Commentary

Ensuring incoming cohorts of medical students better represent the diversity of Indigenous communities in Canada

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It has become increasingly evident that First Nations people living on reserves and Indigenous people from rural and Northern communities have a substantially lower chance of getting into medical school in Canada than their urban counterparts. This often unappreciated disparity likely contributes to ongoing health inequities and may explain why there are so few Indigenous physicians currently practising in these communities.

Access to health care for Indigenous Peoples continues to lag woefully behind the rest of the Canadian population, and nowhere is this more evident than in Indigenous communities outside of our population centres. In 2023, only 18.4% of Inuit and 49.6% of First Nations people living outside of population centres had a regular health care provider, compared with 69.9% of non-Indigenous people in the same regions.[1] Such disparities are inextricably linked to Indigenous Peoples' historical exclusion from education in health care careers and, consequently, their inability to produce their own health care experts. In 2019, data showed only 1 Indigenous physician in the Northwest Territories — a territory where Indigenous people make up 50% of the population.[2]

To address this problem, medical schools have devised several strategies to increase Indigenous representation in incoming cohorts, including establishing application streams for Indigenous people and increasing emphasis on holistic appraisal of applicants. Although improving the application process is important, this intervention does not address a fundamental problem: Indigenous students pursuing a medical career face the vast majority of their challenges and barriers long before applying to medical school.

A primary determinant that disqualifies most Indigenous students from medical education is the application prerequisite of previous undergraduate education. According to 2021 Canadian Census data, 12.9% of Indigenous people have a bachelor's degree or higher, compared with 32.9% of the Canadian population.[3] This barrier disproportionately affects Indigenous students from First Nations and Inuit backgrounds, those who live on reserve, and those from rural and Northern areas. Only 6.2% of Inuit people and 6.1% of First Nations people living on reserve complete a bachelor's-level education, compared with 15.8% of Métis and 13.3% of First Nations people living off reserve.[3] Consequently, downstream interventions, such as Indigenous applicant admission streams, have led to a substantial increase in the admission of Métis students and less effect on First Nations and Inuit admissions.[4] Because of a lack of published data describing Indigenous matriculants and the absence of a well-defined distinctions-based approach to Indigenous admission streams, the homogeneity of current incoming classes of Indigenous medical students is underappreciated. Consequently, leaders in Indigenous medical education have called on medical schools to work toward admission of a specific minimum number of First Nations, Métis, and Inuit candidates each cycle — a recommendation that has largely gone unfulfilled.[5]

Previous literature surveying Indigenous students and physicians from rural and Northern backgrounds often cites lower average socioeconomic standing, geographic isolation from postsecondary education, under-resourced high schools, and lack of career advisement as substantial barriers to the pursuit of a career in medicine.[2] Consequently, some people from Indigenous

Key points

- Indigenous students from reserves, rural, and Northern communities continue to be under-represented in Canadian medical schools, which likely contributes substantially to ongoing health inequities in these communities.
- A combination of socioeconomic disadvantage, geographic barriers to pursuing prerequisite postsecondary education, and limited opportunities to gain early exposure to careers in health care likely contributes to this problem.
- Improving representation should start with adopting a distinctions-based approach to the recruitment of Indigenous students to medical schools and developing upstream recruitment interventions that support students longitudinally in the process of preparing to apply to medical school.
- Developing partnerships between key players in medical education will be crucial to supporting successful application of Indigenous students from communities in which there are simultaneously the most barriers to pursuing a career in medicine and yet perhaps the greatest need for Indigenous physicians.

groups are far less likely to get into medical school as a result of the cumulative effect of these barriers. This rationale is substantiated by a 10-year study conducted at the Northern Ontario School of Medicine, which showed that Indigenous applicants from a rural background were 50% less likely to be offered an interview, and 30% less likely to be offered admission than their urban counterparts.[6]

Recognition and rectification of this pattern of underrepresentation is critical to improving access to medical education for Indigenous students. Using a distinctions-based approach in recruiting Indigenous students to medical school is important, not only to promote diversity and inclusion in the medical profession, but also to fulfill medical schools' mandates with regard to social accountability and advocacy for the needs of the communities they serve.[7]

To increase distinctions-based diversity of Indigenous matriculants, other interventions must be identified to increase the number of applications from Indigenous groups who are disproportionately excluded from applicant pools.[6] Researchers have argued that upstream interventions — pipeline programs, community outreach, and mentorship — have a greater impact on class diversity than downstream interventions that target the application phase of the journey to medical school.[6,8] To substantially increase the representation of all Indigenous groups in medical school classes, program development should target increasing Indigenous students' exposure to careers in medicine, encouraging and supporting Indigenous students in pursuing postsecondary education, and reducing disparities in educational achievement early in life.[9] The University of Calgary has successfully implemented the Pathways to Medicine Scholarship Program, an early assurance admission program that enables Indigenous high school students from low socioeconomic standings via scholarships toward completing their prerequisite undergraduate education, Medical College Admission Test preparatory courses, summer internships, shadowing experiences, and general academic and personal support.[9] Queen's University and the University of Ottawa have recently conceived of similar pipeline programs that focus on upstream interventions, including providing early exposures to health careers and proactively planning with students how to meet admission criteria; the latter program also designates 2 fully funded seats for Inuit students from Nunavut.[10,11] Additionally, the University of Alberta has recently removed the fixed quota of Indigenous students admitted per cohort, in favour of admitting all qualified applicants.[12]

