



# **2020 CAS Annual Meeting**

**Gender Studies**

**(Abstracts)**

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## Diversity of Residency Applicants and Matriculants in Medical Specialties in Canada and the United States: A Comparative Analysis

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**Introduction:** Equity has gained traction within Medicine, especially as it pertains to women. Women and racial minorities remain under-represented in many specialties within Medicine, despite increasingly diverse medical school enrollment.<sup>1</sup> Data is lacking comparing the gender and racial diversity of residency applicants to different specialties in the United States (US) and Canada. Our primary objective was to compare gender representation including temporal trends of applicants to the Canadian Residency Matching Services (CaRMS) and the American Association of Medical Colleges (AAMC) between different subspecialties. Our secondary objectives were to compare the gender distribution of applied vs matched CaRMS applicants, and to compare the distribution of racial minorities amongst AAMC applicants to different subspecialties.

**Methods:** With institutional ethical approval, we conducted a cross-sectional, retrospective analysis of aggregate CaRMS data between 1995 and 2019 and from the AAMC between 2014 and 2018. We compared the gender composition of matriculants in the United States and Canada between 2014 and 2018 by specialty. We compared gender composition of applied vs matched Canadian and international applicants to CaRMS and analyzed the racial distribution of matched residency applicants to the AAMC, both stratified by specialty. All data analysis was performed using STATA 12.0 (StataCorp, Texas, USA).

**Results:** We identified 49,901 matched applicants to CaRMS over the study period, of which 46,293 (93%) were Canadian medical graduates (CMGs) and 3,608 (7%) were international medical graduates (IMGs). CaRMS also provided data on 55,759 applicants, including those not matched to the specialty. We identified a total of 420,139 matched applicants to the AAMC between 2014 and 2018, of which 189,073 (45%) were US medical graduates (UMGs) and 231,066 (55%) were IMGs. Between 2014 and 2018, women made up a greater portion of the applicant pool in Canada (45.7%) compared to the US (37.5%), with variation by specialty. Using specialty groupings, women were most highly represented in Obstetrics and Gynecology (84%, 74%) and least represented in radiology (30%, 25%) in Canada and the US, respectively. Women had the lowest representation in the subspecialties of neurosurgery (22.9%) in Canada,

and orthopedic surgery in the US (15.8%). Women and men had similar match rates in Canada amongst CMGs, with higher variation amongst IMGs. In the US, racial representation varied significantly by specialty with emergency medicine having the least racial diversity and psychiatry having the most.

**Discussion:** Representation of gender varied significantly by medical specialty amongst applicants matched through CaRMs and the AAMC, with positive trends over time identified in some, but not all, specialties in Canada. In the US, we identified significant variation in racial representation by specialty. The reasons for these disparities between specialties require further investigation and corrective strategies identified.

**REFERENCES:**

1. Jena AB, Khullar D, Ho O, Olenski AR, Blumenthal DM. Sex Differences in Academic Rank in US Medical Schools in 2014. JAMA 2015;314(11):1149–58.



## Is This a Women's World? A Retrospective Sex Analysis of Residency Applicants and Matriculants in Canadian Medical Specialties from 1995 to 2019

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**Introduction:** Between 1995 to 2004, men were more likely to be rejected from their top-ranked specialty, especially in Emergency Medicine, Family Medicine, and Psychiatry.<sup>1</sup> Gender equity has gained traction in Medicine within the last decade. Despite women comprising more than 50% of medical school classes currently,<sup>2</sup> women remain under-represented in almost all echelons of Medicine; if the pipeline were true, the proportion of women at all levels should have increased. Therefore, our primary objectives were to compare the gender representation including temporal trends of applicants to the Canadian Residency Matching Services (CaRMS) between different subspecialties and to assess the odds of being rejected to a top-ranked specialty. Our secondary objective was to compare the gender distribution of applied vs matched CaRMS applicants.

**Methods:** With institutional ethical approval, we conducted a cross-sectional, retrospective analysis of aggregate data provided by CaRMS between 1995 and 2019. We compared the sex composition of matriculants in Canada by specialty, and we analyzed longitudinal trends in sex representation by specialty between 1995 and 2019 in Canada. We also analyzed the odds ratio of males and females not being matched to their top-ranked specialty. We compared sex composition of applied vs matched Canadian and international applicants to CaRMS. Specialties were condensed for portions of the analysis and to facilitate comparison. All data analysis was performed using STATA 12.0 (StataCorp, Texas, USA).

**Results:** We identified 49,901 matched applicants to CaRMS over the study period, of which 46,293 (93%) were Canadian medical graduates (CMGs) and 3,608 (7%) were international medical graduates (IMGs). CaRMS also provided data on 55,759 applicants, including those not matched to the specialty. Using specialty groupings, females were most highly represented in Obstetrics and Gynecology (84%) and least represented in Radiology (30%). Females had the lowest representation in the subspecialties of Neurosurgery (22.9%). Females and males had similar match rates in Canada amongst CMGs, with higher variation amongst IMGs. However, males were more likely to be rejected from their top-ranked specialty for all disciplines, and specifically for male applicants to Family Medicine and Psychiatry; however, females were more

likely to be rejected from Surgery as their top-ranked specialty. Increasing gender representation between 1995 and 2019 in Canada was seen in some, but not all, specialties.

**Discussion:** Representation of sex varied significantly by medical specialty amongst applicants matched through CaRMS, with positive trends over time identified in some, but not all, specialties in Canada. Despite increasing discussions around gender equity, a trend reversal from 2005 exists where females are now more likely to be rejected from Surgery as their top-ranked specialty. The reasons for these disparities between specialties require further investigation and corrective strategies identified.

**REFERENCES:**

1. Baerlocher MO, Detsky AS. Are applicants to Canadian residency programs rejected because of their sex? CMAJ 2005;173(12):1439–40.
2. Burton KR, Wong IK. A force to contend with: The gender gap closes in Canadian medical schools. CMAJ 2004;170(9):1385–6.

