Black students applying and admitted to medicine in the province of Quebec, Canada: what do we know so far?

La candidature et l'admission d'étudiants noirs dans les facultés de médecine dans la province de Québec (Canada) : que savons-nous actuellement?

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Abstract

To address the underrepresentation of Black students in medical schools in Canada and identify barriers in selection processes, we compare data from the latest Canadian census to that of an exit-survey conducted after a situational judgment test (Casper) among medical school applicants and from questionnaires done after selection interviews in Quebec, Canada. The proportion of Black people aged 15-34 years old in Quebec in 2016 was 5.3% province-wide and 8.2% in the Montreal metropolitan area. The proportion in the applicant pool for 2020 in Quebec was estimated to be 4.5% based on Casper exit-survey data. Comparatively, it is estimated that Black people represented 1.8% of applicants invited to admission interviews and 1.2% of admitted students in Quebec in 2019. Although data from different cohorts and data sources do not allow for direct comparisons, these numbers suggest that Black students applying to medical school are disproportionately rejected at the first step compared to non-Black students. Longitudinal data collection among medical school applicants will be necessary to monitor the situation. Further studies are required to pinpoint the factors contributing to this underrepresentation, to keep improving the equity of our selection processes.

Résumé

Afin de remédier à la sous-représentation des étudiants noirs dans les facultés de médecine au Canada et de cibler les obstacles qu'ils rencontrent dans le processus de sélection, nous comparons les données du dernier recensement canadien avec celles d'un sondage réalisé à la suite d'un test de jugement situationnel (Casper) auprès de candidats ayant fait une demande d'admission dans un programme de doctorat en médecine et celles d'un sondage réalisé à la suite d'entretiens de sélection au Québec (Canada). La proportion de personnes noires âgées de 15 à 34 ans au Québec en 2016 était de 5,3 % à l'échelle de la province et de 8,2 % dans la région métropolitaine de Montréal. La proportion de cette population dans le bassin de candidats pour 2020 au Québec a été estimée à 4,5 % sur la base des données du sondage Casper. À titre de comparaison, on estime que les Noirs représentaient 1,8 % des candidats invités aux entrevues d'admission et 1,2 % des étudiants admis au Québec en 2019. Bien que les données pour les différentes cohortes, provenant de surcroît de sources différentes, ne permettent pas d'établir des comparaisons directes, ces chiffres suggèrent que les étudiants noirs qui demandent à être admis en médecine sont rejetés de manière disproportionnée à la première étape par rapport aux étudiants non noirs. Une collecte de données longitudinales parmi les candidats sera nécessaire pour suivre l'évolution de la situation, ainsi que d'autres études pour découvrir les facteurs qui contribuent à cette sous-représentation, notamment dans une visée d'amélioration de l'équité dans les processus de sélection.

Introduction

Recent examples of systemic racism and injustice across North America have highlighted the need for concrete actions to address the issue of Black students' underrepresentation in medical schools. In Canada, for the past three years, the University of Toronto has had a very successful Black student application program.[1] Paired with a mentorship initiative called "Community of Support", the program admitted 26 students for the 2024 cohort, reaching nearly 10% of the class. This program allows students to identify as Black in their application and ensures that members of Black communities will be involved in their file review and interview process.[1] Other Canadian medical schools are gradually implementing specific pathways to remove some of the barriers faced by Black students applying to medical school. On a long-term basis, this will make healthcare providers more representative of the population and is likely to improve health outcomes for patients from underserved groups.[2]

Recent survey data collected across English-speaking medical schools in Canada estimated the proportion of Black students to be 1.7%, compared to 6.4% for the general Canadian population,[3] making them underrepresented in medical school. Therefore, there is a clear need for further data to help us understand the reasons for this underrepresentation. In order to improve our perspective and provide a starting point for future discussions, we will present data from three sources: the latest Canadian census, an exit-survey done by applicants after Casper (a situational judgment test used for selection) and an ongoing research project about admission interviews involving the four medical schools based in the province of Quebec, Canada.

