



Gender analysis of postgraduate medical trainees in Canada

Introduction

For decades there has been a gradual gender shift in Canada, among the practising physician population, from a very male dominated profession to one that is more representative of both sexes. Currently, males comprise 59% of licensed physicians and females 41% but already the majority of physicians (54%) under the age of 45 are female.¹ Overall, the physician pool is projected to be half and half in just over a decade.²

For the purpose of this study, it is recognized that the binary choices of male or female within the CAPER database, as collected and submitted by the faculties of medicine, is not fully inclusive of the gender diversity among Canadian physicians and society as a whole.

This study focuses on examining the male/female trends over time within the postgraduate training system, delving into differences with respect to specialty distribution, gender representation by faculty of medicine and proportions of females/males among international medical graduates. Are gender preferences for certain specialties historical in nature or do they reflect a more recent change? Are there still gender differences with respect to workload and how might this affect the future effective supply of physicians. While this paper does not directly examine patient preferences, it is assumed that the population will continue to want choice with respect to a physician's gender, where possible, for cultural, religious or personal reasons.

Methodology

CAPER is the central repository for statistical information on postgraduate medical education in Canada. CAPER is incorporated within the bylaws of the Association of Faculties of Medicine of Canada and is funded by a number of national medical organizations as well as provincial/territorial and federal governments.

CAPER maintains individual-level data for all postgraduate medical residents and fellows. Data elements permit analysis across universities and trainee characteristics, such as place of MD graduation, legal status, age, gender and field of training. Data is captured longitudinally, from the time of entry to training, to the year of exit and to practice location following post-M.D. training using the CMA Masterfile of licensed physicians in Canada.

This study utilized the 30 plus years of longitudinal data provided by the CAPER database to examine gender trends from 1990 to 2017. The investigation looked at specialty of training, legal status (Canadian citizen versus visa trainee) and place of MD graduation (Canada versus international). For the most part, this analysis focused on trainees who were Canadian citizens and permanent residents since those are the doctors that will serve future Canadians. **Unless otherwise explicitly stated, assume that all references to postgraduate trainees exclude visa trainees.**

¹ 2017 CMA Masterfile

² 2016 CMA Physician Resource Evaluation Template

Findings

In 1990, almost two thirds (62%) of all trainees were male with the remaining 38% being female. Since then there has been a steady shift towards more females and during the last decade, the number of female physicians in Canadian postgraduate medical training programs has exceeded the number of males since 2005. The 2016-17 CAPER Census shows that, of the over 14,000 physicians in Canadian postgraduate medical training (excluding visa trainees), 53% were female and 47% were male (figure 1).

Figure 1: Post-M.D. training by gender (excluding visa trainees)

