Socioeconomic Status as a Determinant of Medical School Admissions

Ontario Medical Students’ Association Position Paper

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Executive Summary

Socioeconomic status is a measure of an individual’s economic and social position in relation to others. The comparison is typically based on a combination of income, education and occupation. A lack of socioeconomic diversity among medical students produces physicians who are not representative of their patients and serves to exacerbate inequities in access to care. In striving to train doctors who meet the varied needs of Ontarians, medical schools must improve admissions policies to increasingly admit students with low socioeconomic status. The Ontario Medical Students’ Association (OMSA) asserts that lack of socioeconomic diversity in medical schools is an important issue which impacts applicants, students, and patients, and requires changes to the status quo.

Principles

In an effort to address socioeconomic disparity in medical school admissions OMSA proposes the following principles: Ontario Medical Schools (OMSs) have a responsibility to show commitment to social accountability in their admission processes; there are considerable financial barriers, both tangible and perceived, to entering medicine; data collection regarding applicants’ and matriculants’ socioeconomic status is critical to addressing this issue; and mentorship programs targeting underrepresented populations are important in improving diversity in admissions.

Recommendations

In adherence with these principles we make the following recommendations for Ontario Medical Schools:

1. Make demonstration of efforts to increase socioeconomic diversity through admissions policies part of Committee on Accreditation of Canadian Medical Schools criteria.
2. Implement a Fee Assistance Program to reduce costs associated with writing the MCAT and application fees to Ontario Medical Schools and make clear statements on the availability of financial aid.
3. Utilize the Association of American Medical College’s Socioeconomic Status Education Occupation indicator to collect data from applicants to Ontario Medical Schools through the Ontario Medical School Application Service.
4. Support research of mentorship programs that target underrepresented populations and evaluate their efficacy in increasing socioeconomic diversity among students at Ontario Medical Schools.
Background

Medical schools must produce physicians who are responsive to the healthcare needs of society or risk compromising standards of care. Though Ontario Medical Schools (OMSs) recruit certain underrepresented minorities through modified admissions criteria and pipeline programs, there remains a large disparity between the socioeconomic status (SES) of medical trainees and that of society at large. This position paper summarizes the socioeconomic distribution of Canadian and Ontario medical students, describes the importance of achieving greater diversity for the physician workforce, and makes tangible recommendations for OMSs to evaluate and improve their efforts.

Socioeconomic Distribution of Students in Canadian and Ontario Medical Schools: What is the Problem?

SES is a complex construct, typically thought of as the social standing or class of an individual or group. It is often measured by aggregating data on income, education, and occupation. Importantly, SES is positively correlated with formal educational achievements such as acceptance to universities and colleges, and high scores on standardized tests.

In medical education, a diverse student population is crucial in creating a physician workforce that will meet the needs of a diverse patient population. However, Canadian medical students’ demographics do not reflect those of the general population: they have a higher average family income, are disproportionately from urban areas, and have parents who are more likely to have completed post-secondary education. Indeed, data from the 2015 Association of Faculties of Medicine of Canada (AFMC) Graduate Questionnaire (GC) showed that over 80% of medical graduate respondents had at least one parent with a post-secondary degree. This is in contrast to data from the 2011 Canadian National Household Survey, which revealed that 64.1% of adults aged 25-64 in Canada had postsecondary qualifications. Similar findings have been reported in the United States. Data collected from 1987-2005 showed that over 50% of American medical students were from the highest family income quintile, and less than 6% were from the lowest family income quintile.

Many factors contribute to this socioeconomic disparity. Prospective students with low SES are chronically disadvantaged during the admissions process. This student population faces considerable monetary, experiential, and attitudinal barriers. Viewing medicine as privileged and unattainable, potential applicants with low SES may not consider it as a viable career path. These students lack the social support and role modelling from healthcare professionals that their peers with higher SES can access. In addition, students who currently apply to all six OMSs pay more than $850 CAD in application fees. Four of six OMSs also require applicants to write the Medical College Admissions Test (MCAT), for which registration and preparation can cost $305 USD and over $1000 CAD respectively. While such preparatory courses are optional, they do provide an advantage in resources to students who are able to afford them. Students with low SES may be further disadvantaged after gaining admission by high tuition fees. From 2001 to 2007, tuition fees rose at OMSs from an average of $11600 CAD/year to over $15675 CAD/year. In Quebec, where tuition...
fees did not increase substantially, medical students were more likely to report a lower debt load and have grown up in low-income neighborhoods 17. High cost of tuition, now an average of $23600 CAD/year at OMSs, is a significant financial and psychological barrier to applicants that promotes inequity in medical school admissions 9,10,18.

The Impact of Physician Workforce Demographics on Patient Care: Why is this a problem?

