%			11	4.7%	3	1.1%	1	2.9%
2 Yr – Same, 5 Yr – Different, 10 Yr – Different	3	12.0%	2	6.5%	1	.4%	3	1.1%	2	5.9%
2 Yr – Different, 5 Yr – Same, 10 Yr – Same					2	.9%	8	3.0%		
2 Yr – Different, 5 Yr – Different, 10 Yr – Different	9	36.0%	9	29.0%	23	9.8%	17	6.4%	6	17.6%
2 Yr – Overseas, 5 Yr – Overseas, 10 Yr – Overseas	2	8.0%	4	12.9%	11	4.7%	18	6.8%	7	20.6%

Geographic Mobility from Training to Practice	Province Providing Post-M.D. Training							
	Saskatchewan		Alberta		British Columbia		Total	
	N	Col %	N	Col %	N	Col %	N	Col %
2 Yr – Same, 5 Yr – Same, 10 Yr – Same	8	29.6%	34	46.6%	30	73.2%	461	63.2%
2 Yr – Same, 5 Yr – Same, 10 Yr – Different	1	3.7%	2	2.7%	1	2.4%	9	1.2%
2 Yr – Same, 5 Yr – Same, 10 Yr – Overseas			1	1.4%			17	2.3%
2 Yr – Same, 5 Yr – Different, 10 Yr – Different	1	3.7%	6	8.2%	2	4.9%	20	2.7%
2 Yr – Different, 5 Yr – Same, 10 Yr – Same			2	2.7%			12	1.6%
2 Yr – Different, 5 Yr – Different, 10 Yr – Different	12	44.4%	11	15.1%	5	12.2%	92	12.6%
2 Yr – Overseas, 5 Yr – Overseas, 10 Yr – Overseas	1	3.7%	7	9.6%			50	6.8%

TABLE 9 (CONTINUED)

Practice Location-Mobility Patterns of Three Exit Cohorts Two Years, Five Years an Ten Years After Exit from Family Medicine Training

Exit Year 1998/99

Geographic Mobility from Training to Practice	Province Providing Post-M.D. Training									
	Newfoundland and Labrador		The Maritimes		Quebec		Ontario		Manitoba	
	N	Col %	N	Col %	N	Col %	N	Col %	N	Col %
2 Yr – Same, 5 Yr – Same, 10 Yr – Same	3	14.3%	12	30.8%	178	73.3%	181	76.1%	12	40.0%
2 Yr – Same, 5 Yr – Same, 10 Yr – Different					3	1.2%	4	1.7%	1	3.3%
2 Yr – Same, 5 Yr – Same, 10 Yr – Overseas			2	5.1%	13	5.3%	1	.4%		
2 Yr – Same, 5 Yr – Different, 10 Yr – Different	1	4.8%	5	12.8%	6	2.5%	7	2.9%	2	6.7%
2 Yr – Different, 5 Yr – Same, 10 Yr – Same					2	.8%	2	.8%	2	6.7%
2 Yr – Different, 5 Yr – Different, 10 Yr – Different	13	61.9%	12	30.8%	18	7.4%	27	11.3%	7	23.3%
2 Yr – Overseas, 5 Yr – Overseas, 10 Yr – Overseas	2	9.5%	2	5.1%	11	4.5%	6	2.5%		

Geographic Mobility from Training to Practice	Province Providing Post-M.D. Training							
	Saskatchewan		Alberta		British Columbia		Total	
	N	Col %	N	Col %	N	Col %	N	Col %
2 Yr – Same, 5 Yr – Same, 10 Yr – Same	8	33.3%	46	56.1%	32	64.0%	472	64.9%
2 Yr – Same, 5 Yr – Same, 10 Yr – Different	2	8.3%	7	8.5%	1	2.0%	18	2.5%
2 Yr – Same, 5 Yr – Same, 10 Yr – Overseas			2	2.4%			18	2.5%
2 Yr – Same, 5 Yr – Different, 10 Yr – Different	4	16.7%	3	3.7%	2	4.0%	30	4.1%
2 Yr – Different, 5 Yr – Same, 10 Yr – Same			1	1.2%	3	6.0%	10	1.4%
2 Yr – Different, 5 Yr – Different, 10 Yr – Different	5	20.8%	17	20.7%	9	18.0%	108	14.9%
2 Yr – Overseas, 5 Yr – Overseas, 10 Yr – Overseas	2	8.3%	1	1.2%			24	3.3%

TABLE 9 (CONTINUED)

Practice Location-Mobility Patterns of Three Exit Cohorts Two Years, Five Years an Ten Years After Exit from Family Medicine Training

Exit Year 2000/01

Geographic Mobility from Training to Practice	Province Providing Post-M.D. Training									
	Newfoundland and Labrador		The Maritimes		Quebec		Ontario		Manitoba	
	N	Col %	N	Col %	N	Col %	N	Col %	N	Col %
2 Yr – Same, 5 Yr – Same, 10 Yr – Same	2	10.5%	9	25.7%	150	71.1%	162	73.0%	14	56.0%
2 Yr – Same, 5 Yr – Same, 10 Yr – Different	1	5.3%			3	1.4%	5	2.3%	1	4.0%
2 Yr – Same, 5 Yr – Same, 10 Yr – Overseas					8	3.8%	3	1.4%		
2 Yr – Same, 5 Yr – Different, 10 Yr – Different	3	15.8%	6	17.1%	7	3.3%	17	7.7%	2	8.0%
2 Yr – Different, 5 Yr – Same, 10 Yr – Same	1	5.3%	1	2.9%	1	.5%	3	1.4%		
2 Yr – Different, 5 Yr – Different, 10 Yr – Different	9	47.4%	12	34.3%	20	9.5%	20	9.0%	6	24.0%
2 Yr – Overseas, 5 Yr – Overseas, 10 Yr – Overseas	1	5.3%	1	2.9%	2	.9%	2	.9%		

Geographic Mobility from Training to Practice	Province Providing Post-M.D. Training							
	Saskatchewan		Alberta		British Columbia		Total	
	N	Col %	N	Col %	N	Col %	N	Col %
2 Yr – Same, 5 Yr – Same, 10 Yr – Same	8	40.0%	42	53.2%	31	70.5%	418	63.8%
2 Yr – Same, 5 Yr – Same, 10 Yr – Different	1	5.0%	3	3.8%	1	2.3%	15	2.3%
2 Yr – Same, 5 Yr – Same, 10 Yr – Overseas					1	2.3%	12	1.8%
2 Yr – Same, 5 Yr – Different, 10 Yr – Different	2	10.0%	5	6.3%	2	4.5%	44	6.7%
2 Yr – Different, 5 Yr – Same, 10 Yr – Same			2	2.5%	3	6.8%	11	1.7%
2 Yr – Different, 5 Yr – Different, 10 Yr – Different	5	25.0%	20	25.3%	3	6.8%	95	14.5%
2 Yr – Overseas, 5 Yr – Overseas, 10 Yr – Overseas					1	2.3%	7	1.1%

Table 9 presents the major findings of the analysis of the three exit cohorts. Although there are 27 possible combinations, only seven location-mobility patterns are of any consequence, numerically speaking. Together, the seven combinations shown in Table 9 account for 90.4%, 93.6%, and 91.9% of the family physicians in the 1996/97, 1998/99, and 2000/01 exit cohorts, respectively. The proportion of family physicians in any of the other combinations (e.g., "overseas-same-different" or "same-different-overseas") is minuscule. Thus, only these seven patterns are shown in Table 9.

As can be seen from the table, the most common location-mobility pattern is the "same-same-same" combination. It accounts for 63.2%, 64.9%, and 63.8% of the family physicians who exited training in 1997, 1999, and 2001, respectively, suggesting that close to two-thirds of the family physicians chose to practise in the province where they trained. A distant second is the "different-different-different" combination, which accounts for 12.6%, 14.9%, and 14.5% of the family physicians who exited training in 1997, 1999, and 2001, respectively. Accounting for 6.8%, 3.3%, and 1.1% of the same three cohorts of physicians, respectively, the third most common pattern is the "overseas-overseas-overseas" combination, indicating that the proportion of family physicians "lost" to Canada soon after exit and for at least ten years declined considerably over time.

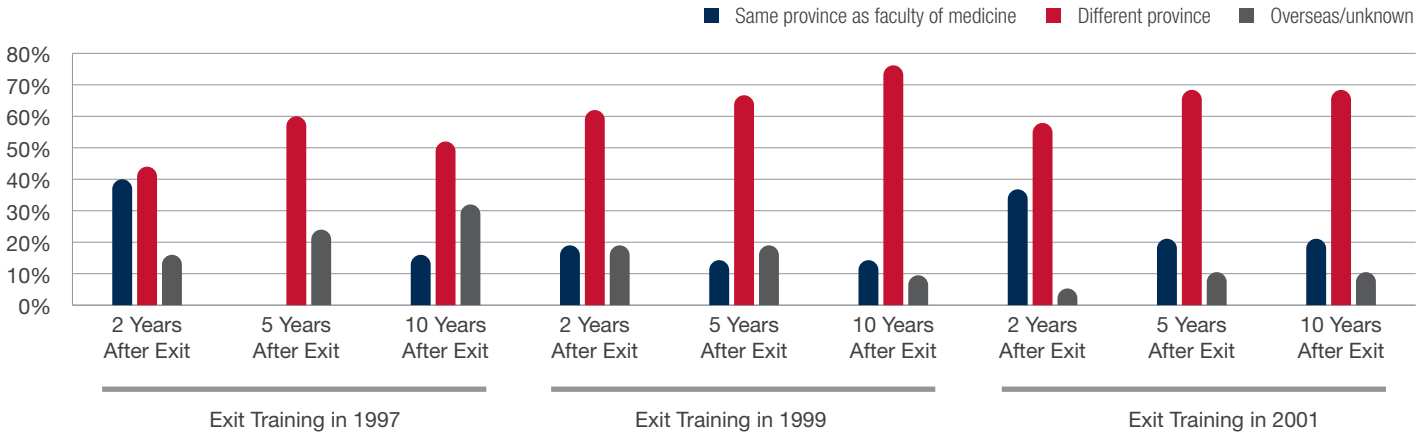
The "different-same-same" pattern is interesting, as it represents family physicians who move away from the province where they train soon after completion of residency, but return in a few years. It is known that some new physicians choose to spend the first year or two doing locums or short stints in various locations before deciding to establish a "permanent" practice. Some of those who have gone away may decide to return to the province where they completed their residency. However, the number of such cases is not large, as only 1.6%, 1.4%, and 1.7% of those exiting training in 1997, 1999, and 2001, respectively, belong to this combination. Other similar scenarios (e.g., "different-different-same" and "different-overseas-same") are even less common, suggesting that once a physician leaves his/her province of training, the chance that he/she will return is slim.

Although nearly two-thirds of the physicians exiting family medicine training programs in 1997, 1999, and 2001 practised in the province where they trained, are physicians trained in different faculties of medicine or in different provinces equally likely to stay put? Is the likelihood of family physicians relocating to other provinces or countries related to where they trained? These questions are the focus of the next set of analyses.

Figures 24 to 39 show the practice locations of family physicians who exited training in 1997, 1999, and 2001 (three cohorts) two, five, and ten years after exit from the 16 family medicine training programs[5]. Because of the need to track physicians up to ten years, the most recent cohort included in the analysis was the 2000/01 exit cohort. For presentation reasons, the locations were collapsed into three categories: practice in the province where training took place, practice in other provinces/ territories, and practice overseas (including a few "unknown"). More detailed information can be found in Tables A24 – A42 in Appendix A.