Methods and results

2016 Canadian Census data

The Canadian Census is done every five years. Specific questions regarding race, ethnicity and Indigenous status are included in a long-form questionnaire, which is distributed to a sample of 25% of all households. The response rate to this long form was 98.3% in Quebec.[4] Relying on these data, Black people represented 5.3% of the age group encompassing the most medical school applicants (15-34 years) in the province of Quebec. The proportion of Black people aged 15-34 reached 8.2% in the Montréal metropolitan area (see Table 1).

Applicants taking the Casper Test in 2020

Casper is an online situational judgment test used by medical schools during their selection process, to assess non-academic aptitudes such as collaboration, communication, and empathy.[5] At the end of the test, applicants are invited to voluntarily fill a sociodemographic survey. After ethics approval from the four involved institutions (certificate CERSES-20-098-D), we obtained anonymized data from the Casper exit-survey as part of an on-going longitudinal research project.[5] For the 2019-2020 application cycle in Québec, all McGill and Université de Montréal applicants took the test as a pre-interview assessment tool. For Université de Sherbrooke and Université Laval, the test was done by international medical graduates (IMG) and a subset of regular applicants to replace multiple mini-interviews (MMI), cancelled because of the COVID-19 pandemic. Of the 5,169 applicants for the 2019-2020 cycle who completed Casper, 4,283 provided sociodemographic information and 4.5% self-declared as Black as their single choice of race/ethnicity (see Table 1). This proportion reached 4.9% when considering participants who chose multiple answers. This proportion remained the same when looking at the subgroup of applicants to McGill or Université de Montréal.

Table 1. Data sources regarding Black people representation along the medical school admission continuum in Quebec, Canada

Ethnic/racial group	Quebec census data; 15-34 y. o. (2016) n = 1,929,175	Montreal census data; 15-34 y. o (2016) n = 1,041,085	Casper exit-survey (2020) n = 4,283[a]	Applicants invited to an interview (2019) n = 1,729[b]	Applicants enrolled in a medical school (2019) n = 749[c]
White/not a visible minority[d]	83.3%	73.1%	54.5%	66.9%	70.6%
Black	5.3%	8.2%	4.5%	1.8%	1.2%
Indigenous	2.6%[e]	1.0%[e]	0.4%	0.5%	0.5%
Other Racialized Non-Indigenous Identifying persons[f]	11.5%	18.8%	40.6%	30.9%	27.6%

[a]*All applicants who provided sociodemographic information. Single choice answers are shown in this table, multiple answers were included in the "other" category;* [b]*Applicants invited to at least one admission interview in Quebec (excluding IMG) and who provided sociodemographic data as part of a longitudinal study;* [c]*Representing 81.0% of all enrolled medical students for that year in Quebec (n=925);* [d]*"not a visible minority" is used for census data and "white" is used by the other questionnaires;* [e]*For census data, Indigenous status is considered in a different question, explaining why the total is above 100% for these categories;* [f]*Includes: South Asian, Chinese, Southeast Asian, Korean, Japanese, Arab or west Asian, Hispanic, Latino or Spanish origin, mixed race or ethnicity, and "other"*

Applicants invited to Multiple Mini-Interviews (MMI) in 2019 and enrolled in a medical school

All Quebec medical schools use an MMI in the second step of their selection process, where applicants go through a series of short interview stations in which they have to discuss topics with assessors, interact with actors, or accomplish a specific task.[6] Université de Sherbrooke, Université Laval and Université de Montréal share the same interview, the Integrated French MMI (IFMMI),[7] whereas McGill University has a different MMI.[8] Because of the COVID-19 pandemic, interview data were not available in 2020. However, we had access to data for applicants from the 2019 admission cycle, which is collected as part of an ongoing research project that has been approved by the ethics board from all four participating institutions (certificate CPER-17-038). From the 1729 students invited to at least one interview in Quebec (IFMMI or McGill MMI) who consented to provide sociodemographic information, 1.8% self-identified as Black. Seven-hundred-forty-nine participating students were admitted to medical school (accounting for 81.0% of the 925 places available for 2019 in Quebec) of which 1.2% self-identified as Black. A summary of the data are presented in Table 1.