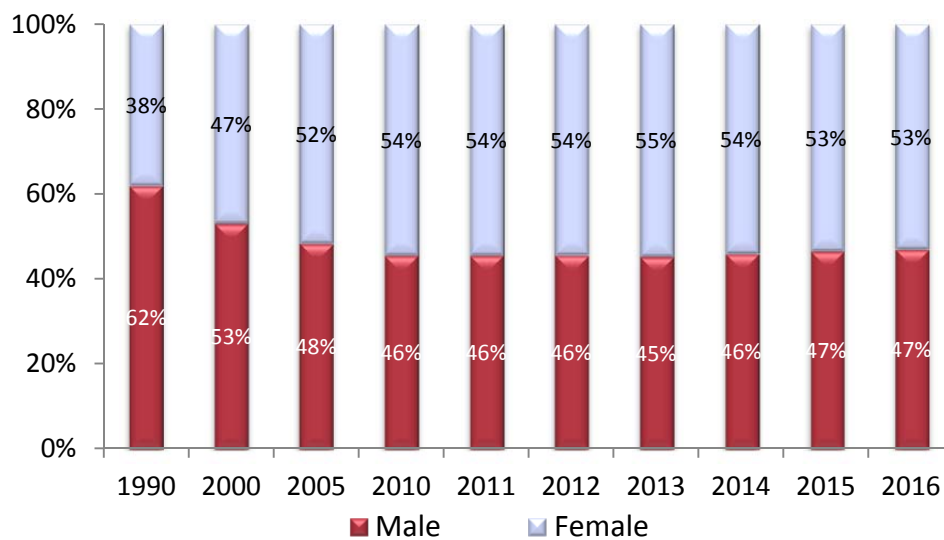
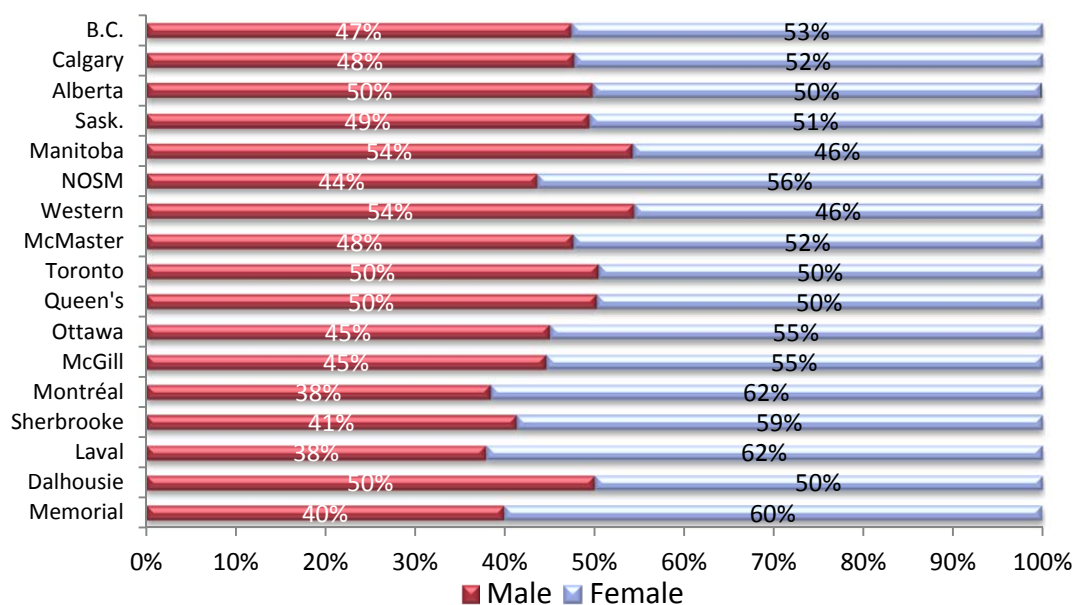