The effects of inequity in medical school admissions ripple into hospitals and clinics. Medicine as a profession has been viewed as elitist 19; such a view impacts how patients with low SES interact with physicians and the healthcare system. These patients are often those in the greatest need yet are not well represented in the physician population 20,21.

Access to healthcare in Canada is becoming more limited beyond dense urban centers. Within these urban centers, services are concentrated away from low income areas 22. Historically, physicians have been more likely to serve patient populations that reflect their own socioeconomic background. A large proportion of medical students having high SES may partially explain current levels of underservice to lower income areas 23. Addressing socioeconomic factors in medical school admissions can create a more equitable distribution of physicians and facilitate better access to care for individuals with low SES 24.

Efforts by Ontario Medical Schools to Target Underrepresented Populations: What is being done?

The Future of Medical Education in Canada (FMEC) Project recommends that schools recruit and select students who are representative of the Canadian population and address barriers to medical education, such as high debt loads 25. With the creation of the FMEC Project and FMEC final project report in 2010, Canadian Medical Schools have renewed their focus on enhancing the admissions process for applicants with low SES. Policy changes to address these barriers are developing, but significant improvement is required. A comprehensive summary of current admissions policies at OMSs to increase socioeconomic diversity can be found in Appendix 1. This section highlights several key findings.

Addressing the complex etiology of such a lack of diversity requires a coordinated effort from Ontario’s medical schools. OMSs have made notable progress in recent years in attracting more Aboriginal applicants, a group that has been associated with low SES and decreased access to healthcare 26. OMSs also recruit students from rural and remote communities. UOttawa, NOSM, and UWO seek applicants from Francophone minority communities, Northern Ontario and rural parts of Canada, and South Western Ontario respectively. In addition, mentorship programs are utilized in OMSs to increase awareness of academic and career choices and provide guidance to applicants. Despite these advances, OMSs must continue to try and improve their admissions process.

Principles
OMSA maintains the following principles with regard to socioeconomic status in admissions at Ontario Medical Schools.

1. Considering socioeconomic status in medical admissions demonstrates the ongoing commitment of Ontario Medical Schools to social accountability.
2. Current application and other mandatory fees create financial and perceived barriers to entering the field of medicine and contribute to a lack of socioeconomic diversity among medical students and physicians.
3. Collecting data around the socioeconomic status of applicants is imperative to improving the recruitment of students with low socioeconomic status to medicine.
4. Mentorship programs can encourage underrepresented populations to pursue healthcare professions, and by extension improve diversity in medical school admissions.

**Recommendations**

**Recommendation 1: Make demonstration of efforts to increase socioeconomic diversity through admissions policies part of Committee on Accreditation of Canadian Medical Schools criteria.**

There is substantial evidence of disparities between the socioeconomic background of physicians and Canadian society at large. Creating accreditation criteria to consider SES in admissions will make OMSs more accountable for producing a diverse physician workforce. This increased accountability would promote transparency and longevity of proposed changes to admissions policies as well as encourage evaluation of progress.

OMSs currently do not have any clear guidelines for addressing socioeconomic diversity in admissions. All medical schools in Ontario have focused streams for applicants of rural, Francophone minority, and/or indigenous backgrounds, and such applicants are more likely to have lower SES. However, there is no specific consideration given to applicants based purely on SES, potentially creating barriers for students who have low SES but are not targeted by the above-mentioned application streams. Most schools provide the option to submit claims of extenuating circumstance to explain parts of an application, but the lack of clarity around the use of this submission in the admissions process threatens its utility.

The Liaison Committee on Medical Education (LCME), a Canadian-American partnership, works with the Committee on Accreditation of Canadian Medical Schools (CACMS) to accredit and monitor medical education. One component of the CACMS standards is “Medical Student Selection, Assignment, and Progress”. A subcomponent under this heading, “Characteristics of Accepted Applicants”, states: “A medical school selects applicants for admission who possess the intelligence, integrity, and personal and emotional characteristics necessary for them to become competent physicians.” OMSA recommends this statement be revised such that it clearly outlines a requirement to demonstrate equitable access and consideration for all students during admissions. While this statement broadly addresses various underrepresented groups in medicine, a guideline tailored specifically to SES may be more effective. Admissions policies at Canadian and American Medical
Schools tend to target applicants based on race, ethnicity, and/or the size of the communities they grew up in, despite such factors not correlating perfectly with SES. These admissions criteria only partially address the problem. It is important that accreditation criteria supplement current admissions policies by promoting strategies to consider SES for applicants.