FIGURE 24

Practice Location of Family Physicians 2 Years, 5 Years, and 10 Years After Exit From Memorial University Training Program in 1997, 1999 and 2001



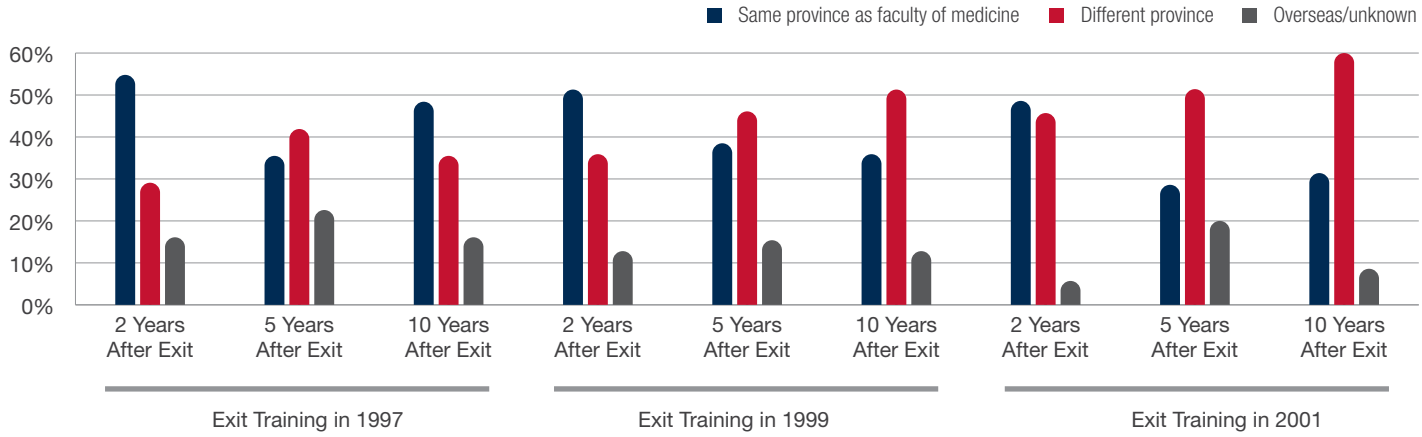
Source: CAPER

Memorial University

5. As a relatively new medical school, NOSM has no graduates until years later.

FIGURE 25

Practice Location of Family Physicians 2 Years, 5 Years, and 10 Years After Exit From Dalhousie University Training Program in 1997, 1999 and 2001

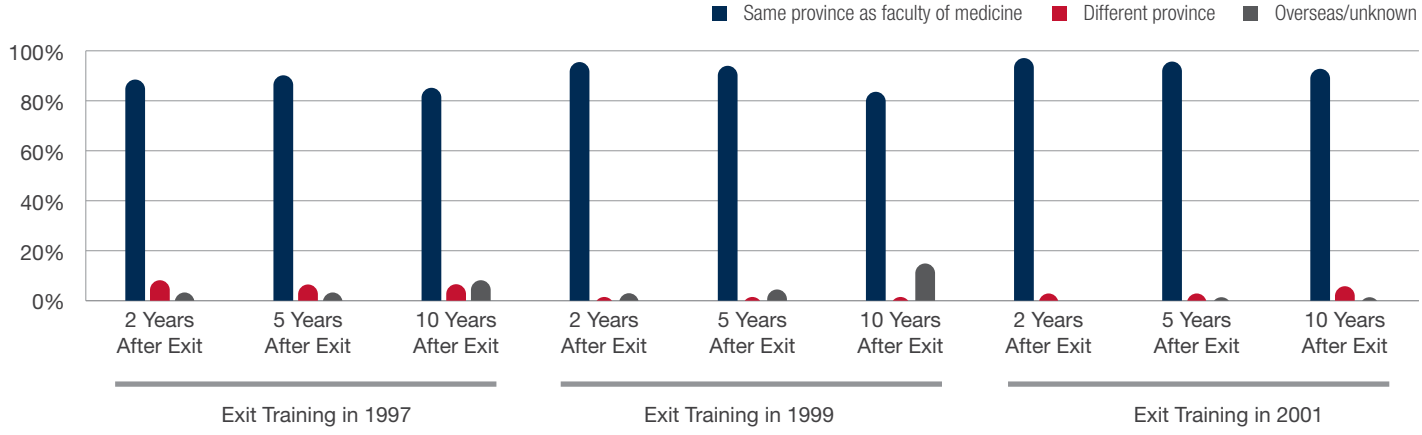


Source: CAPER

Dalhousie University

FIGURE 26

Practice Location of Family Physicians 2 Years, 5 Years, and 10 Years After Exit From Université Laval Training Program in 1997, 1999 and 2001

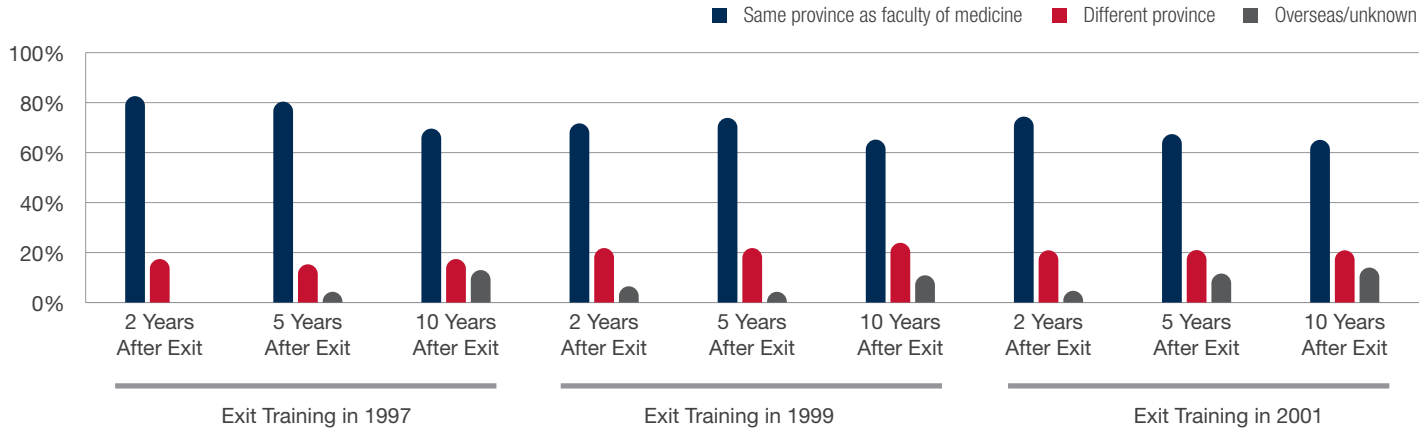


Source: CAPER

Université Laval

FIGURE 27

Practice Location of Family Physicians 2 Years, 5 Years, and 10 Years After Exit From Université de Sherbrooke Training Program in 1997, 1999 and 2001

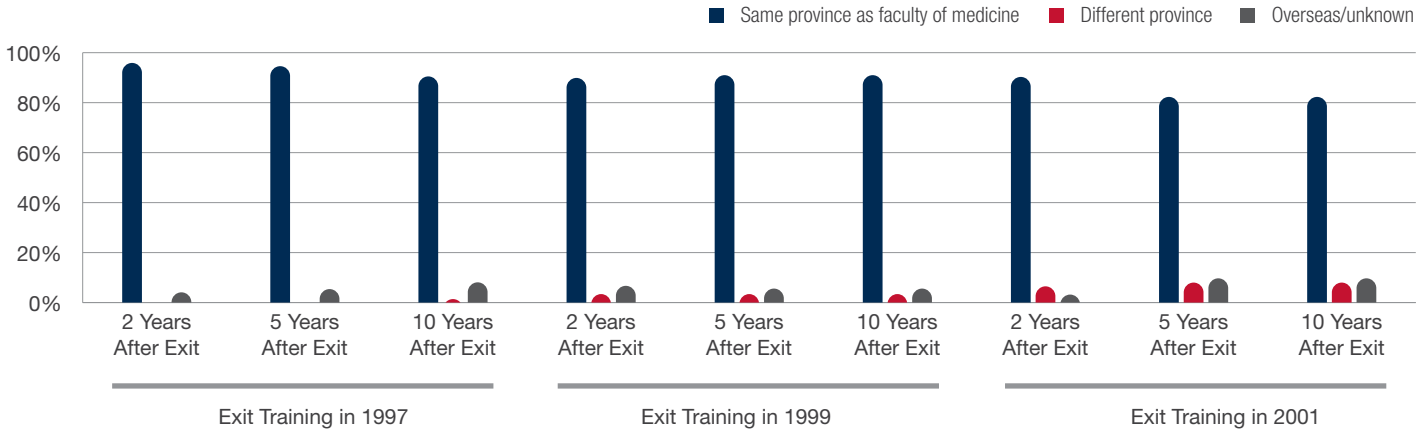


Source: CAPER

Université de Sherbrooke

FIGURE 28

Practice Location of Family Physicians 2 Years, 5 Years, and 10 Years After Exit From Université de Montréal Training Program in 1997, 1999 and 2001

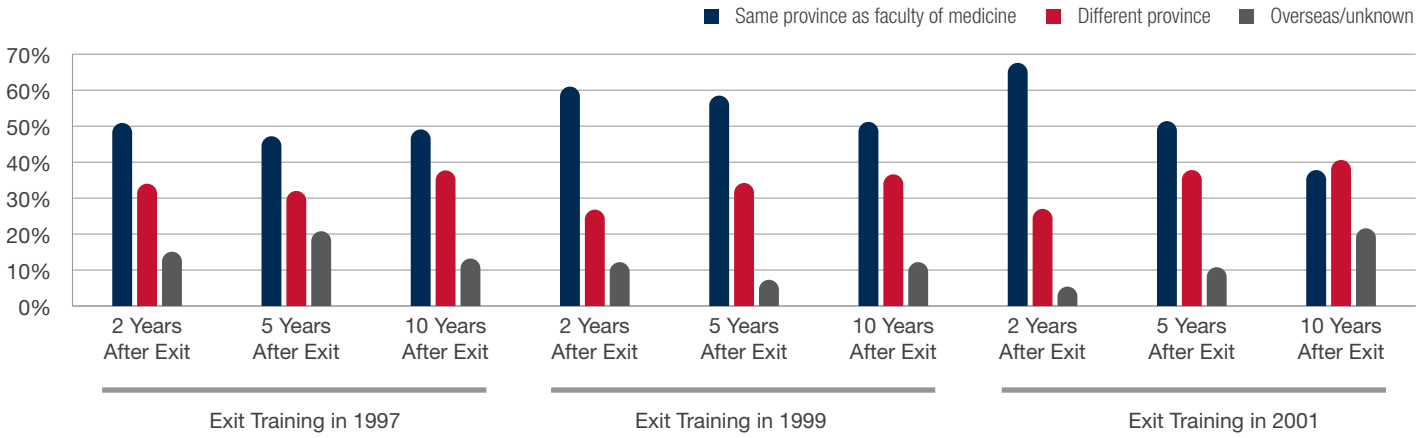


Source: CAPER

Université de Montréal

FIGURE 29

Practice Location of Family Physicians 2 Years, 5 Years, and 10 Years After Exit From McGill University Training Program in 1997, 1999 and 2001

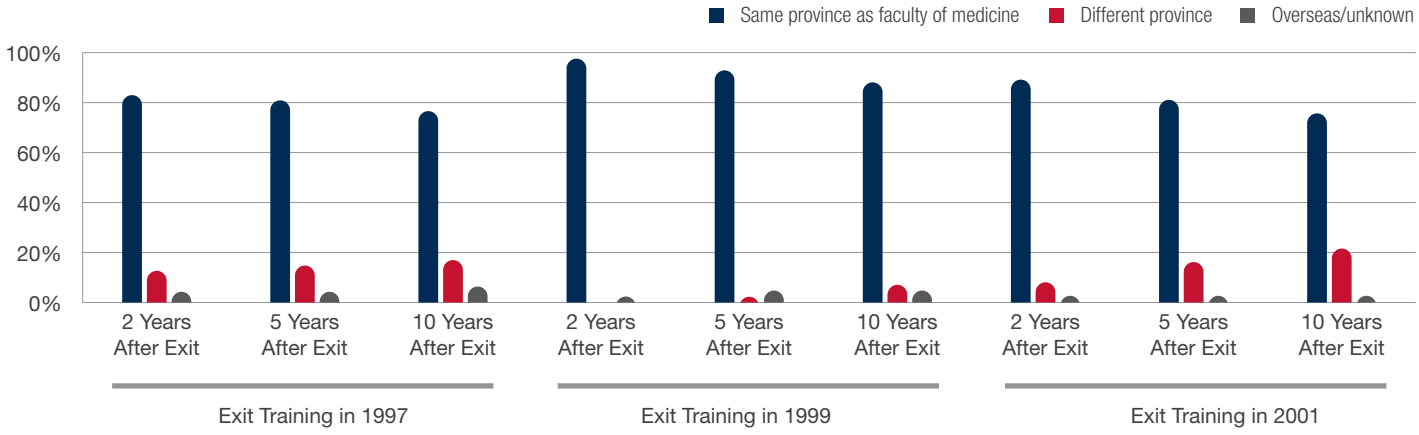


Source: CAPER

McGill University

FIGURE 30

Practice Location of Family Physicians 2 Years, 5 Years, and 10 Years After Exit From University of Ottawa Training Program in 1997, 1999 and 2001