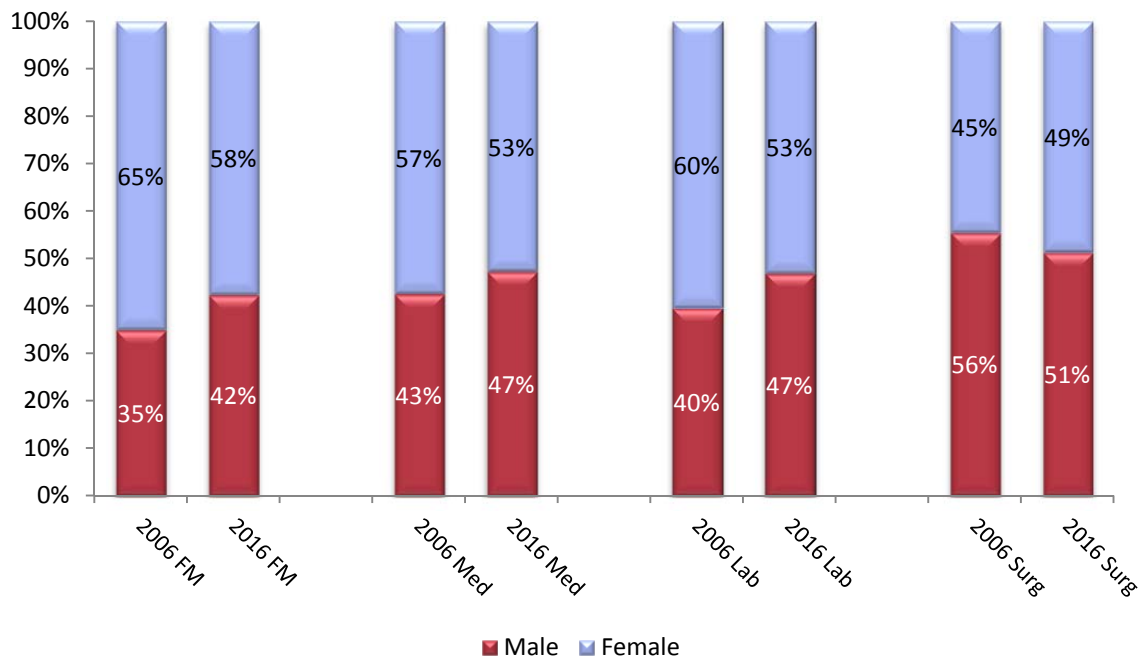
Figure 2: Post-M.D. trainees by gender and faculty (excluding visa trainees), 2016-17



The postgraduate medical training programs at Laval and the Université de Montréal had the largest proportions of females in 2016-17 at 62% each followed by Memorial at 60% (figure 2). The University of Manitoba and Western University had the lowest proportion of female doctors at 46% each.

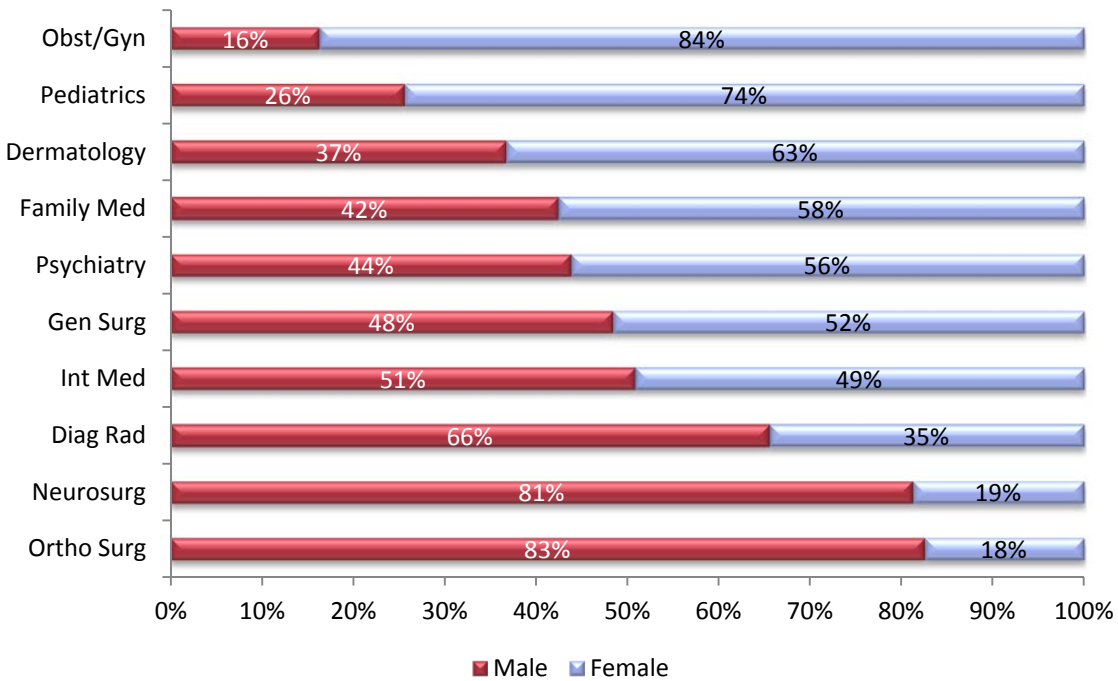
Traditionally female residents have entered family medicine training in greater numbers than their male colleagues. In 2006, 65% of first year family medicine trainees were women and 35% were men (figure 3). By 2016, the percentages were 58% female and 42% male. At the aggregate level of broad specialty, it appears the percentages are gradually approaching 50/50 for medical, laboratory and surgical specialties.