Discussion and future directions

From the data presented, at least two barriers can be hypothesized:

1. A significant proportion of students from Black communities in Quebec, mostly in the Montreal area, may not consider medicine as a career and do not apply to medicine.

2. When Black students apply to medical school, their applications seem to be disproportionately rejected before the interview compared to non-Black students.

The first bottleneck is likely related to events happening earlier in the educational pathway of Black students. Previous studies have cited socioeconomic factors, lack of mentors and connections in the field as well as a decline in interest or confidence due to perceived barriers.[9] To address these complex issues, long-term interventions upstream of the selection process are needed. Implementing and improving pipeline programs, community partnerships and mentorship opportunities could encourage Black youth to consider medicine as a career, such as the Community of Support program at the University of Toronto.[1] Additionally, medical schools have

the responsibility to ensure that eligibility criteria (e.g., prerequisite courses, or in some cases research) will not increase inequities for students before they apply. They could also reduce financial barriers for students from low socioeconomic backgrounds by waiving application fees and increasing admission bursaries assistance.

The second barrier, that medical schools could address more quickly, is the over-reliance on a very small number of selection tools for the first step, including academic metrics, which are likely to be impacted by various barriers and challenges that have been experienced upstream. For example, an American study showed that, as opposed to multiple mini-interviews, GPA is heavily biased toward socioeconomic status and ethnicity.[10] Moreover, after a threshold GPA is met, clinical performance in medicine shows only a marginal correlation with GPA.[11] Situational judgment tests also demonstrate subgroup differences, but to a significantly lesser extent.[10] Holistic review of application files, whenever possible, seems like a promising way to account for applicants' life experience and increase diversity.[12] Another important element to consider is the inclusion of Black people in admission committees or as file reviewers and interviewers to ensure representativeness.[1]

Comparing heterogeneous questionnaires and datasets from two different cohorts has several limitations related to participation rate, self-declaration, and impossibility to track single applicants within the process, and must be interpreted with caution. Moreover, the specificities of the admission process are not the same between the four medical schools. For example, depending on the institution where they applied, some IMGs will have completed the Casper for their applications, but may not go through the regular interview process and may not be included in the regular data collection done at the interviews. However, given the small number of IMGs in the overall applicant pool (e.g., 1.6% at Université de Montréal in 2019), this is unlikely to impact the observed proportions. Regarding self-declaration, it is possible that some Black applicants felt uncomfortable disclosing this information. However it remains unlikely that Black applicants disproportionately decided to not self-declare in the context of these two data collection, since it was explicitly stated that they were completely independent of the selection process.

The other limitation of relying on provincial-level data is the impossibility to account for Quebec Black applicants who decided to apply to medical schools outside the province. However, these numbers are expected to be small, the most recent national report showing that only

2.3% of Quebec residents who entered medical school in 2019 did so in another province.[13] To address these issues, we believe that a coordinated approach to collect longitudinal, confidential data from medical school applicants across Canada is needed to monitor progress, improve the tools used to ensure equity through admission processes and meet each institution's social accountability mandate. Although we have focused on Black communities for the purpose of this article, such data collection will also help to identify, quantify and act upon the underrepresentation of other groups in medical school (e.g. Indigenous people, Latino).

Conclusion

In conclusion, the underrepresentation of Black students in medical school in Quebec remains concerning. Causes may include a lower-than-expected number of applicants and an important drop after the initial selection stages. Further large-scale studies are required to understand the situation across Canada and to pinpoint the factors contributing to this underrepresentation at each stage, to keep improving the equity of our selection processes and inform admission policies.

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