**Recommendation 2: Implement a Fee Assistance Program to reduce costs associated with writing the MCAT and application fees to Ontario Medical Schools and make clear statements on the availability of financial aid.**

Students who apply to all six OMSs can pay more than $850 CAD, $305 USD, and more than $1000 CAD in application, MCAT registration, and MCAT preparation fees. These high fees have exacerbated the already severe financial barriers faced by applicants with low SES. Costs rise higher as interviewees travel around the province to attend interviews. In comparison to the US, OMSs lag behind in reducing these costs. The Association of American Medical College's (AAMC) Fee Assistance Program (FAP) gives eligible applicants access to reduced MCAT registration fees, complimentary preparatory material, and a waiver for the American Medical College Application Service (AMCAS) fees for one application submission with up to 15 medical school designations. Together, these benefits may save the student over $1100 USD during one application cycle. Though Canadian students often take the MCAT, they do not qualify for the FAP and there is no similar program in Canada. OMSA recommends that OMSs collaborate with the AAMC to create a FAP that reduces MCAT-related costs and provides vouchers for application fees. Though the research on the impact of FAPs in the US and elsewhere is underdeveloped, reducing these costs may help remove barriers for applicants with low SES.

In addition to tangible financial barriers, high application fees also create perceived barriers. Indeed, individuals from low socioeconomic backgrounds are less likely to consider medical school, as they may see medicine as elite, privileged, and unattainable. Moreover, these individuals underestimate potential financial aid, have concerns about their eligibility for financial aid, and are apprehensive about facing financial hardship after graduation. In Ontario, there is significant financial support for students who gain admission, but this information is often unclear and difficult to find. OMSA recommends that OMSs create and distribute clear statements on their financial aid policies through admissions websites, outreach and pipeline programs, and financial aid offices at all Ontario Universities. In addition to creating affordable methods to apply to medical school, it is imperative to show potential applicants that financial support is available should they be accepted.

**Recommendation 3: Utilize the Association of American Medical College’s Socioeconomic Status Education-Occupation indicator to collect data from applicants to Ontario Medical Schools through the Ontario Medical School Application Service.**

Currently, support is growing for the collection and use of SES information in admission to medical schools. Though there is improved targeting and recruitment of certain populations, collecting socioeconomic data during the application process will allow OMSs to identify a broader population
of students based on SES. Furthermore, collecting information each year will allow schools to evaluate their progress towards achieving a desired socioeconomic diversity.

In Canada, the AFMC began administering its Graduation Questionnaire (GQ) in 2015. Prior to this, the AAMC collected similar information through their Canadian Graduate Questionnaire. This survey elicits feedback about educational experiences of graduating students from Canadian Medical Schools and collects information on ethnicity, culture, parental education level, and the size of the communities students have lived in before university. The AFMC uses this data, among other purposes, to provide evidence for progress of FMEC recommendations. However, there is little collected on the socioeconomic background of medical students and applicants. Though the National Physician Survey (NPS) previously collected data from medical students on parental income, ethnicity, and the size of the communities they grew up in, it came to a close in 2014. The most recent NPS in 2012 had only a 24% response rate. Regarding applicants, the AFMC has collected extensive data on legal status, gender, and age since 1977, but none on SES. South of the border, the AAMC collects information from applicants regarding legal status, gender, age, legal residence, race, and ethnicity. Applicants also self-report parental education and occupation to the AMCAS when they apply. Recently, the AAMC created a SES indicator based on parental education and occupation (EO), which has been rationalized and validated as being intuitive, accurate and stable over time for assessing SES, and easy to collect.

OMSA recommends that OMSs utilize the AAMC EO indicator to identify potential applicants with low SES using information collected through the Ontario Medical School Application Service (OMSAS). OMSAS allows applicants to submit a single application to OMSs with supplemental pieces for some schools, similar to AMCAS in the US. This parallel creates a unique opportunity for OMSs, OMSAS, and the AAMC to collaborate and offer the EO indicator to candidates. Schools will be able to identify applicants with limited access to resources who, if accepted, could contribute to the diversity of the medical student population.

Recommendation 4: Support research of mentorship programs that target underrepresented populations and evaluate their efficacy in increasing socioeconomic diversity among students at Ontario Medical Schools.

Mentorship can effectively enable underrepresented students to enter medical school. Successful mentorship can improve both academic outcomes and the impacts of psychological determinants, such as self-image. Mentorship programs have shown promise in enabling underrepresented students in a number of academic settings. For example, the Pathways to Education program uses mentorship as one of its core pillars. Pioneered in the Regent Park community of Toronto, this program has been able to drastically reduce high-school dropout rates and increase university/college acceptance rates amongst low SES populations. Since its inception, Pathways to Education has been expanded and modelled to serve other at-risk populations.