Figure 3: First year trainees by gender and broad specialty of training (excluding visa trainees)



There are interesting differences, however, at the disaggregate level of individual specialty of training. Figure 4 illustrates that there are marked variations in the distribution of trainees among certain first year specialties with respect to gender. Obstetrics/gynecology has consistently, over time, attracted many more women than men and in 2016-17 was 84% female. The same is true for pediatrics where three quarters of first year trainees were female. For dermatology, there were approximately equal numbers of male and female trainees about a decade ago but is now almost two-thirds female. Psychiatry continues to have more women than men but the proportion has fallen from 63% female in 2006-07 to 56% a decade later.

Figure 4: First year trainees by gender and selected training specialties (excluding visa trainees), 2016-17

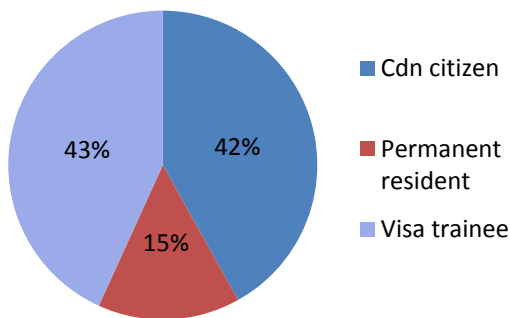


International Medical Graduates (IMG) in training including visa trainees

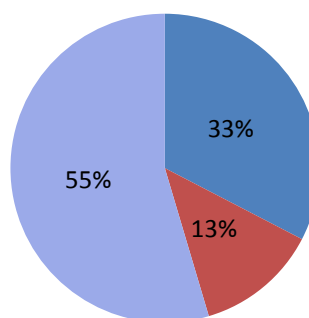
In the most recent CAPER Census, there were over 4500 IMGs in the Canadian postgraduate medical education system. Almost all of those who were Canadian citizens or permanent residents (2280) received funding either from a provincial ministry of health or other Canadian source in order to undertake training at a faculty of medicine. While there are more male international medical graduates in training than female physicians, the male IMGs are more likely than their female IMG colleagues to be visa trainees (Figure 5).