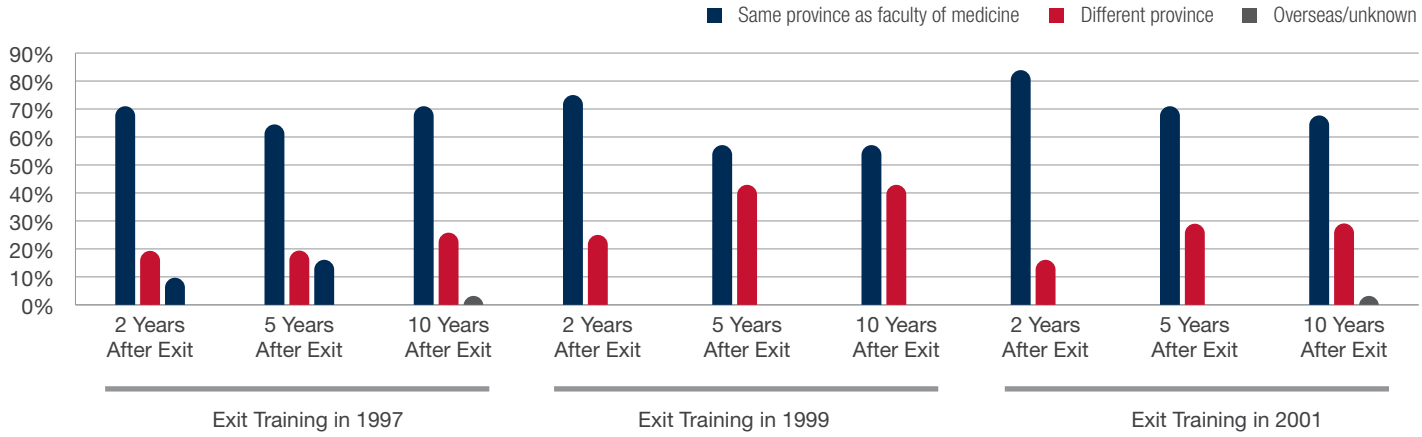


Source: CAPER

University of Ottawa

FIGURE 31

Practice Location of Family Physicians 2 Years, 5 Years, and 10 Years After Exit From Queen's University Training Program in 1997, 1999 and 2001

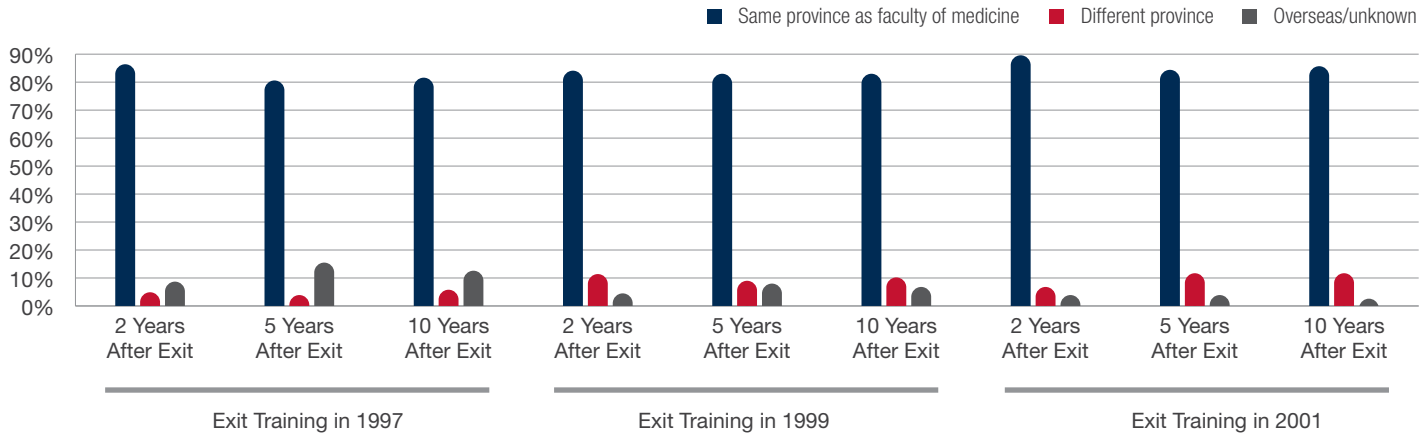


Source: CAPER

Queen's University

FIGURE 32

Practice Location of Family Physicians 2 Years, 5 Years, and 10 Years After Exit From University of Toronto Training Program in 1997, 1999 and 2001

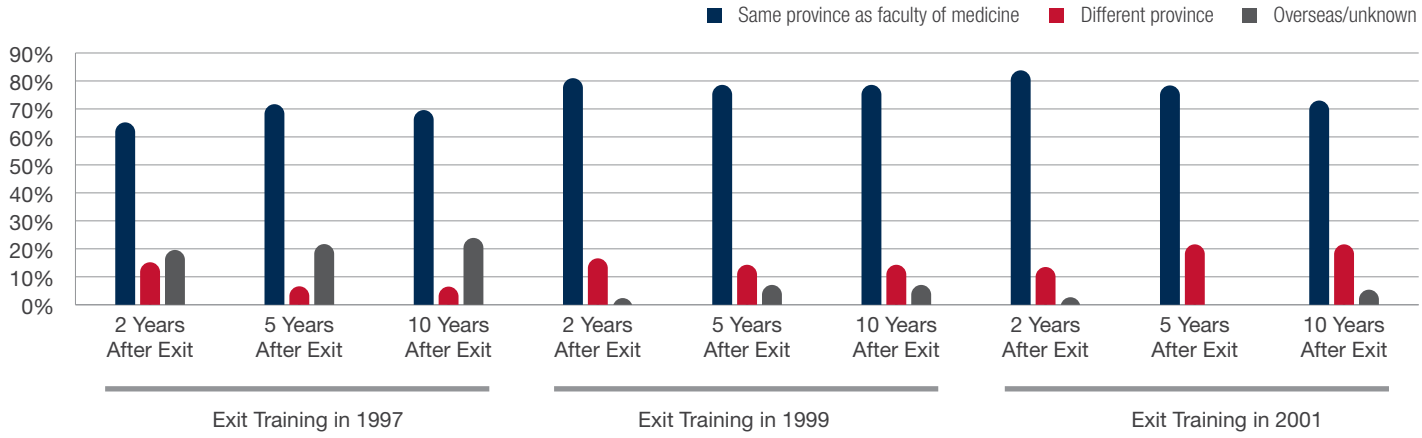


Source: CAPER

University of Toronto

FIGURE 33

Practice Location of Family Physicians 2 Years, 5 Years, and 10 Years After Exit From McMaster University Training Program in 1997, 1999 and 2001

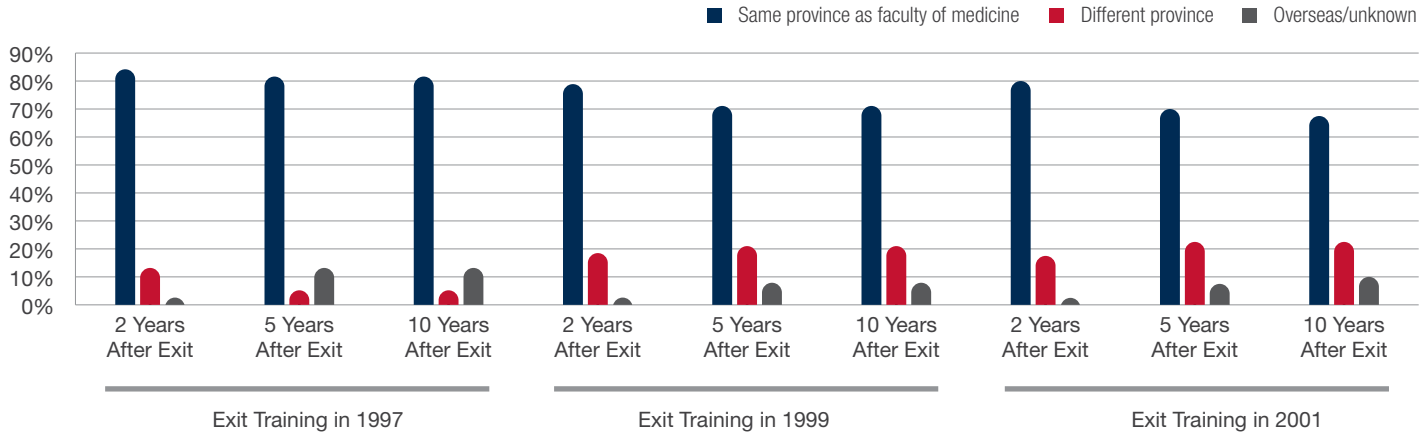


Source: CAPER

McMaster University

FIGURE 34

Practice Location of Family Physicians 2 Years, 5 Years, and 10 Years After Exit From University of Western Ontario Training Program in 1997, 1999 and 2001

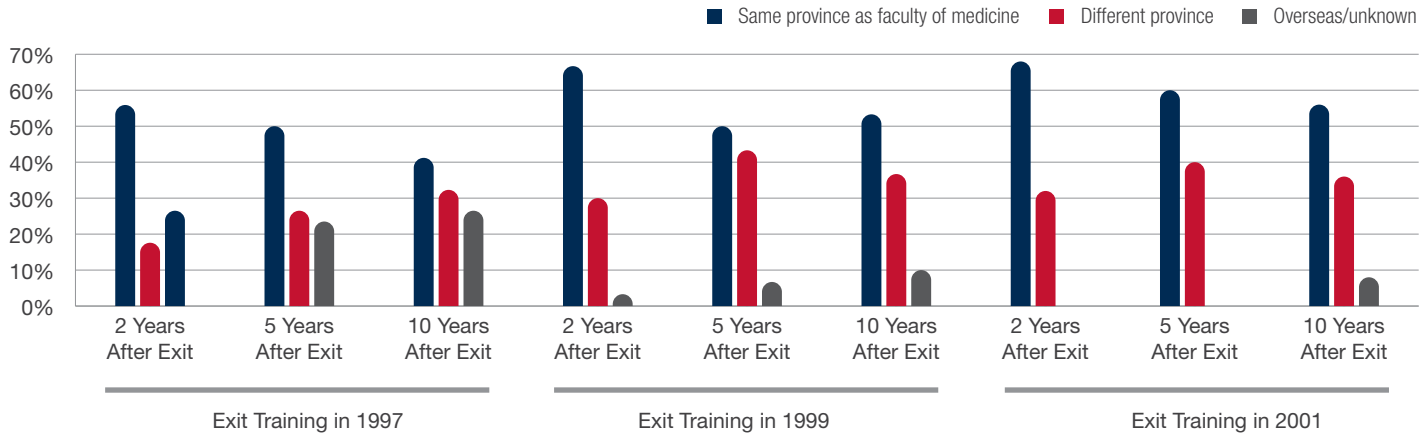


Source: CAPER

University of Western Ontario

FIGURE 35

Practice Location of Family Physicians 2 Years, 5 Years, and 10 Years After Exit From University of Manitoba Program in 1997, 1999 and 2001

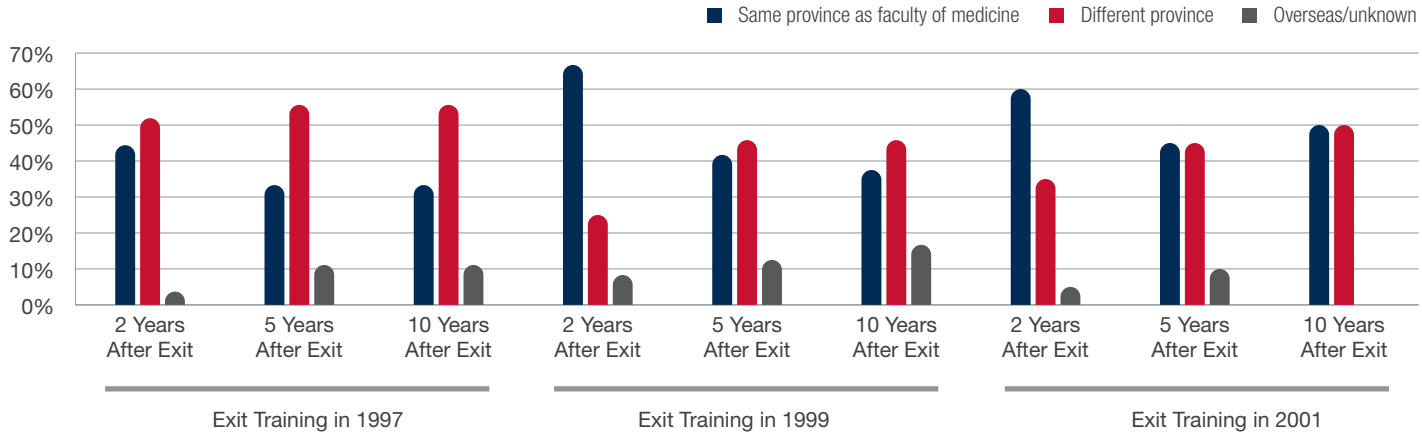


Source: CAPER

University of Manitoba

FIGURE 36

Practice Location of Family Physicians 2 Years, 5 Years, and 10 Years After Exit From University of Saskatchewan Program in 1997, 1999 and 2001