Mentorship can increase an individual's self-efficacy, a key determinant in student success. In medical education, this finding has garnered interest and led to the creation of mentorship programs
aimed at students from disadvantaged backgrounds. The Altitude Mentorship Program is one such initiative that was founded by OMSA and the OMA. The program aims to empower students from underrepresented populations to pursue a career in healthcare through mentor-mentee relationships with medical students. Applicants to the program report parental education level, ethnicity, and parental income if it is below $70,000 CAD per year. There are also mentorship opportunities available at individual medical schools. University of Toronto’s Summer Mentorship Program (SMP), available for Black and Indigenous high school students, is a free four-week course that introduces grade 10 and 11 students to medicine. At McMaster, MacMEDucation is a weekend-long program that places grade 10 and 11 students in a medical school-like environment, modeled after McMaster’s undergraduate medical curriculum. Though this program has a registration fee, subsidies are available for individuals identifying as having low SES.

A common criticism of pre-medicine mentorship and enrichment programs is that there is insufficient evaluation to ensure that goals are being achieved. Specifically, a data drought regarding participants’ post-program attitudes towards higher education and academic achievement limit our understanding of their efficacy. The value of these programs is difficult to determine if we are unable to link their usage to future benefits. Major barriers to program evaluation include lack of funding and evaluation expertise.

School specific programs may help to expose high school students to the field of medicine. But they do not create long-term mentorship relationships as Altitude attempts to do, nor is there substantial data regarding the effectiveness of improving diversity in medical school admissions. OMSA recommends that OMSs support research into and evaluation of mentorship and enrichment programs. This may entail encouraging greater transparency regarding the data collected on mentorship programs, evaluating existing mentorship programs, and creating new ones. Evaluation efforts would include identifying evaluation needs and gaps, identifying quantifiable outcomes of the programs to evaluate and the creation of common data definitions that can be consistent across mentorship programs and evaluation.

Conclusion

Access to healthcare in low income areas is often tenuous. Lack of socioeconomic diversity in Ontario’s medical schools plays a role in creating this deficit as physicians tend to practice in settings that reflect their own socioeconomic background. As such, persistent inequity in medical school admissions translates to a physician population that under-serves areas of lower income. To address this issue, social accountability needs to be brought to the forefront of admission policies, financial barriers to admission addressed, data collected surrounding the SES of students, and mentorship programs improved. The principles and recommendations in this position paper can help to reduce tangible and perceived barriers for applicants with low SES in service of creating a more equitable admissions process in Ontario’s medical schools.
References

1. FMEC MD 2015: 5 Years of Innovations at Canadian Medical Schools. *Assoc Fac Med Can*. 2015.


32. Committee on Accreditation of Canadian Medical Schools. CACMS Standards and Elements: Standards for Accreditation of Medical Education Programs Leading to the M.D. Degree. *Assoc Fac Med Can*. 2015.

33. Takagi DY. We should not make class a proxy for race. *Chron High Educ*. 1995;41(34):A52.


35. Grbic D, Jones DJ, Case ST. The Role of Socioeconomic Status in Medical School Admissions: Validation of a Socioeconomic Indicator for Use in Medical School Admissions. *Acad Med*. 2015;90(7):953-960.


## Procedures in Admissions to Increase Socioeconomic Diversity at Ontario Medical Schools

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<th>Medical School</th>
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<th>Special Considerations</th>
<th>Pre-interview Measures</th>
<th>Information Sessions</th>
<th>Mentorship Programs</th>
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<td>McMaster University</td>
<td>N/A</td>
<td>Aboriginal applicants are reviewed by a separate committee</td>
<td>Scenarios related to the health of Indigenous Peoples in the CASPer test</td>
<td>Information sessions that target students from underrepresented minorities</td>
<td>Altitude Healthcare Mentorship</td>
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<tr>
<td>Northern Ontario School of Medicine</td>
<td>2/64 positions for Aboriginal students</td>
<td>Aboriginal Admissions Stream for Aboriginal applicants. Selection favours applicants from Northern Ontario, other rural and remote areas in Canada, and Francophone minority communities</td>
<td>Community members from underrepresented communities are part of the interview panel</td>
<td>N/A</td>
<td>Altitude Healthcare Mentorship</td>
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<tr>
<td>Ottawa University</td>
<td>7/164 positions for Aboriginal students, 8/164 positions for students from Francophone minority communities</td>
<td>Lower grade point average for Aboriginal applicants</td>
<td>N/A</td>
<td>Mini Medical School sessions for Aboriginal and Francophone applicants to connect them to the medical education pipeline</td>
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<tr>
<td>Queen’s University</td>
<td>4/100 positions for Aboriginal students</td>
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<tr>
<td>University of Toronto</td>
<td>N/A</td>
<td>Indigenous Student Application Program for First Nations, Metis, and Inuit applicants</td>
<td>N/A</td>
<td>N/A</td>
<td>Altitude Healthcare Mentorship, Summer Mentorship Program</td>
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<td>Western University</td>
<td>3/171 positions for Aboriginal students</td>
<td>Special consideration for Aboriginal applicants and applicants from communities in Southwestern Ontario</td>
<td>N/A</td>
<td>N/A</td>
<td>Altitude Healthcare Mentorship</td>
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