Figure 5: All IMGs in postgraduate training (including visa trainees), 2016-17

Female IMGs



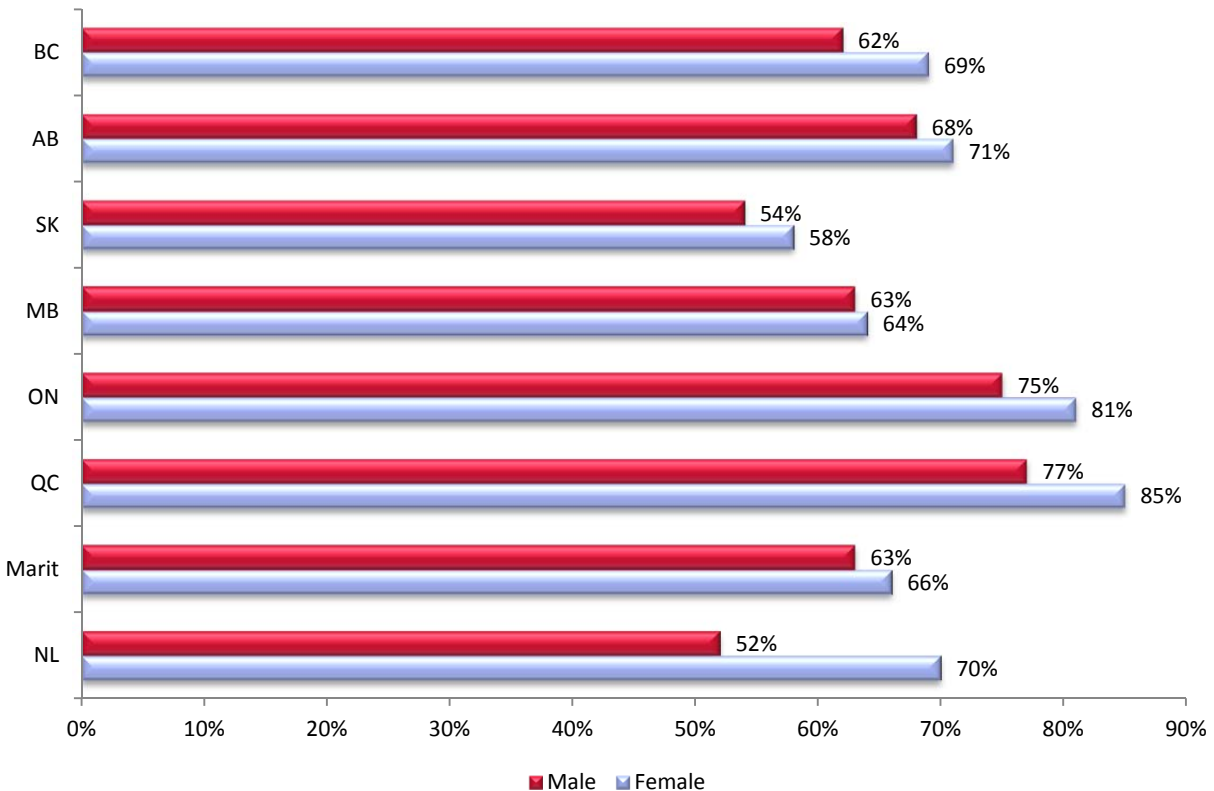
Male IMGs



Gender difference in practice

CAPER data is linked to the CMA Masterfile to track exits from postgraduate training 2, 5, 10, 15 and 20 years into practice. An analysis of three separate exit cohorts (2010, 2011 and 2012) indicated that in general, females were more likely to be in the same province (Maritimes in the case of Dalhousie) five years later than their male counterparts but the cohorts were small in some jurisdictions. For this reason, the exit cohorts were combined and tracked to the respective five year practice locations. Figure 6 shows that in all cases (with the combined cohorts), female physician retention within the province of training was greater five years after completing postgraduate training than it was for male physicians.

Figure 6: Percentage of 2010 - 2012 postgrad exit cohorts located in the province of training 5 years later by gender



The CMA has, for many years, tracked hours worked by physicians through survey instruments using identical wording to describe various professional activities such as patient care, teaching, research, etc. In 2004, female physicians reported working 46.2 hours per week (excluding on-call time) compared to their male colleagues at 53.1 hours per week.³ Men continue to report a greater weekly workload but the overall gender gap has narrowed from almost 7 hours in 2004 to just over 4 hours per week by 2017⁴.