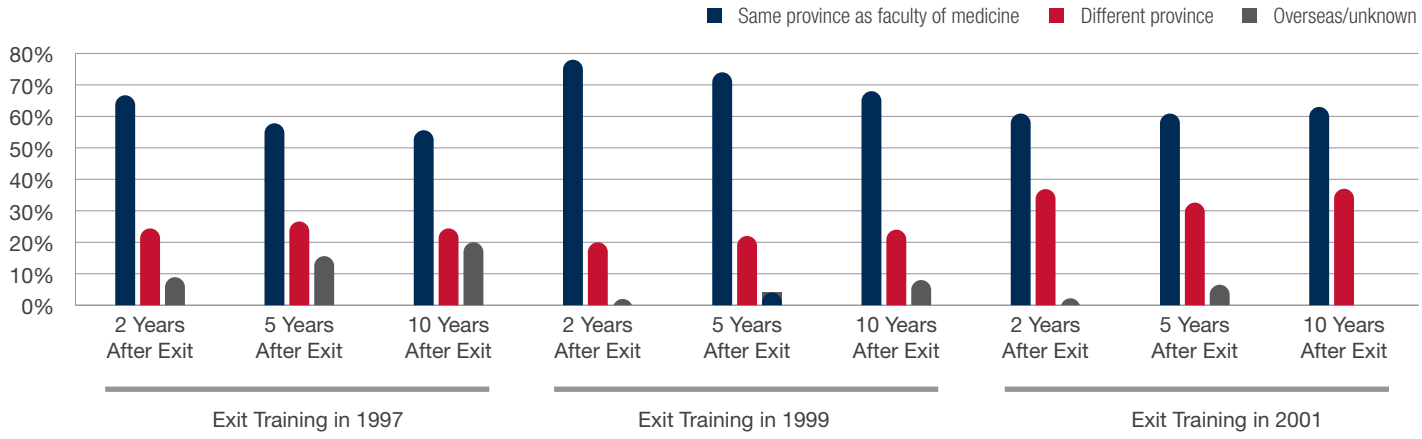


Source: CAPER

University of Saskatchewan

FIGURE 37

Practice Location of Family Physicians 2 Years, 5 Years, and 10 Years After Exit From University of Alberta Program in 1997, 1999 and 2001

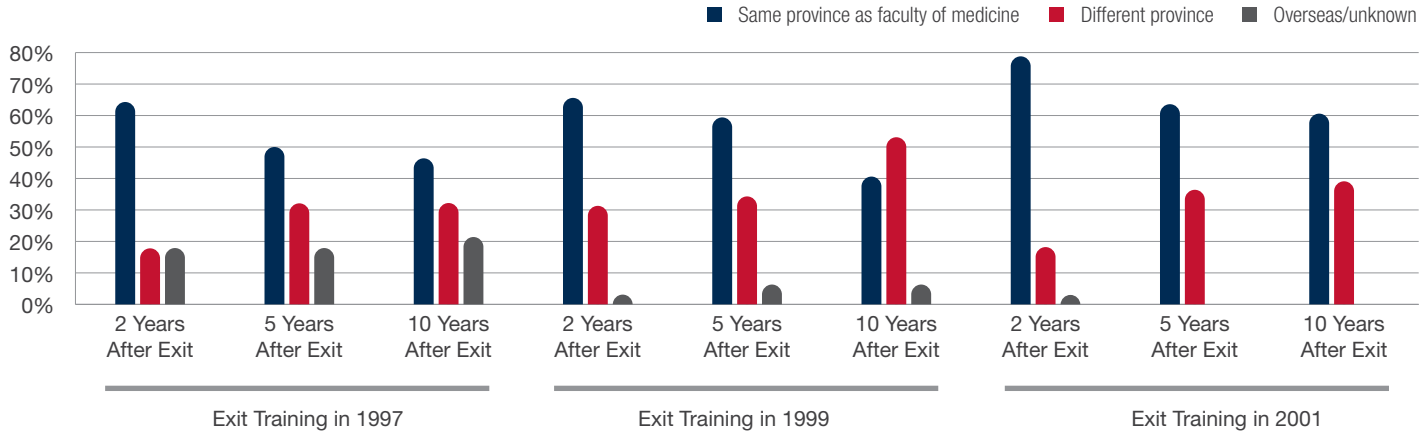


Source: CAPER

University of Alberta

FIGURE 38

Practice Location of Family Physicians 2 Years, 5 Years, and 10 Years After Exit From University of Calgary Program in 1997, 1999 and 2001

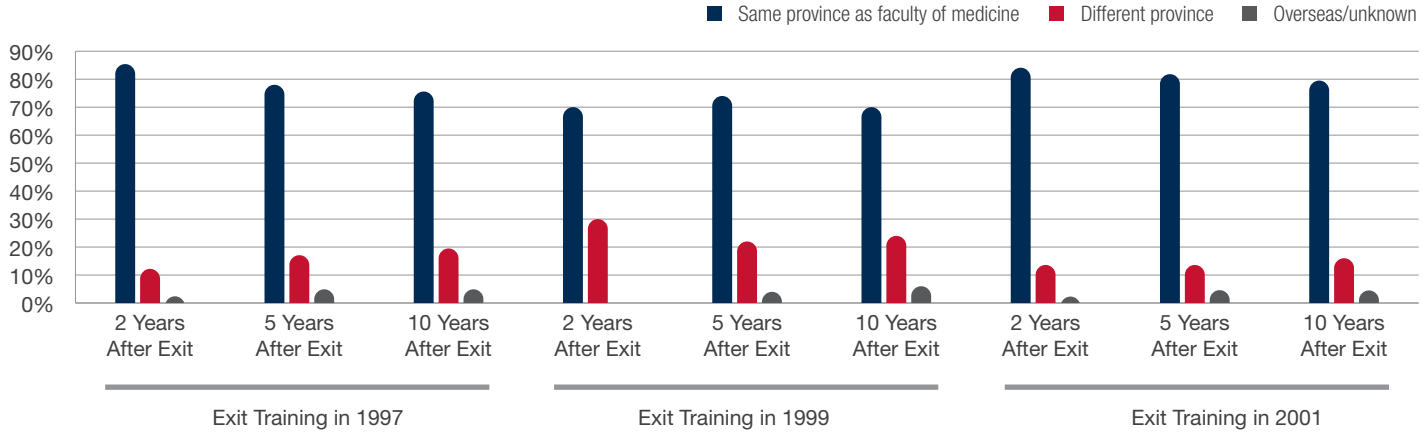


Source: CAPER

University of Calgary

FIGURE 39

Practice Location of Family Physicians 2 Years, 5 Years, and 10 Years After Exit From University of British Columbia Program in 1997, 1999 and 2001



Source: CAPER

University of British Columbia

Each individual in each cohort was tracked at two, five, and ten years following exit. The approach is similar to the analysis reported above (summarized in Table 9) but the emphasis here is on the roles faculties of medicine and provinces may play in where family physicians practise after training. Graduates of Memorial University and the Université de Montréal family medicine training programs are used to illustrate this point. These two programs are chosen not because they typify the 16 training programs, but because they are at the opposite ends of a continuum that represents the propensity of family physicians to stay in or leave the province where they trained.

Forty percent of those exiting the Memorial University family medicine training program in 1997 remained in Newfoundland and Labrador two years later. More individuals from this cohort were practising in another province/territory and 16% had moved abroad. At five years and ten years after exit, only 16% of the members of this cohort remained in Newfoundland and Labrador; the rest were either practising in another province/territory or were overseas. The out-migration situation became more acute for the second cohort—those who exited the Memorial University program in 1999. At two years after exit, only 19% of those belonging to this cohort were in Newfoundland and Labrador; after five and ten years, less than 15% were still in that province. In fact, at five years after exit, there were more Memorial University graduates practising overseas than in Newfoundland and Labrador. The situation improved somewhat for the third cohort—those exiting in 2001. Two years after exit, 36.8% of the graduates were practising in Newfoundland and Labrador but by ten years after exit, only 21.1% remained in that province. Almost 70% were in other provinces/territories and about 10% in other countries.

The Université de Montréal training program presents a very different picture. For its 1997 exit cohort, 95.9%, 94.6%, and 90.5% of the family physicians were practising in Quebec two, five, and ten years later, respectively. The 1999 and 2001 exit cohorts were slightly less likely to stay, but the proportions of those remaining in Quebec were still impressive. For instance, 51 (or 82.3%) of the 62 family physicians who exited the Université de Montréal program in 2001 were practising in Quebec, three in Ontario, and six in other countries in 2010/11.

In general, family medicine training programs in Quebec (with the exception of the McGill program) had very large proportions of their graduates stay in that province. Training programs in Ontario also tended to have substantial proportions of their graduates stay in Ontario (although not to the same extent as those in Quebec) but there was considerable variability among the five training programs in Ontario. Unlike their Quebec counterparts (except those trained at McGill), those who did training in Ontario and chose not to practise in that province, tended to locate in a wider range of destinations. For example, of the 40 family physicians who exited the University of Western Ontario program in 2001, 27 were practising in Ontario ten years later, two in the Maritimes, three in Alberta, four in British Columbia, and four overseas. Those who did their family medicine training at the University of British Columbia were also highly likely to stay in British Columbia. Manitoba and Saskatchewan were less able to keep their family physician graduates, although their out-migration situations were not as serious as those in Newfoundland and Labrador.

As noted above, provinces "export" and "import" family physicians. Thus, after offsetting exports from imports, there are those with net gains and those with net losses[6]. Ten years after the first cohort exited family medicine training programs in 1997, most provinces experienced net losses.

TABLE 10

Number of Family Medicine Graduates Kept, Gained, or Lost by Province Providing Training Ten Years after Exit – **1997, 1999, and 2001 Exit Cohorts**

1997 Exit Cohort				
Province Where Training Took Place	Keep	Gain	Lose	Net
Newfoundland and Labrador	4	1	21	-20
The Maritimes	15	23	16	+7
Quebec	177	5	57	-52
Ontario	205	28	60	-32
Manitoba	14	7	20	-13
Saskatchewan	9	3	18	-15
Alberta	38	17	35	-18
British Columbia	31	51	10	+41

6. It should be pointed out that provinces experience net gains or net losses only in relation to the cohort of physicians being discussed. In any particular year, a province may gain or lose family physicians who are not members of that particular cohort.

TABLE 10 (CONTINUED)

Number of Family Medicine Graduates Kept, Gained, or Lost by Province Providing Training Ten Years after Exit - **1997, 1999, and 2001 Exit Cohorts**

1999 Exit Cohort				
Province Where Training Took Place	Keep	Gain	Lose	Net
Newfoundland and Labrador	3	1	18	-17
The Maritimes	14	28	25	+3
Quebec	188	4	55	-51
Ontario	186	44	52	-8
Manitoba	16	1	14	-13
Saskatchewan	9	2	15	-13
Alberta	47	21	35	-14
British Columbia	35	64	15	+49

TABLE 10 (CONTINUED)

Number of Family Medicine Graduates Kept, Gained, or Lost by Province Providing Training Ten Years after Exit - **1997, 1999, and 2001 Exit Cohorts**

2001 Exit Cohort				
Province Where Training Took Place	Keep	Gain	Lose	Net
Newfoundland and Labrador	4	2	15	-13
The Maritimes	11	31	24	+7
Quebec	157	5	54	-49
Ontario	169	41	103	-62
Manitoba	14	2	11	-9
Saskatchewan	10	1	10	-9
Alberta	49	22	30	-8
British Columbia	35	61	9	+52

For instance, Quebec produced 234 family physicians in 1997, kept 177 of them, gained five belonging to the same cohort from other provinces, for a net loss of 52 family physicians in 2006/07. Similarly, Ontario produced 265 family physicians, kept 205 of them in 2006/07, gained 28 belonging to the same cohort from other provinces, for a net loss of 32. The major reason for such losses was the large number of family physicians leaving Canada. Ninety-nine of the 730 family physicians (or 13.6%) who exited training programs in 1997 were practising overseas in 2006/07.

British Columbia and the Maritimes were the only areas experiencing consistent net gains. Despite losing family physicians to other countries, they imported more family physicians from other provinces than they exported. For instance, British Columbia gained 41 family physicians belonging to the 1997 exit cohort, 49 belonging to the 1999 exit cohort, and 52 belonging to the 2001 exit cohort ten years after exit. Newfoundland and Labrador, on the other hand, experienced consistent and considerable net losses. It produced 25 of the 730 family physicians in the 1997 exit cohort. By 2006/07, only five of the 730 family physicians were in that province. Newfoundland and Labrador produced 21 of the 1999 exit cohort of 727 family physicians. By 2008/09, it had only four of them. It contributed 19 of the 2001 exit cohort of 655 family physicians, but had only six of them ten years later. Manitoba and Saskatchewan also exported many more family physicians than they imported, but the magnitude of the loss was much less than that in Newfoundland and Labrador.

7 SUMMARY AND DISCUSSION

This last section summarizes the major results of the study and discusses their implications for medical education and physician workforce planning. It also points out some study limitations and possibilities for future research.

SUMMARY OF MAJOR FINDINGS

The following are some of the key findings:

1. The number of first-year family medicine trainees grew from 670 in 1996/97 to 1,145 in 2010/11, an increase of just over 70%. The number of exit-year trainees in family medicine, which closely approximates the number of practice entry family physicians, increased from 730 in 1996 to 937 in 2010, an increase of 28.4% in the 15-year period.

2. The proportions of post-M.D. trainees exiting family medicine training programs were fairly stable throughout the study period (47.9% in 1996/97, 45.0% in 2003/04, and 48.1% in 2010/01), even though the numbers of exit trainees changed over the years (730 in 1996/97, 610 in 2003/04, and 937 in 2010/11).

