Canadian Medical Education Journal
Revue canadienne de l'éducation médicale

Inclusive learning environments in medicine: A protocol on scoping what we know
Environnements d'apprentissage inclusifs en médecine : un protocole sur l'état des connaissances

Kenza Achtoutal, Linda Bergeron, Christina St-Onge, Tim Dubé et Isabelle Boulais

Citer cet article

Inclusive learning environments in medicine: a protocol on scoping what we know

Environnements d'apprentissage inclusifs en médecine : un protocole sur l'état des connaissances

Kenza Achtoutal,[1] Linda Bergeron,[2] Christina St-Onge,[1,2] Tim Dubé,[3] Isabelle Boulais[1]

[1]Department of Medicine, Faculty of Medicine and Health Sciences, Université de Sherbrooke, Québec, Canada; [2]Paul Grand'Maison de La Société Des Médecins de L, Université de Sherbrooke Research Chair in Medical Education, Québec, Canada; [3]Department of Family Medicine and Emergency Medicine, Faculty of Medicine and Health Sciences, Université de Sherbrooke, Québec, Canada.

Correspondence to: Kenza Achtoutal, Department of Medicine, Faculty of Medicine and Health Sciences, Université de Sherbrooke; email: kenza.achtoutal@usherbrooke.ca

Introduction

Health advocacy and issues on equity, diversity, and inclusion (EDI) have been increasingly more important in discussions within medical education. Accreditation bodies in the United States and Canada have been working towards integrating these EDI principles and practices within program and institutional requirements.[1-3] The literature emphasizes that a broader diversity of learners and teachers in clinical learning environments, along with a thorough understanding of social determinants of health, enhances the quality of care provided to the population and reduces inequality in access to healthcare.[4-5] Issues involving EDI principles and health advocacy are particularly present in key moments of medical training, including admission into medical school, residency application, postgraduate training as well as career plans. Furthermore, these issues are particularly important in clinical learning environments as learners encounter inequities affecting not only themselves but also their colleagues and their patients. Despite the known positive impacts of increasing diversity within the medical workforce, there remains a significant gap and contrast between the diversity of healthcare professionals and the diversity of patient populations they treat.[6] Therefore, it is vital to optimize inclusion within clinical learning environments to ensure having more physicians and teachers who are underrepresented in medicine (URIM).

We conducted a preliminary literature search (ERIC, Medline, Education Source, Academic Search Complete, APA PsycInfo) to better assess the current state of EDI concepts within medical learning environments. We found that, to address these important issues, there is an increasing number of local and larger-scale initiatives aiming to integrate EDI principles and practices within medical education.[7-10] As such, our research's purpose is to outline how health advocacy and EDI concepts are integrated within clinical learning environments, as well as to better understand facilitating factors and obstacles to the creation of an inclusive learning environment.

Methods

We are conducting a scoping review to paint the portrait of how EDI concepts are integrated within clinical learning environments. We chose the scoping review format because it is a structured framework to conduct this knowledge synthesis. This approach allows us to collect and present existing literature about our research question while including an analytic reinterpretation of the literature.[11] Furthermore, it is particularly useful to scope the ever-increasing literature on this important topic to better identify gaps and inform future research.

We used the methodological framework developed by Arksey and O'Malley (2005)[12] as well as Levac et al. (2010),[13] which includes the following six steps.

Step 1. Defining the research question
What do we know about the operationalization of EDI concepts in clinical learning environments in medicine?

Step 2. Identifying relevant literature
We will consult an academic librarian and develop a search strategy using keywords related to EDI and clinical contexts within medicine. We will test and refine our strategy using the keywords in Table 1 to ensure the most comprehensive and pertinent literature review.

Table 1. Search strategy and databases

Concept 1: Learning	Concept 2: EDI	Concept 3: Medicine
In Title, Abstract, and Keywords: "residency" OR gme OR pgme OR "postgraduate medical education" OR "post-graduate medical education" OR "graduate medical education" OR "undergraduate*" OR undergraduate* OR clerk*	In title and Keywords: inclus* OR equit* OR diversit* OR inequ* OR "cultural competenc*" OR EDI OR DEI OR "implicit bias" OR "unconscious bias" OR URIM OR UIM OR underrepresent* OR minorit*	In Title, Abstract, and Keywords: medicine OR physician*
Database: Scopus, ProQuest, Medline with full text, ERIC, PsycInfo, Education source, Academic Search Complete. Date range - 2015 to 2023		

For the next two stages, we ensure that two team members select the articles and perform data charting using a consensus-based approach to ensure a rigorous process. Therefore, we will carry out the following tasks through steps three and four: co-coding a set number of articles, comparing decisions, and reviewing our processes.

Step 3. Selecting the literature
We will identify inclusion and exclusion criteria to select the relevant research articles. We will include original articles in English or French published after 2015. Both researchers will first review every article based on its title and abstract using a consensus-based approach. In the second phase of the screening process, we will then review full-text articles.