The next step toward facilitating nationwide improvement on this issue is to attempt to implement similarly comprehensive programs, which combine the benefits of both upstream and downstream interventions, in every province across Canada. In the previously cited examples, partnerships were formed between medical schools, health care workers, Indigenous communities, and governments to plan, fund, and execute programs. Programs should combine the resources, infrastructure, and expertise of these partners at the regional and provincial level. This will allow for individual Indigenous communities to take an active role in advocating for their unique needs as well as in the implementation of initiatives. Although inspiration can be drawn from existing upstream interventions, these partners should develop working groups to best determine appropriate initiatives based on their own evolving needs, capabilities, and prioritized objectives. To ensure consistent progress in future endeavours, partners should routinely evaluate the success of current interventions. Further, an immediately actionable item — which should be expeditiously implemented by medical schools — is robust annual data collection and reporting on distinctions-based representation in incoming medical school classes, as per Association of Faculties of Medicine of Canada recommendations.[5]

Implementation of upstream interventions and distinctions-based objectives will prove fundamental to supporting Indigenous communities, members of which simultaneously have the most barriers to pursuing a career in medicine and yet perhaps the greatest need for Indigenous physicians. Furthermore, in attempting to increase diversity, it is important to resist the temptation to measure the success of these efforts solely by quoting recent increases in total Indigenous matriculants. Rather, it must be recognized that Indigenous communities in Canada are diverse and that if active attempts are not made to ensure that this diversity is represented within the country's medical schools, inequity may be perpetuated rather than reduced.

References

1. Yangzom K. *Primary health care access among First Nations people living off reserve, Métis and Inuit, 2017 to 2020 / by Kelsang Yangzom, Huda Masoud and Tara Hahmann* [monograph]. Ottawa: Statistics Canada; 2023 Oct. 6.Cat no CS412-00002/2023-5E-PDF.
2. DHont T, Stobart K, Chatwood S. Breaking trail in the Northwest Territories: a qualitative study of Indigenous Peoples' experiences on the pathway to becoming a physician. *Int J Circumpolar Health* 2022;81:2094532.
3. *Highest level of education by Indigenous identity, Indigenous geography and labour force status: Canada, provinces and territories*. Ottawa: Statistics Canada; 2022. Available: https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=9810042301 (accessed 2024 Jan. 22).
4. Vogel L. Medical schools to boost numbers of Indigenous students, faculty. *CMAJ* 2019;191:E621.
5. Anderson M, Crowshoe L, Diffey L, et al. AFMC Joint Commitment to Action on Indigenous Health. Ottawa: The Association of Faculties of Medicine of Canada; 2019. Available: https://www.afmc.ca/wp-content/uploads/2022/10/AFMC_Position_Paper_JCAIH_EN.pdf (accessed 2023 Nov. 28).
6. Mian O, Hogenbirk JC, Marsh DC, et al. Tracking Indigenous applicants through the admissions process of a socially accountable medical school. *Acad Med* 2019;94:1211-19.
7. Social accountability: a vision for Canadian medical schools. Ottawa: Health Canada; 2021. Available: https://www.afmc.ca/wp-content/uploads/2022/10/sa_vision_canadian_medical_schools_en.pdf (accessed 2023 Nov. 28).
8. Reiter HI, Lockyer J, Ziola B, et al.; Canadian Multiple Mini-Interview Research Alliance (CaMMIRA). Should efforts in favor of medical student diversity be focused during admissions or farther upstream? *Acad Med* 2012;87:443-8.
9. Pathways to medicine scholarship. Calgary: University of Calgary Cumming School of Medicine. Available: https://cumming.ucalgary.ca/future-students/scholarships/pathways-medicine-scholarship (accessed 2023 Nov. 28).
10. Read M. University of Ottawa–Nunavut partnership helps fill critical need for Inuit physicians. Ottawa: University of Ottawa Faculty of Medicine; 2022 June 9. Available: https://med.uottawa.ca/en/news/university-ottawa-nunavut-partnership-helps-fill-critical-need-inuit-physicians (accessed 2023 Nov. 28).
11. QuARMS: Queen's Accelerated Route to Medical School. Kingston (ON): Queen's University School of Medicine. Available: https://meds.queensu.ca/academics/quarms (accessed 2023 Nov. 28).
12. Kitteringham S, Vega L, Brown M. Indigenous students' top priority in U of A's medical school: new policy redresses historic limitations on Indigenous student admissions to MD program. Edmonton: University of Alberta Faculty of Medicine & Dentistry; 2019 Sept. 15. Available: https://www.ualberta.ca/medicine/momentum/2019/momentum-stories-2019/2019/september/indigenous-students-top-priority-in-u-of-as-medical-school.html (accessed 2024 Feb. 7).

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