3. The number of family medicine trainees taking R-3 training increased considerably (from 85 in 1996/97 to 242 in 2010/11). Most of the R-3 residents were in emergency medicine training or enhanced training in other areas of medicine. Very few were in care-of-the-elderly training.

4. Some trainees switched from one specialty to another. The number of switches (from family medicine to other specialties and vice versa) declined over the years. There were only 42 switches in 2009. For most years, the number of trainees switching from other specialties to family medicine was larger than the number of family medicine trainees moving to other specialties. In other words, family medicine typically “gained” trainees from other specialties.

5. In 2010/11, the mean age of exit-year trainees in family medicine was 31.6 years. The mean age increased by almost two years over the 15-year study period, possibly due to a larger proportion of IMG trainees and more individuals taking R-3 training in recent years.

6. In family medicine, female trainees outnumbered their male counterparts throughout the study period and the proportion of female trainees became larger in more recent years. By 2010/11, 63.2% of all family medicine trainees were women.

7. The number of IMGs increased considerably. In 1996/97, 4.3% of all family medicine trainees were IMGs; this increased to 19.8% in 2010/11. When only exit-year trainees are considered, 22.8% of exit-year trainees in family medicine were IMGs in 2010/11.

8. IMG trainees in family medicine tended to be considerably older than their CMG counterparts. IMG trainees were also more likely to be females, though not to the same extent as CMGs. In 2010/11, 56.7% of IMG trainees in family medicine were women.

9. The faculties of medicine at Memorial University, Queen's University, and Université de Sherbrooke consistently produced substantially larger proportions of family physicians than the national average. Conversely, the faculties of medicine at McGill University, University of Manitoba, and University of Toronto tended to train smaller proportions of family physicians. Some faculties of medicine may have made the training of family physicians part of their long-term mandate, while others may place greater emphasis on other objectives, such as specialty training or research.

10. Family medicine training programs in Quebec were unique in that they tended to have a larger proportion of female trainees than the national average. In 2010/11, females accounted for more than 70% of all trainees in all four family medicine programs in Quebec.

11. IMG trainees were not evenly distributed among family medicine training programs. By the middle of the study period, it became apparent that two geographic regions of the country showed contrasting patterns with respect to IMG trainees. Family medicine training programs in the prairie provinces—especially Manitoba and Saskatchewan—tended to have larger-than-average proportions of IMG trainees. Conversely, family medicine training programs in Quebec tended to have much smaller proportions of IMG trainees.

12. With respect to sources of family medicine trainees, faculties of medicine in Quebec, with the exception of the McGill University medical school, were consistently endogenous (i.e., more than 75% of trainees were from the same medical school or other medical schools in the same province). Those in the prairie provinces, became exogenous (i.e., less than 50% of trainees were from the same medical school or other medical schools in the same province) toward the end of the study period. The University of British Columbia medical school was consistently exogenous. But the overall trend was for family medicine training programs to become more exogenous.

13. Three entry cohorts (1996/97, 2001/02, and 2005/06) were used to show how trainees fared in family medicine training programs. On average, 76% completed family medicine training in two years, 20% in three years, and approximately 4% did not complete. The majority of those who completed training in three years took the optional R-3 training, but a few may have repeated their R-1 or R-2 year. Most of those who did not complete family medicine training had switched to training programs in other specialties.

14. When practice locations two, five, and ten years after exit from family medicine training programs were examined, the most common location-mobility pattern was the "same-same-same" combination (i.e., stayed in the province where they trained in all three years). It accounted for 63.2%, 64.9%, and 63.8% of the family physicians who exited training in 1997, 1999, and 2001, respectively. A distant second is the "different-different-different" combination (i.e., practised in another province/territory in all three years), which accounted for 12.6%, 14.9%, and 14.5% of those who exited training in 1997, 1999, and 2001, respectively. Accounting for 6.8%, 3.3%, and 1.1% of the same three cohorts of physicians, respectively, the third most common pattern was the "overseas-overseas-overseas" combination (i.e., located overseas in all three years).

15. Family medicine training programs in Quebec, with the exception of the McGill program, had very large proportions of their graduates practising in Quebec after exit from training. Family medicine programs in Ontario also tended to have substantial proportions of their graduates stay in Ontario, though not to the same extent as those in Quebec. Those who did their family medicine training at the University of British Columbia were also very likely to stay in British Columbia. Conversely, Manitoba and Saskatchewan were less likely to keep their family medicine graduates although the proportions of their out-migrants were not as high as those in Newfoundland and Labrador.

IMPLICATIONS

What are the implications of the findings of this study for health workforce planning and medical education?

The fall (in the early 2000s) and rise (in the late 2000s) in the number of family medicine trainees in Canada largely reflect changes in national and provincial medical workforce policies during that period. What is encouraging is that family medicine trainees, as a proportion of all post-M.D. trainees, remained relatively stable throughout the 15 years. It is also encouraging to note that for most years, there were more trainees from other specialties switching to family medicine than the other way around. Earlier apprehension about medical students and graduates "abandoning" family medicine in favour of other specialties has not yet materialized. This may be due to prudent decisions by provincial policy-makers and medical educators to preserve a significant number of residency positions for family medicine. It may also reflect a substantial increase in the number of female and IMG trainees: statistics presented in this study, as well as other studies, have shown that females and IMGs are more likely to choose family medicine. However, efforts are still needed to encourage medical students and graduates to pursue a career in primary care.

While encouraging, the growing number of family medicine trainees who are women or IMGs has its own policy implications. Some evidence suggests that female physicians work fewer hours per day and fewer days per year compared to male physicians (Canadian Labour and Business Centre and Canadian Policy Research Network 2005; Chan 2002; Tyrrell et al 1999; Woodward and Hurley 1995). However, it is not known if practice profile differences will continue to be observed among more recent graduates. We know less about how IMGs practise medicine, but it is possible that they also have distinct practice patterns[7]. In health workforce planning, one needs to take into consideration not just the number of physicians, but also how they work, how much they work, and the kind of work they do.

Although there was a substantial increase in the number of family medicine trainees taking R-3 training, the number of third-year residents taking training in care of the elderly remained very small. The proportion of those taking care-of-the-elderly training among all R-3 trainees actually declined over the years. This is surprising, even unsettling, in light of the growing and aging Canadian population with its attendant health issues. This may reflect a more serious problem; namely, insufficient interest among physicians in health matters associated with aging. System-wide effort may be required to encourage medical students and family medicine residents to consider training and careers that place greater emphasis on the elderly and aging-related health problems.

Although several broad trends have been documented, such as the growing numbers of female and IMG trainees, regional variations are a reality that cannot be ignored. Because phenomena such as increases in female and IMG trainees are not evenly distributed geographically, certain regions are more likely than others to feel the impact. For instance, family medicine training programs in Quebec, especially those at Laval, Montréal, and Sherbrooke, consistently had larger proportions of female trainees but much smaller proportions of IMG trainees than their counterparts in other provinces. They recruited most of their trainees from within Quebec and a great majority of their graduates stayed in the province. Family medicine training programs in the prairie provinces are quite different. They tended to have large proportions of IMG trainees and became progressively more exogenous with respect to the sources of their trainees. The family physicians they produced also had the tendency to out-migrate. Such marked regional variations suggest that, for some medical workforce issues provincial and/or regional strategies should be developed, in addition to national policies. Solutions that work for one jurisdiction may not be effective for others.

This study looked at two-, three- and ten-year practice location compared to where family medicine training took place. Although as many as a thousand practice location-mobility patterns are theoretically possible at three points in time in the ten years following exit, only a few of those patterns have been shown to be of any consequence, numerically speaking. In particular, three patterns—"same-same-same," "different-different-different," and "overseas-overseas-overseas"—accounted for about 80% of the cases in all three exit cohorts examined. This suggests that once a new family physician has decided to stay or relocate, the decision is likely to be "permanent." If a province wishes to keep its newly minted family doctors, it needs to act fast. This is because, once they leave, the chances of their returning are low.

There are indications that out-migration of Canadian family physicians to other countries has declined in more recent years, although more evidence is needed to confirm this observation. If true, this is a positive development from the perspective of having enough family physicians to meet the country's medical care needs. It would also be helpful to examine the reasons for the recent reduction in out-migration, so that appropriate measures can be taken to ensure as much Canadian self-sufficiency as possible with respect to the supply of family physicians.

The number of exit-year trainees in family medicine, which closely approximates the number of practice-entry family physicians, increased by close to 30% between 1996 and 2010. The family physician supply situation has also benefitted from smaller losses due to out-migration to other countries in recent years and more trainees switching to family medicine from other specialty training programs. While all this is encouraging, concerns about Canada possibly having an "over-supply" of physicians are beginning to surface again. According to the Canadian Institute for Health Information (2011), the number of physicians is increasing twice as fast as the Canadian population. This situation deserves closer monitoring in order to avoid a repeat of the policy pendulum-swing of the 1990s, as described in Section 1. Also, although there are now more family physicians per capita than before, this does not necessarily mean that their geographic distribution corresponds to the spatial dispersion of the Canadian population or that they are readily accessible to those who need medical attention. Although these aspects are beyond the scope of the present study, they deserve a more in-depth look.

7. Data from the National Physician Survey suggest that IMGs, during the early phase of their career, tend to have practice patterns that are different than those of CMGs, but the differences between the two groups become less noticeable in later phases of their career.

LIMITATIONS

As noted at the outset, a study based solely on secondary data analysis is inevitably limited by what is available in the database and the quality of the information it contains. Some of the limitations of the CAPER database have been identified in earlier sections and there is no need to repeat them here. Suffice to say that despite those limitations, the CAPER database contains a wealth of information that can shed light on many aspects of post-M.D. training in Canada. This study has exploited a major strength of the CAPER database; namely, the availability of data from all faculties of medicine over many years. It allows longitudinal and comparative analyses, which could be very helpful to health workforce and medical education planning.

No one single database could possibly contain all the information needed for monitoring, evaluation, planning, and research purposes. However, by interconnecting databases, health care planners and researchers could expand and enhance the capability of those databases. For instance, part of the present study relies on an interface between the CAPER database and the CMA Master File, enabling the analysis of practice location and mobility patterns of family physicians during the first ten years of their medical career. It is suggested that CAPER pursue other interfacing possibilities using record-linkage approaches. For example, by interconnecting the CAPER database with the National Physician Database (housed at the Canadian Institute for Health Information) the practice profiles of physicians from different medical schools or provinces could be examined, or a comparison of the practice patterns of recent graduates with those of more established physicians could be undertaken.

There is another limitation. While the study has made many observations and identified important trends, it has not sought to examine why or how they came about. In part, this is due to the data, which do not allow many such questions to be answered in a satisfactory manner. Also, the study is meant to be primarily descriptive in nature. Although some hypotheses have been advanced, such as the hypothesis that some family medicine programs have older trainees than others because they have more IMG and/or R-3 trainees, no attempts have been made to test them. The tasks of explaining and hypothesis testing are left to future studies.

CONCLUSION

It has been said that to know where we are going, we need to know where we have come from. By using data from a unique database that spans many years, this study is an attempt to document how post-M.D. family medicine training in Canada has changed or has stayed the same over the last 15 years, with a view to shedding light on its current situation and possible future development. It has replicated some studies dealing with similar topics such as the growth in the number of IMG trainees and has updated findings from other studies by using more recent information. It has also explored issues that have received little or no research attention thus far, such as how faculties of medicine differ with respect to their trainees and graduates, and how trainees fare during and after residency. Furthermore, the historical nature of the CAPER data and the ability to interface with the CMA Master File permit longitudinal analysis and the tracking of cohorts of trainees or graduates over a number of years. Those analyses have yielded interesting and useful results.

It is hoped that the knowledge and insights gained from this study will enrich our understanding of a range of issues pertaining to family medicine training in Canada. As well, the study provides an opportunity to showcase the utility and richness of the CAPER database and the types of analyses that can be done using the data.