Step 4. Data charting
We will extract relevant data such as publication year, country of origin, target population, clinical contexts, operationalization of EDI processes, curriculum content and implementation, facilitators, and challenges. Three members of our team will review the same ten articles and compare their extracted data. Then, the same three members will carry on the data charting, and uncertainties will be discussed by the entire research team through an iterative process.

Step 5. Analyzing and reporting the results
We will analyze our data using thematic analysis.[14] We will use the PRISMA extension for scoping reviews to record and report our final scoping results.[15]

Step 6. Discussing results with knowledge users through consultation
We will conduct two 90-minute group discussions with an advisory committee of stakeholders, including leaders in medical education, residents, and faculty members at the Université de Sherbrooke. This process informs the decisions to be made regarding the relevance of our results and how these can be considered for inclusive learning environments in various residency programs and at the institutional level. We will obtain research ethics approval for this step.

Summary
This study will help advance our understanding of EDI in clinical learning environments. Our findings may serve as a springboard to inform dialogue around the renewal of the CanMEDS 2026 framework.[2] This study will address a knowledge gap specifically related to the integration of EDI for both residency programs and faculties. This work could also facilitate the implementation of new EDI-oriented accreditation standards.[16]

References

1. Gerull KM, Enata N, Welbeck AN, Aleem AW, Klein SE. Striving for inclusive excellence in the recruitment of diverse surgical residents during COVID-19. *Acad Med.* 2021;96(2), 210-212. https://doi.org/10.1097/ACM.0000000000003812

2. Barnabe C, Osei-Tutu K, Maniate JM, et al. Equity, diversity, inclusion, and social justice in CanMEDS 2025. *Can Med Ed J.* 2023;14(1), 27-32. https://doi.org/10.36834/cmej.75845

3. Osei-Tutu K, Duchesne N, Barnabe C, et al. Anti-racism in CanMEDS 2025. *Can Med Educ J.* 2023 Mar 21;14(1):33-40. https://doi.org/10.36834/cmej.75844

4. World Health Organization. *Social determinants of health.* Available from https://www.who.int/health-topics/social-determinants-of-health. [Accessed May 20, 2023]

5. Gomez LE, Bernet P. Diversity improves performance and outcomes. *J Natl Med Assoc*. 2019;111(4):383-92. https://doi.org/10.1016/j.jnma.2019.01.006

6. Butler PD, Fowler JC, Meer E, Rosen IM, Reyes IM, Berns JS. A blueprint for increasing ethnic and racial diversity in U.S. residency training programs. *Acad Med*. 2022;97(11), 1632-1636. https://doi.org/10.1097/ACM.0000000000004847.

7. Canadian Medical Association. *Equity and diversity in medicine.* Canadian Medical Association. December 2019. Available: https://policybase.cma.ca/viewer?file=%2Fmedia%2FPolicyPDF%2FPD20-02.pdf#page=1 [Accessed on DATE].

8. Crites K, Johnson J, Scott N, Shanks A. Increasing diversity in residency training programs. *Cureus*, 2022;14(6), e25962. https://doi.org/10.7759/cureus.25962

9. Hemal K, Reghunathan M, Newsom M, Davis,G, Gosman A. Diversity and inclusion: a review of effective initiatives in surgery. *J Surg Ed.* 2021;78(5), 1500-1515. https://doi.org/10.1016/j.jsurg.2021.03.010

10. Lai CJ, Jackson AV, Wheeler M, et al. A framework to promote equity in clinical clerkships. *Clin Teach*. 2020 Jun;17(3):298-304. Epub 2019 Sep 5. https://doi.org/10.1111/tct.13050

11. Davis K, Drey N, Gould D. What are scoping studies? A review of the nursing literature. *Intern J Nurs Studie*s. 2009;46(10), 1386-1400. https://doi.org/10.1016/j.ijnurstu.2009.02.010

12. Arksey H, O'Malley L. Scoping studies: towards a methodological framework. *Intern J Soc Res Methodol.* 2005;8(1), 19-32. https://doi.org/10.1080/1364557032000119616

13. Levac D, Colquhoun H, O'Brien KK. Scoping studies: advancing the methodology. *Implement Sci*. 2010;5, 69. https://doi.org/10.1186/1748-5908-5-69

14. Braun V, Clarke V. Using thematic analysis in psychology. *Qual Res Psychol*. 2006;3(2):77-101. https://doi.org/10.1191/1478088706qp063oa

15. Tricco AC, Lillie E, Zarin W, et al. PRISMA Extension for Scoping Reviews (PRISMA-ScR): checklist and explanation. *Annals Intern Med.* 2018;169(7), 467-473. https://doi.org/10.7326/M18-0850

16. Thoma B, Abbott C, Snell L. The future of the CanMEDS physician competency framework. *Can Med Educ J.* 2023;14(1), 1-3. https://doi.org/10.36834/cmej.77098