Are applicants to Canadian residency programs rejected because of their sex?

In 2003, three-quarters of Canadian physicians aged 45–65 were men. This imbalance is expected to correct itself over time, since the proportion of men and women entering medical school has been evenly split in recent years.[1]

There is speculation, however, that discrimination against women continues in the selection of students for postgraduate training. To determine whether this is the case, we examined data from the Canadian Resident Matching Service (CaRMS), an organization that each year matches applicants' ranked choices of residency training programs with program directors' ranked choices of applicants from the 13 English Canadian medical schools (www.carms.ca). We obtained data on the first choice of specialty for all men and women who entered the match and the actual match results. We then compared the proportion of men who were not matched to a position in their top-ranked specialty with the proportion of women who were not matched to a position in their top-ranked specialty.

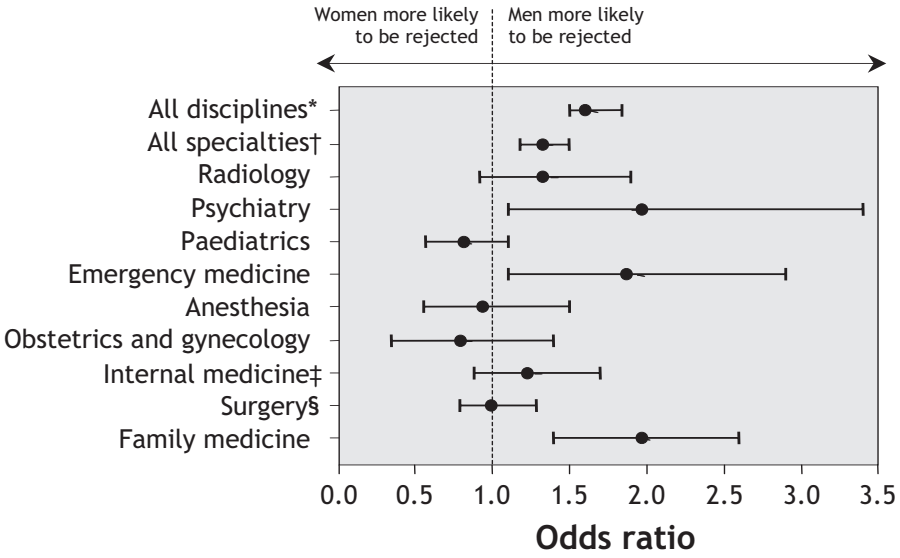

Fig. 1: Odds ratios of male:female applicants not being matched to their top-ranked specialty; error bars represent 95% confidence intervals. *Includes all disciplines listed; †includes all specialties listed except family medicine; ‡excludes neurology; §includes general surgery, cardiac surgery, orthopedic surgery, neurosurgery, plastic surgery, urology and ophthalmology.

positions in family medicine, psychiatry and emergency medicine. Overall, the odds of rejection among men were 1.6 time greater than the corresponding odds among women. (The tabular data are available online at www.cmaj.ca/cgi/content/full/173/12/1439/DC1).

Given that the majority of senior physicians are male, it is likely that the majority of physicians on residency selection committees are also male. If so, sex discrimination, if in fact it does occur, might be expected to be against women. However, according to our data, this was not the case: male applicants were either as likely as or more likely than women to be rejected from their top-ranked discipline.

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We found that, during the decade 1995–2004, women were no more likely than men to be rejected for residency positions in their first-ranked specialty (Fig. 1). In fact, for several specialties, we found the opposite to be true: the odds of men being rejected were almost twice as high as the odds of women being rejected for residency

There are 3 possible reasons why male applicants had greater odds of not being matched for positions in family medicine, psychiatry and emergency medicine programs. First, the statistically significant result may have been a chance phenomenon. Second, female applicants to residency programs in these 3 disciplines may have simply had better applications. Third, residency selection committees may have consciously or subconsciously been over-selecting female applicants to compensate or "correct" for the current predominance of men in each of the 3 disciplines.

There are several caveats to our findings. First, we could not control for the quality of the candidates; for example, female applicants may have had better applications on average. Second, we could not control for the "couples match," whereby 2 medical students tie their residency rank lists together so that one applicant does not match without the other. And third, we could not control for what we call the "parfait" effect, whereby an applicant val-

DOI:10.1503/cmaj.050739

ues the location of a residency program more than the specialty; the preference list for such an applicant would have specialties layered within geographic locations (hence the term parfait) as opposed to the more traditional preference list of having a variety of locations for one specialty before changing specialties. For this parfait effect to have influenced our findings, a higher proportion of men than of women would have had to value location more than specialty and to have been more likely to be rejected from their first choice on the list.

Although the vast advancements in equality of the sexes in medicine over the past several decades are encouraging, residency selection committees must continually ensure equal opportunity based on credentials and selection criteria to the exclusion of sex or other characteristics not related to merit. Periodically monitoring the rejection rates among male and female residency applicants is one way to ensure this.

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This article has been peer reviewed.

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