APPENDICES

APPENDIX A—DATA TABLES

TABLE A1

Number of First-Year Trainees in Post-M.D. Training Programs, by Broad Specialty, Canada,
1996/97 – 2010/11

	1996/97	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04
Family medicine	670	679	658	616	598	611	639	668
Medical specialties	656	596	631	653	646	633	672	727
Laboratory medicine specialties	29	22	21	20	25	35	34	40
Surgical specialties	305	288	293	293	278	295	296	321
Total	1660	1585	1603	1582	1547	1574	1641	1756

	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11
Family medicine	749	830	923	895	983	1072	1145
Medical specialties	792	836	915	1020	1042	1145	1170
Laboratory medicine specialties	45	42	53	65	55	70	69
Surgical specialties	333	345	362	400	424	452	461
Total	1919	2053	2253	2380	2504	2739	2845

TABLE A2

Number of All Family Medicine Trainees in Post-M.D. Training Programs, by Training Level, Canada,
1996/97 – 2010/11

	1996/97	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04
R-1	729	732	726	696	664	673	702	737
R-2	759	776	750	734	721	663	678	685
R-3	110	117	131	142	146	161	171	171
Total	1598	1625	1607	1572	1531	1497	1551	1593

	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11
R-1	820	924	1011	987	1070	1160	1265
R-2	716	779	892	994	981	1067	1159
R-3	183	167	146	182	194	212	242
Total	1719	1870	2049	2163	2245	2439	2666

TABLE A3

Percentage of All Family Medicine Trainees per Region, and Proportion of Population per Region; Canada,
1996/97, 2003/04, 2010/11

	Newfound-land	The Maritimes	Quebec	Ontario	Manitoba	Saskat-chewan	Alberta	British Columbia
1996/97	3.0%	3.9%	34.5%	33.7%	4.1%	3.0%	11.2%	6.7%
Population (proportion) 1996	1.96%	6.33%	25.35%	38.19%	3.96%	3.52%	9.04%	11.66%
2003/04	2.4%	5.9%	29.7%	33.8%	3.0%	3.5%	13.6%	8.2%
Population (proportion) 2003	1.64%	5.78%	23.74%	38.84%	3.68%	3.15%	10.01%	13.16%
2010/11	2.2%	4.3%	29.4%	37.5%	3.9%	2.7%	10.5%	9.4%
Population (proportion) 2010	1.50%	5.40%	23.26%	38.86%	3.63%	3.08%	10.94%	13.33%

TABLE A4

Number of R-3 Family Medicine Trainees, by Field of Post-M.D. Training, Canada,
1996/97 – 2010/11

	1996/97	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04
Emergency medicine (CFPC)	72	77	84	87	85	89	99	109
Care of the elderly (CFPC)	6	8	8	13	12	12	15	11
Enhanced skills	7	8	14	20	46	21	21	51
Total	85	93	106	120	143	122	135	171

TABLE A4 (CONTINUED)

Number of R-3 Family Medicine Trainees, by Field of Post-M.D. Training, Canada,
1996/97 – 2010/11

	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11
Emergency medicine (CFPC)	104	99	87	110	115	125	135
Care of the elderly (CFPC)	9	11	6	10	8	6	9
Enhanced skills	70	57	53	62	71	81	98
Total	183	167	146	182	194	212	242

TABLE A5

Number of Post-M.D. Trainees Involved in Broad Program Switches, by First Recorded Year of Post-M.D. Training, Canada,
1996 – 2009

	1996	1997	1998	1999	2000	2001	2002
Family medicine trainees switching to medical specialty	27	34	38	39	28	25	33
Family medicine trainees switching to lab specialties	1	3	0	0	0	0	0
Family medicine trainees switching to surgical specialties	7	8	5	5	5	9	8
Medical specialty trainees switching to family medicine	25	33	34	38	33	21	27
Lab specialties switching to family medicine	2	4	2	0	1	1	2
Surgical specialties switching to family medicine	30	15	15	22	15	24	13
Total	92	97	94	104	82	80	83

TABLE A5 (CONTINUED)

Number of Post-M.D. Trainees Involved in Broad Program Switches, by First Recorded Year of Post-M.D. Training, Canada,
1996 – 2009

	2003	2004	2005	2006	2007	2008	2009
Family medicine trainees switching to medical specialty	32	31	32	32	21	17	10
Family medicine trainees switching to lab specialties	4	1	0	2	0	0	0
Family medicine trainees switching to surgical specialties	13	4	4	5	9	2	4
Medical specialty trainees switching to family medicine	22	24	27	24	20	18	21
Lab specialties switching to family medicine	2	0	2	4	2	2	1
Surgical specialties switching to family medicine	6	16	19	13	13	7	6
Total	79	76	84	80	65	46	42

TABLE A6

Number of Post-M.D. Trainees Exiting Training Programs, by Broad Specialty, Canada,
1996 – 2010

	1996	1997	1998	1999	2000	2001	2002	2003
Family medicine	730	708	727	702	655	645	608	610
Medical specialties	502	523	500	550	532	505	489	513
Laboratory medicine specialties	49	48	38	35	35	32	17	26
Surgical specialties	242	234	232	228	229	209	223	208
Total	1523	1513	1497	1515	1451	1391	1337	1357

	2004	2005	2006	2007	2008	2009	2010
Family medicine	623	666	706	774	906	904	937
Medical specialties	522	581	583	570	629	665	705
Laboratory medicine specialties	20	27	33	37	46	54	47
Surgical specialties	219	212	211	212	216	237	259
Total	1384	1486	1533	1593	1797	1860	1948

TABLE A7

Mean Age of All Post-M.D. Trainees During Training, by Broad Specialty, Canada,
1996/97 – 2010/11

	1996/97	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04
Family medicine	28.5	28.7	28.8	28.7	28.8	29.0	29.6	29.6
Medical specialties	29.1	29.2	29.1	29.2	29.2	29.2	29.3	29.4
Laboratory medicine specialties	31.3	31.0	31.1	30.9	30.7	31.0	31.0	31.0
Surgical specialties	28.7	28.7	28.7	28.8	28.9	28.9	29.0	29.2
Total	28.9	29.0	29.0	29.0	29.0	29.1	29.3	29.5

	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11
Family medicine	30.0	30.0	29.9	30.1	30.0	30.0	29.6
Medical specialties	29.5	29.6	29.7	29.8	29.9	30.0	29.9
Laboratory medicine specialties	31.7	32.1	32.4	33.0	33.2	33.3	33.4
Surgical specialties	29.2	29.3	29.4	29.3	29.4	29.3	29.3
Total	29.6	29.7	29.8	29.9	29.9	29.9	29.8

TABLE A8

Mean Age at Year of Exit From Post-M.D. Training, by Broad Specialty, Canada,
1996 – 2010

	1996	1997	1998	1999	2000	2001	2002	2003
Family medicine – mean age	29.8	30.0	30.2	30.5	30.1	30.2	30.3	30.8
Family medicine – median age	28.0	28.0	28.0	29.0	29.0	29.0	29.0	29.0
Medical specialties – mean age	32.5	31.6	31.8	32.0	31.9	31.9	32.0	32.1
Medical specialties – median age	31.0	31.0	30.0	31.0	31.0	31.0	31.0	31.0
Laboratory medicine specialties – mean age	35.1	34.8	33.1	33.5	33.1	32.0	33.2	34.3
Laboratory medicine specialties – median age	33.0	34.5	33.0	31.0	31.0	31.0	31.0	32.5
Surgical specialties – mean age	31.7	32.0	32.0	31.5	31.7	31.8	31.9	31.7
Surgical specialties – median age	31.0	31.0	31.0	31.0	31.0	31.0	31.0	31.0
Total – mean age	31.1	31.0	31.1	31.2	31.1	31.1	31.2	31.5
Total – median age	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0

TABLE A8 (CONTINUED)

Mean Age at Year of Exit From Post-M.D. Training, by Broad Specialty, Canada,
1996 – 2010

	2004	2005	2006	2007	2008	2009	2010
Family medicine – mean age	31.2	31.0	31.6	31.3	31.6	31.7	31.6
Family medicine – median age	29.0	29.0	30.0	30.0	30.0	30.0	30.0
Medical specialties – mean age	32.5	32.4	32.4	32.7	32.6	32.8	33.0
Medical specialties – median age	31.0	31.0	31.0	32.0	31.0	32.0	32.0
Laboratory medicine specialties – mean age	34.1	34.9	35.3	33.9	33.5	36.1	35.0
Laboratory medicine specialties – median age	32.0	33.0	34.0	32.0	32.0	33.5	34.0
Surgical specialties – mean age	32.4	32.0	32.4	32.7	32.3	32.4	33.1
Surgical specialties – median age	31.0	31.0	31.0	32.0	31.0	32.0	32.0
Total – mean age	31.9	31.8	32.1	32.1	32.1	32.3	32.4
Total – median age	31.0	31.0	31.0	31.0	31.0	31.0	31.0

TABLE A9

Percentage of Female Post-M.D. Trainees, by Broad Specialty, Canada,
1996/97 – 2010/11

	1996/97	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04
Family medicine	53.4%	55.0%	56.0%	56.7%	58.5%	59.6%	59.3%	61.0%
Medical specialties	45.7%	46.1%	46.0%	47.7%	48.1%	48.5%	48.5%	49.5%
Laboratory medicine specialties	42.5%	42.8%	45.6%	49.3%	44.8%	44.4%	46.9%	49.5%
Surgical specialties	31.1%	32.9%	34.5%	35.1%	35.4%	35.2%	34.8%	35.3%
Total	43.9%	45.0%	45.6%	46.8%	47.4%	47.8%	47.8%	48.8%

	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11
Family medicine	63.8%	66.2%	66.2%	66.2%	64.2%	62.9%	63.2%
Medical specialties	49.9%	51.5%	52.8%	54.1%	54.6%	54.5%	55.1%
Laboratory medicine specialties	48.3%	49.6%	51.8%	54.5%	54.5%	55.3%	52.9%
Surgical specialties	36.3%	38.9%	40.0%	42.4%	43.7%	44.8%	46.6%
Total	50.0%	52.1%	53.3%	54.5%	54.5%	54.4%	55.2%

TABLE A10

Percentage of IMG Trainees in Post-M.D. Training, by Broad Specialty, Canada,
1996/97 – 2010/11

	1996/97	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04
Family medicine	4.3%	5.4%	6.2%	6.0%	6.2%	9.2%	13.8%	16.0%
Medical specialties	6.2%	5.0%	4.6%	4.8%	4.7%	4.7%	5.7%	6.6%
Laboratory medicine specialties	19.7%	13.9%	11.7%	10.0%	10.4%	17.4%	17.3%	17.2%
Surgical specialties	4.6%	3.4%	3.3%	3.7%	3.2%	3.7%	5.0%	5.5%
Total	5.8%	5.0%	4.9%	4.9%	4.8%	5.8%	7.6%	8.7%

	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11
Family medicine	19.9%	21.0%	21.4%	21.8%	21.3%	21.3%	19.8%
Medical specialties	7.7%	8.5%	9.6%	11.7%	13.2%	15.2%	15.3%
Laboratory medicine specialties	21.7%	23.6%	28.6%	31.2%	36.7%	36.8%	37.4%
Surgical specialties	6.0%	7.1%	7.5%	8.0%	8.5%	9.5%	9.3%
Total	10.5%	11.6%	12.6%	13.9%	14.8%	16.1%	15.8%

TABLE A11

Percentage of IMGs at Year of Exit From Post-M.D. Training, by Broad Specialty, Canada,
1996 – 2010

	1996	1997	1998	1999	2000	2001	2002	2003
Family medicine	6.0%	4.0%	5.8%	6.7%	5.6%	5.3%	6.7%	11.3%
Medical specialties	18.7%	12.2%	10.0%	6.7%	6.4%	5.0%	5.1%	7.0%
Laboratory medicine specialties	53.1%	41.7%	21.1%	14.3%	5.7%	3.1%	0%	19.2%
Surgical specialties	9.9%	10.7%	7.3%	3.5%	6.6%	1.4%	4.0%	2.4%
Total	12.3%	9.1%	7.8%	6.4%	6.1%	4.5%	5.6%	8.5%

	2004	2005	2006	2007	2008	2009	2010
Family medicine	17.8%	15.8%	23.8%	19.6%	22.1%	22.1%	22.8%
Medical specialties	8.6%	9.8%	10.3%	10.7%	9.9%	9.5%	13.5%
Laboratory medicine specialties	20.0%	25.9%	30.3%	24.3%	13.0%	27.8%	25.5%
Surgical specialties	5.9%	2.8%	8.1%	8.0%	6.5%	6.8%	9.3%
Total	12.5%	11.8%	16.6%	15.0%	15.7%	15.8%	17.7%

TABLE A12

Mean Age of All Family Medicine Trainees, by Place of Graduation, Canada,
1996/97 – 2010/11

	1996/97	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04
CMG – mean age	28.0	28.1	28.1	28.1	28.2	28.2	28.4	28.2
CMG – median age	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0
IMG – mean age	37.9	39.4	39.1	38.9	38.0	36.9	37.1	37.1
IMG – median age	38.0	39.0	38.0	39.0	37.0	37.0	36.0	36.0
Total – mean age	28.5	28.7	28.8	28.7	28.8	29.0	29.6	29.6
Total – median age	27.0	27.0	27.0	27.0	27.0	27.0	28.0	28.0

	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11
CMG – mean age	28.4	28.4	28.3	28.4	28.3	28.3	28.1
CMG – median age	27.0	27.0	27.0	27.0	27.0	27.0	27.0
IMG – mean age	36.5	36.2	35.8	36.2	36.3	36.1	35.7
IMG – median age	36.0	35.0	35.0	35.0	35.0	35.0	34.0
Total – mean age	30.0	30.0	29.9	30.1	30.0	30.0	29.6
Total – median age	28.0	28.0	28.0	28.0	28.0	28.0	28.0

TABLE A13

Percentage of All Female Family Medicine Trainees, by Place of Graduation, Canada
1996/97 – 2010/11