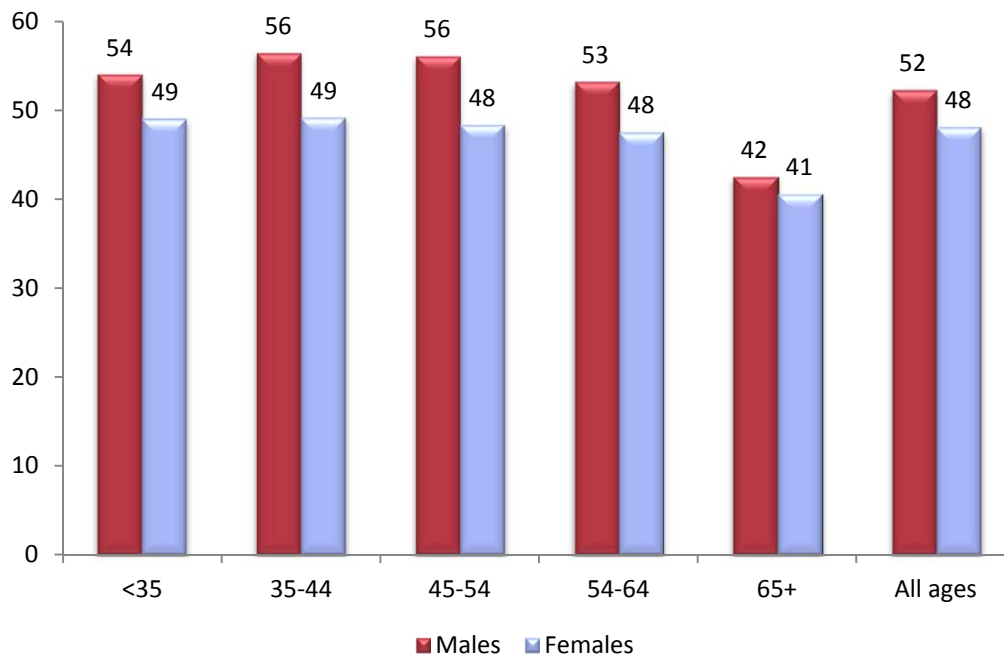
³ National Physician Survey. Canadian Medical Association, College of Family Physicians of Canada, Royal College of Physicians and Surgeons of Canada. 2014.

⁴ CMA Physician Workforce Survey 2017, Canadian Medical Association.

However, this smaller gap did not appear to be caused by younger male and female physicians working more similarly. In fact, in the 2017 survey, the gender gap was 8 hours amongst physicians 45-54 years of age. Many older physicians (65+) have reduced their long hours and work on average 10 hours less per week than their younger colleagues. But this cohort was quite large and represented one out of every five respondents (weighted to actual national counts). So despite every other male age group averaging more than 53 hours per week, the overall male average is only 52, due to the reducing effect of the large older cohort who worked 42 hour work week.

For women, while the oldest age cohort also worked fewer hours than younger physicians, it represented only 6% of all weighted female respondents. It appears that the gender gap among male and female physicians less than 65 years old persists (Figure 7). However, in the future, as the large male baby boomer cohort retires fully, we may see an increase in the number of hours worked each week by male physicians.

Figure 7: Average weekly hours worked (excluding on-call) by gender and age, 2017



Conclusion

As long as the difference in workload between male and female physicians continues, the proportion of each gender and what specialties they choose will be considered relevant for workforce planning and the effective supply of physicians (or full time equivalents).

At the level of broad specialty postgraduate medical training, the proportions appear to be converging on half men and half women. However, females have traditionally migrated to family medicine, obstetrics/gynecology and pediatrics and this trend continues.

Some large faculties of medicine have consistently more females than males (such as Laval and Université de Montréal) while others, given their smaller numbers may vary from year to year in terms of which gender is over or under-represented.

It is interesting to note that females appear to be more likely than males to be practicing in the province of their last training at the five year mark. This appeared to be true regardless of broad specialty but more research would be required to determine if this is a gender phenomenon or more a reflection of the specialty of practice, country of graduation or some other factor.

As noted earlier in the paper, gender diversity among physicians will in all likelihood be sought after and indeed expected by the Canadian population, especially within the disciplines of family medicine, obstetrics/gynecology and psychiatry. The statistics presented in this analysis seem to indicate there will continue to be a balance among physicians who identify as male or female for the foreseeable future.