	1996/97	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04
CMG	53.1%	55.1%	56.0%	57.3%	59.5%	59.6%	59.1%	60.5%
IMG	58.8%	52.3%	56.0%	47.4%	43.2%	59.1%	60.7%	63.9%
Total	53.4%	55.0%	56.0%	56.7%	58.5%	59.6%	59.3%	61.0%

	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11
CMG	63.3%	66.4%	67.4%	67.7%	65.5%	64.6%	64.7%
IMG	65.5%	65.6%	61.7%	60.8%	59.6%	56.9%	56.7%
Total	63.8%	66.2%	66.2%	66.2%	64.2%	62.9%	63.2%

TABLE A14

Percentage of Female R-3 Family Medicine Trainees, by Program, Canada,
1996/97 – 2010/11

	1996/97	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04
Emergency medicine	30.6%	29.9%	31.0%	41.4%	38.8%	37.1%	31.3%	45.9%
Care of the elderly	100.0%	75.0%	87.5%	53.8%	83.3%	83.3%	73.3%	72.7%
Enhanced skills; other fam. med.	42.9%	37.5%	35.7%	45.0%	45.7%	42.9%	57.1%	64.7%
Total	36.5%	34.4%	35.8%	43.3%	44.8%	42.6%	40.0%	53.2%

TABLE A14 (CONTINUED)

Percentage of Female R-3 Family Medicine Trainees, by Program, Canada,
1996/97 – 2010/11

	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11
Emergency medicine	47.1%	48.5%	46.0%	57.3%	46.1%	42.4%	51.1%
Care of the elderly	66.7%	90.9%	66.7%	80.0%	75.0%	83.3%	77.8%
Enhanced skills; other fam. med.	60.0%	52.6%	60.4%	69.4%	67.6%	55.6%	64.3%
Total	53.0%	52.7%	52.1%	62.6%	55.2%	48.6%	57.4%

TABLE A15

Percentage of IMG R-3 Family Medicine Trainees, by Program, Canada,
1996/97 – 2010/11

	1996/97	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04
Emergency medicine	1.4%	1.3%	1.2%	4.6%	1.2%	1.1%	7.1%	1.8%
Care of the elderly	16.7%	0%	12.5%	0%	0%	0%	0%	27.3%
Enhanced skills; other fam. med.	0%	12.5%	7.1%	5.0%	4.3%	0%	4.8%	7.8%
Total	2.4%	2.2%	2.8%	4.2%	2.1%	.8%	5.9%	5.3%

	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11
Emergency medicine	6.7%	9.1%	6.9%	8.2%	7.0%	12.8%	11.1%
Care of the elderly	22.2%	45.5%	50.0%	20.0%	25.0%	33.3%	44.4%
Enhanced skills; other fam. med.	5.7%	17.5%	13.2%	12.9%	9.9%	19.8%	18.4%
Total	7.1%	14.4%	11.0%	10.4%	8.8%	16.0%	15.3%

TABLE A16

Percentage of Post-M.D. Family Medicine Trainees, by Faculty of Medicine, Canada,
1996/97, 2003/04, 2010/11

	Memorial University	Dalhousie University	Université Laval	Université de Sherbrooke	Université de Montréal	McGill University	University of Ottawa	Queen's University	University of Toronto
1996/97	23.6%	17.8%	30.3%	33.0%	25.4%	20.5%	27.9%	27.4%	16.1%
2003/04	19.3%	23.9%	25.9%	32.1%	20.4%	20.0%	29.7%	29.8%	14.8%
2010/11	24.7%	23.5%	28.6%	30.0%	23.7%	22.6%	21.4%	31.3%	17.8%

	McMaster University	University of Western Ontario	Northern Ontario School of Medicine	University of Manitoba	University of Saskatchewan	University of Alberta	University of Calgary	University of British Columbia
1996/97	28.2%	21.8%	0%	20.8%	23.2%	23.5%	26.2%	20.3%
2003/04	26.6%	19.5%	0%	13.9%	24.9%	23.9%	27.4%	21.5%
2010/11	22.9%	25.3%	84.6%	21.8%	22.3%	20.8%	21.1%	23.8%

TABLE A17

Percentage of Family Medicine Trainees Exiting Training Programs, by Faculty of Medicine, Canada,
1996, 2003, 2010

	Memorial University	Dalhousie University	Université Laval	Université de Sherbrooke	Université de Montréal	McGill University	University of Ottawa	Queen's University	University of Toronto
1996	55.6%	39.7%	54.0%	62.2%	44.6%	39.3%	51.6%	57.4%	48.6%
2003	56.0%	46.6%	48.7%	55.2%	38.5%	29.7%	58.5%	50.0%	33.0%
2010	64.9%	45.6%	52.5%	57.1%	46.3%	40.5%	42.9%	60.8%	38.8%

	McMaster University	University of Western Ontario	Northern Ontario School of Medicine	University of Manitoba	University of Saskatchewan	University of Alberta	University of Calgary	University of British Columbia	Total
1996	56.8%	48.7%	0%	41.5%	51.9%	52.3%	38.9%	39.4%	47.9%
2003	53.2%	44.6%	0%	40.0%	56.3%	51.5%	55.9%	46.3%	45.0%
2010	49.6%	50.5%	100.0%	41.4%	53.2%	49.3%	48.7%	45.4%	48.1%

TABLE A18

Mean Age of All Exit-Year Family Medicine Trainees, Canada,
1996/97 – 2010/11

	1996/97	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04
Mean age	29.8	30.0	30.2	30.5	30.1	30.2	30.3	30.8
Median age	28.0	28.0	28.0	29.0	29.0	29.0	29.0	29.0

	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11
Mean age	31.2	31.0	31.6	31.3	31.6	31.7	31.6
Median age	29.0	29.0	30.0	30.0	30.0	30.0	30.0

TABLE A19

Percentage of Female Family Medicine Trainees by Faculty of Medicine, Canada,
1996/97, 2003/04, 2010/11

	Memorial University	Dalhousie University	Université Laval	Université de Sherbrooke	Université de Montréal	McGill University	University of Ottawa	Queen's University	University of Toronto
1996/97	45.8%	46.8%	61.5%	64.2%	66.0%	49.1%	55.3%	58.8%	53.6%
2003/04	39.5%	52.1%	69.0%	67.5%	69.2%	51.5%	59.0%	72.2%	73.0%
2010/11	56.9%	62.6%	72.0%	70.7%	73.2%	70.9%	70.4%	64.3%	63.5%

	McMaster University	University of Western Ontario	Northern Ontario School of Medicine	University of Manitoba	University of Saskatchewan	University of Alberta	University of Calgary	University of British Columbia	Total
1996/97	60.0%	39.2%	0%	46.2%	39.6%	48.1%	38.4%	45.8%	53.4%
2003/04	64.2%	52.7%	0%	53.2%	58.9%	47.9%	59.0%	58.5%	61.0%
2010/11	57.0%	57.7%	51.9%	45.2%	50.7%	49.3%	54.9%	68.1%	63.2%

TABLE A20

Percentage of Family Medicine Trainees, Who Were Females, Exiting Training Programs, by Faculty of Medicine, Canada,
1996, 2003, 2010

	Memorial University	Dalhousie University	Université Laval	Université de Sherbrooke	Université de Montréal	McGill University	University of Ottawa	Queen's University	University of Toronto
1996	44.0%	41.9%	62.3%	56.5%	63.5%	54.7%	51.1%	64.5%	46.6%
2003	50.0%	44.1%	76.3%	65.6%	75.7%	60.0%	56.4%	62.5%	71.4%
2010	58.3%	72.2%	73.0%	75.0%	73.4%	61.2%	60.4%	60.0%	66.3%

	McMaster University	University of Western Ontario	Northern Ontario School of Medicine	University of Manitoba	University of Saskatchewan	University of Alberta	University of Calgary	University of British Columbia	Total
1996	41.3%	42.1%	0%	35.3%	25.9%	37.8%	57.1%	46.3%	49.6%
2003	56.1%	51.7%	0%	25.0%	50.0%	40.0%	57.9%	50.0%	58.4%
2010	56.7%	54.3%	54.5%	44.4%	44.0%	42.4%	72.4%	51.6%	61.4%

TABLE A21

Percentage of IMG Family Medicine Trainees by Faculty of Medicine, Canada,
1996/97, 2003/04, 2010/11

	Memorial University	Dalhousie University	Université Laval	Université de Sherbrooke	Université de Montréal	McGill University	University of Ottawa	Queen's University	University of Toronto
1996/97	2.1%	0%	1.4%	5.7%	5.3%	4.4%	2.9%	0%	13.7%
2003/04	26.3%	27.7%	5.6%	10.3%	5.3%	10.3%	9.4%	5.1%	10.7%
2010/11	19.0%	14.8%	11.4%	10.9%	4.3%	16.4%	23.7%	21.4%	19.9%

	McMaster University	University of Western Ontario	Northern Ontario School of Medicine	University of Manitoba	University of Saskatchewan	University of Alberta	University of Calgary	University of British Columbia	Total
1996/97	1.9%	1.3%	0%	9.2%	2.1%	0%	0%	5.6%	4.3%
2003/04	11.0%	27.0%	0%	27.7%	57.1%	22.2%	27.0%	16.2%	16.0%
2010/11	17.7%	41.1%	25.0%	47.1%	39.7%	29.1%	16.5%	13.1%	19.8%

TABLE A22

Percentage of Family Medicine Trainees, Who Were IMGs, Exiting Training Programs, by Faculty of Medicine, Canada,
1996, 2003, 2010

	Memorial University	Dalhousie University	Université Laval	Université de Sherbrooke	Université de Montréal	McGill University	University of Ottawa	Queen's University	University of Toronto
1996	0%	3.2%	1.6%	4.3%	8.1%	1.9%	6.4%	0%	12.6%
2003	0%	32.4%	2.6%	3.1%	0%	10.0%	9.1%	12.5%	7.9%
2010	29.2%	22.2%	15.9%	5.0%	2.1%	18.4%	27.1%	26.7%	24.8%

TABLE A22 (CONTINUED)

Percentage of Family Medicine Trainees, Who Were IMGs, Exiting Training Programs, by Faculty of Medicine, Canada, **1996, 2003, 2010**

	McMaster University	University of Western Ontario	Northern Ontario School of Medicine	University of Manitoba	University of Saskatchewan	University of Alberta	University of Calgary	University of British Columbia	Total
1996	4.3%	5.3%	0%	20.6%	3.7%	0%	0%	12.2%	6.0%
2003	12.2%	20.7%	0%	25.0%	27.8%	14.0%	18.4%	10.0%	11.3%
2010	18.3%	56.5%	24.2%	52.8%	44.0%	28.8%	22.4%	19.4%	22.8%

TABLE A23

Percentage of All Family Medicine Trainees that Received Post-M.D. Training in the Province Where M.D. Degree was Received, by Faculty of Medicine, Canada, **1996/97, 2003/04, 2010/11**

	Memorial University	Dalhousie University	Université Laval	Université de Sherbrooke	Université de Montréal	McGill University	University of Ottawa	Queen's University	University of Toronto
1996/97	47.9%	38.7%	98.6%	94.3%	94.7%	55.3%	77.7%	52.9%	68.9%
2003/04	57.9%	33.0%	94.4%	89.7%	94.7%	45.4%	64.1%	62.0%	73.0%
2010/11	56.9%	49.6%	88.2%	88.5%	94.5%	64.8%	61.8%	54.8%	64.2%

	McMaster University	University of Western Ontario	Northern Ontario School of Medicine	University of Manitoba	University of Saskatchewan	University of Alberta	University of Calgary	University of British Columbia
1996/97	81.9%	77.2%	0%	81.5%	66.7%	82.1%	28.8%	44.9%
2003/04	74.3%	63.5%	0%	57.4%	37.5%	47.0%	32.0%	43.1%
2010/11	73.4%	50.3%	68.3%	45.2%	39.7%	44.6%	42.9%	34.3%

TABLE A24

Practice Location of Family Physicians 2 Years, 5 Years, and 10 Years After Exit From Memorial University Training Program in **1997, 1999 and 2001**

	Exit Training in 1997			Exit Training in 1999			Exit Training in 2001		
	2 Years After Exit	5 Years After Exit	10 Years After Exit	2 Years After Exit	5 Years After Exit	10 Years After Exit	2 Years After Exit	5 Years After Exit	10 Years After Exit
Same province as faculty of medicine	40.0%	16.0%	16.0%	19.0%	14.3%	14.3%	36.8%	21.1%	21.1%
Different province	44.0%	60.0%	52.0%	62.0%	66.7%	76.2%	57.9%	68.4%	68.4%
Overseas/ unknown	16.0%	24.0%	32.0%	19.0%	19.0%	9.5%	5.3%	10.5%	10.5%

TABLE A25

Practice Location of Family Physicians 2 Years, 5 Years, and 10 Years After Exit From Dalhousie University Training Program in **1997, 1999 and 2001**

	Exit Training in 1997			Exit Training in 1999			Exit Training in 2001		
	2 Years After Exit	5 Years After Exit	10 Years After Exit	2 Years After Exit	5 Years After Exit	10 Years After Exit	2 Years After Exit	5 Years After Exit	10 Years After Exit
Same province as faculty of medicine	54.8%	35.5%	48.4%	51.3%	38.5%	35.9%	48.6%	28.6%	31.4%
Different province	29.1%	41.9%	35.5%	35.9%	46.1%	51.3%	45.7%	51.4%	60.0%
Overseas/ unknown	16.1%	22.6%	16.1%	12.8%	15.4%	12.8%	5.7%	20.0%	8.6%

TABLE A26

Practice Location of Family Physicians 2 Years, 5 Years, and 10 Years After Exit From Université Laval Training Program in **1997, 1999 and 2001**

	Exit Training in 1997			Exit Training in 1999			Exit Training in 2001		
	2 Years After Exit	5 Years After Exit	10 Years After Exit	2 Years After Exit	5 Years After Exit	10 Years After Exit	2 Years After Exit	5 Years After Exit	10 Years After Exit
Same province as faculty of medicine	88.5%	90.2%	85.2%	95.5%	94.0%	83.6%	97.1%	95.7%	92.8%
Different province	8.2%	6.5%	6.6%	1.5%	1.5%	1.5%	2.9%	2.9%	5.8%
Overseas/ unknown	3.3%	3.3%	8.2%	3.0%	4.5%	14.9%	0.0%	1.4%	1.4%

TABLE A27

Practice Location of Family Physicians 2 Years, 5 Years, and 10 Years After Exit From Université de Sherbrooke Training Program in **1997, 1999 and 2001**

	Exit Training in 1997			Exit Training in 1999			Exit Training in 2001		
	2 Years After Exit	5 Years After Exit	10 Years After Exit	2 Years After Exit	5 Years After Exit	10 Years After Exit	2 Years After Exit	5 Years After Exit	10 Years After Exit
Same province as faculty of medicine	82.6%	80.4%	69.6%	71.7%	73.9%	65.2%	74.4%	67.4%	65.1%
Different province	17.4%	15.3%	17.4%	21.8%	21.8%	23.9%	20.9%	21.0%	20.9%
Overseas/ unknown	0.0%	4.3%	13.0%	6.5%	4.3%	10.9%	4.7%	11.6%	14.0%

TABLE A28

Practice Location of Family Physicians 2 Years, 5 Years, and 10 Years After Exit From Université de Montréal Training Program in **1997, 1999 and 2001**

	Exit Training in 1997			Exit Training in 1999			Exit Training in 2001		
	2 Years After Exit	5 Years After Exit	10 Years After Exit	2 Years After Exit	5 Years After Exit	10 Years After Exit	2 Years After Exit	5 Years After Exit	10 Years After Exit
Same province as faculty of medicine	95.9%	94.6%	90.5%	89.9%	91.0%	91.0%	90.3%	82.3%	82.3%
Different province	0.0%	0.0%	1.4%	3.4%	3.4%	3.4%	6.5%	8.0%	8.0%
Overseas/ unknown	4.1%	5.4%	8.1%	6.7%	5.6%	5.6%	3.2%	9.7%	9.7%

TABLE A29

Practice Location of Family Physicians 2 Years, 5 Years, and 10 Years After Exit From McGill University Training Program in **1997, 1999 and 2001**

	Exit Training in 1997			Exit Training in 1999			Exit Training in 2001		
	2 Years After Exit	5 Years After Exit	10 Years After Exit	2 Years After Exit	5 Years After Exit	10 Years After Exit	2 Years After Exit	5 Years After Exit	10 Years After Exit
Same province as faculty of medicine	50.9%	47.2%	49.1%	61.0%	58.5%	51.2%	67.6%	51.4%	37.8%
Different province	34.0%	32.0%	37.7%	26.8%	34.2%	36.6%	27.0%	37.8%	40.6%
Overseas/ unknown	15.1%	20.8%	13.2%	12.2%	7.3%	12.2%	5.4%	10.8%	21.6%

TABLE A30

Practice Location of Family Physicians 2 Years, 5 Years, and 10 Years After Exit From University of Ottawa Training Program in **1997, 1999 and 2001**

	Exit Training in 1997			Exit Training in 1999			Exit Training in 2001		
	2 Years After Exit	5 Years After Exit	10 Years After Exit	2 Years After Exit	5 Years After Exit	10 Years After Exit	2 Years After Exit	5 Years After Exit	10 Years After Exit
Same province as faculty of medicine	83.0%	80.9%	76.6%	97.6%	92.9%	88.1%	89.2%	81.1%	75.7%
Different province	12.7%	14.8%	17.0%	0.0%	2.3%	7.1%	8.1%	16.2%	21.6%
Overseas/ unknown	4.3%	4.3%	6.4%	2.4%	4.8%	4.8%	2.7%	2.7%	2.7%

TABLE A31

Practice Location of Family Physicians 2 Years, 5 Years, and 10 Years After Exit From Queen's University Training Program in **1997, 1999 and 2001**

	Exit Training in 1997			Exit Training in 1999			Exit Training in 2001		
	2 Years After Exit	5 Years After Exit	10 Years After Exit	2 Years After Exit	5 Years After Exit	10 Years After Exit	2 Years After Exit	5 Years After Exit	10 Years After Exit
Same province as faculty of medicine	71.0%	64.5%	71.0%	75.0%	57.1%	57.1%	83.9%	71.0%	67.7%
Different province	19.3%	19.4%	25.8%	25.0%	42.9%	42.9%	16.1%	29.0%	29.1%
Overseas/ unknown	9.7%	16.1%	3.2%	0.0%	0.0%	0.0%	0.0%	0.0%	3.2%

TABLE A32

Practice Location of Family Physicians 2 Years, 5 Years, and 10 Years After Exit From University of Toronto Training Program in **1997, 1999 and 2001**

	Exit Training in 1997			Exit Training in 1999			Exit Training in 2001		
	2 Years After Exit	5 Years After Exit	10 Years After Exit	2 Years After Exit	5 Years After Exit	10 Years After Exit	2 Years After Exit	5 Years After Exit	10 Years After Exit
Same province as faculty of medicine	86.4%	80.6%	81.6%	84.1%	83.0%	83.0%	89.6%	84.4%	85.7%
Different province	4.9%	3.9%	5.8%	11.4%	9.0%	10.2%	6.5%	11.7%	11.7%
Overseas/ unknown	8.7%	15.5%	12.6%	4.5%	8.0%	6.8%	3.9%	3.9%	2.6%

TABLE A33

Practice Location of Family Physicians 2 Years, 5 Years, and 10 Years After Exit From McMaster University Training Program in **1997, 1999 and 2001**

	Exit Training in 1997			Exit Training in 1999			Exit Training in 2001		
	2 Years After Exit	5 Years After Exit	10 Years After Exit	2 Years After Exit	5 Years After Exit	10 Years After Exit	2 Years After Exit	5 Years After Exit	10 Years After Exit
Same province as faculty of medicine	65.2%	71.7%	69.6%	81.0%	78.6%	78.6%	83.8%	78.4%	73.0%
Different province	15.2%	6.6%	6.5%	16.6%	14.3%	14.3%	13.5%	21.6%	21.6%
Overseas/ unknown	19.6%	21.7%	23.9%	2.4%	7.1%	7.1%	2.7%	0.0%	5.4%

TABLE A34

Practice Location of Family Physicians 2 Years, 5 Years, and 10 Years After Exit From University of Western Ontario Training Program in **1997, 1999 and 2001**

	Exit Training in 1997			Exit Training in 1999			Exit Training in 2001		
	2 Years After Exit	5 Years After Exit	10 Years After Exit	2 Years After Exit	5 Years After Exit	10 Years After Exit	2 Years After Exit	5 Years After Exit	10 Years After Exit
Same province as faculty of medicine	84.2%	81.6%	81.6%	78.9%	71.1%	71.1%	80.0%	70.0%	67.5%
Different province	13.2%	5.2%	5.2%	18.5%	21.0%	21.0%	17.5%	22.5%	22.5%
Overseas/ unknown	2.6%	13.2%	13.2%	2.6%	7.9%	7.9%	2.5%	7.5%	10.0%

TABLE A35

Practice Location of Family Physicians 2 Years, 5 Years, and 10 Years After Exit From University of Manitoba Training Program in **1997, 1999 and 2001**

	Exit Training in 1997			Exit Training in 1999			Exit Training in 2001		
	2 Years After Exit	5 Years After Exit	10 Years After Exit	2 Years After Exit	5 Years After Exit	10 Years After Exit	2 Years After Exit	5 Years After Exit	10 Years After Exit
Same province as faculty of medicine	55.9%	50.0%	41.2%	66.7%	50.0%	53.3%	68.0%	60.0%	56.0%
Different province	17.6%	26.5%	32.3%	30.0%	43.3%	36.7%	32.0%	40.0%	36.0%
Overseas/ unknown	26.5%	23.5%	26.5%	3.3%	6.7%	10.0%	0.0%	0.0%	8.0%

TABLE A36

Practice Location of Family Physicians 2 Years, 5 Years, and 10 Years After Exit From University of Saskatchewan Training Program in **1997, 1999 and 2001**

	Exit Training in 1997			Exit Training in 1999			Exit Training in 2001		
	2 Years After Exit	5 Years After Exit	10 Years After Exit	2 Years After Exit	5 Years After Exit	10 Years After Exit	2 Years After Exit	5 Years After Exit	10 Years After Exit
Same province as faculty of medicine	44.4%	33.3%	33.3%	66.7%	41.7%	37.5%	60.0%	45.0%	50.0%
Different province	51.9%	55.6%	55.6%	25.0%	45.8%	45.8%	35.0%	45.0%	50.0%
Overseas/ unknown	3.7%	11.1%	11.1%	8.3%	12.5%	16.7%	5.0%	10.0%	0.0%

TABLE A37

Practice Location of Family Physicians 2 Years, 5 Years, and 10 Years After Exit From University of Alberta Training Program in **1997, 1999 and 2001**

	Exit Training in 1997			Exit Training in 1999			Exit Training in 2001		
	2 Years After Exit	5 Years After Exit	10 Years After Exit	2 Years After Exit	5 Years After Exit	10 Years After Exit	2 Years After Exit	5 Years After Exit	10 Years After Exit
Same province as faculty of medicine	66.7%	57.8%	55.6%	78.0%	74.0%	68.0%	60.9%	60.9%	63.0%
Different province	24.4%	26.6%	24.4%	20.0%	22.0%	24.0%	36.9%	32.6%	37.0%
Overseas/ unknown	8.9%	15.6%	20.0%	2.0%	4.0%	8.0%	2.2%	6.5%	0.0%

TABLE A38

Practice Location of Family Physicians 2 Years, 5 Years, and 10 Years After Exit From University of Calgary Training Program in **1997, 1999 and 2001**

	Exit Training in 1997			Exit Training in 1999			Exit Training in 2001		
	2 Years After Exit	5 Years After Exit	10 Years After Exit	2 Years After Exit	5 Years After Exit	10 Years After Exit	2 Years After Exit	5 Years After Exit	10 Years After Exit
Same province as faculty of medicine	64.3%	50.0%	46.4%	65.6%	59.4%	40.6%	78.8%	63.6%	60.6%
Different province	17.8%	32.1%	32.2%	31.3%	34.3%	53.1%	18.2%	36.4%	39.4%
Overseas/ unknown	17.9%	17.9%	21.4%	3.1%	6.3%	6.3%	3.0%	0.0%	0.0%

TABLE A39

Practice Location of Family Physicians 2 Years, 5 Years, and 10 Years After Exit From University of British Columbia Training Program in **1997, 1999 and 2001**

	Exit Training in 1997			Exit Training in 1999			Exit Training in 2001		
	2 Years After Exit	5 Years After Exit	10 Years After Exit	2 Years After Exit	5 Years After Exit	10 Years After Exit	2 Years After Exit	5 Years After Exit	10 Years After Exit
Same province as faculty of medicine	85.4%	78.0%	75.6%	70.0%	74.0%	70.0%	84.1%	81.8%	79.5%
Different province	12.2%	17.1%	19.5%	30.0%	22.0%	24.0%	13.6%	13.6%	16.0%
Overseas/ unknown	2.4%	4.9%	4.9%	0.0%	4.0%	6.0%	2.3%	4.6%	4.5%

APPENDIX B—LIST OF ABBREVIATIONS

AFMC	Association of Faculties of Medicine of Canada
CAPER	Canadian Post-M.D. Education Registry
CaRMS	Canadian Residency Matching Service
CFPC	College of Family Physicians of Canada
CMA	Canadian Medical Association
CMG	Canadian Medical Graduate
IMG	International Medical Graduate
MD	Doctor of Medicine
NOSM	Northern Ontario School of Medicine
OECD	Organization for Economic Cooperation and Development
PGY3	Post-graduate Year 3
R-1, R-2, R-3	Residency 1, Residency 2, Residency 3

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