

Medical student wellness in Canada: time for a national curriculum framework

Le bien-être des étudiants en médecine au Canada : il est temps de définir un cadre pédagogique national

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Abstract

There is substantial evidence showing that medical student wellness is a worsening problem in Canada. It is apparent that medical students' wellness deteriorates throughout their training. Medical schools and their governing bodies are responding by integrating wellness into competency frameworks and accreditation standards through a combination of system- and individual-level approaches. System-level strategies that consider how policies, medical culture, and the "hidden curriculum" impact student wellness, are essential for reducing burnout prevalence and achieving optimal wellness outcomes. Individual-level initiatives such as wellness programming are widespread and more commonly used. These are often didactic, placing the onus on the student without addressing the learning environment. Despite significant progress, there is little programming consistency across schools or training levels. There is no wellness curriculum framework for Canadian undergraduate medical education that aligns with residency competencies. Creating such a framework would help align individual- and system-level initiatives and smooth the transition from medical school to residency. The framework would organize goals within relevant wellness domains, allow for local adaptability, consider basic learner needs, and be learner-informed. Physicians whose wellness has been supported throughout their training will positively contribute to the quality of patient care, work environments, and in sustaining a healthy Canadian population.

Résumé

Nous disposons d'un grand nombre de données concrètes démontrant que le bien-être des étudiants en médecine au Canada se détériore tout au long de leur cheminement universitaire et que le problème s'aggrave. Alliant les approches systémique et individuelle, les facultés de médecine et leurs directions réagissent en intégrant le bien-être dans les cadres de compétences et les normes d'agrément. Les stratégies systémiques, qui tiennent compte de l'impact des politiques, de la culture médicale et du « curriculum caché » sur le bien-être des étudiants, sont indispensables pour prévenir l'épuisement professionnel et pour obtenir des résultats optimaux en matière de bien-être. Les initiatives au niveau individuel, comme les programmes axés sur le bien-être, sont de plus en plus répandues. Ces programmes sont souvent didactiques et ils sollicitent l'étudiant sans tenir compte de l'environnement d'apprentissage. Bien que ces initiatives aient marqué des progrès importants, il y a peu d'uniformité entre les programmes des diverses facultés et entre les niveaux de formation. Il n'y a pas de cadre pédagogique pour les programmes d'études de premier cycle axés sur le bien-être au Canada s'alignant aux compétences visées dans les programmes de résidence. La création d'un tel cadre permettrait d'harmoniser les initiatives de niveau individuel et celles de niveau systémique et de faciliter la transition de la faculté de médecine vers la résidence. Il comporterait des objectifs organisés selon les domaines de bien-être pertinents, une souplesse permettant son adaptation aux divers milieux, il tiendrait compte des besoins fondamentaux des apprenants et il serait fondé sur une consultation de ces derniers. Les médecins dont le bien-être a été soutenu tout au long de leur formation contribueront de façon positive à la qualité des soins aux patients, à leur environnement de travail et au maintien d'une population canadienne en bonne santé.

Introduction

Physician and learner wellness is an alarming problem within the Canadian medical community. There is substantial evidence showing that this workforce has deteriorating wellness.¹⁻⁴ Canadian medical students reported burnout and suicidal ideation rates of 37% and 6%, respectively in 2016.⁵ Furthermore, in 2019, there was an increased prevalence of mood disorders, anxiety disorders, suicidal ideation, and psychological distress in Canadian medical students relative to age-matched controls from the general population.⁴ Action is needed to improve physicians' wellness and the work environment to enhance patient care, reduce costs, and sustain a healthy population.⁶ These efforts must begin with medical trainees to ensure that they can thrive at all stages of their careers.⁷⁻⁹

The landscape of wellness in Canadian medical education
To prevent further deterioration, Canadian national organizations, accreditation bodies, and provincial and territorial medical associations have collectively integrated wellness into standards, guiding recommendations, competencies, and policies.¹⁰⁻¹³ These standards have prompted medical faculties across Canada to incorporate wellness into their undergraduate programming.^{7,14-16} For example, McGill University's longitudinal wellness curriculum utilizes lectures, small group sessions, and workshops to enhance learner resilience and mental health.¹⁶ Notwithstanding these programming efforts, the authors have experienced inconsistent approaches to wellness promotion across Canada, varying from periodic student-led initiatives to full-fledged curricula.¹⁶

With no consistent scale or singular definition of "wellness" for medical students, it is unclear which interventions have had the most significant impact.¹⁷ As a result, little guidance is available for those looking to establish an evidence-based medical school wellness curriculum. To the best of our knowledge, there is no standardized wellness curriculum framework for Canadian undergraduate medical education that aligns with existing residency wellness competencies.

What makes a medical student unwell?

The factors that promote wellness or lead to burnout can be categorized into individual- and system-level factors. Progress toward reducing burnout prevalence and achieving optimal wellness outcomes will likely come from cohesive strategies targeting both levels.^{14,18,19}

Individual-level factors

Intrinsic factors, such as personality and learned dispositions, allow students to thrive (or not) throughout medical school by impacting wellness at the individual level. Personality characteristics including introversion, antagonism, and neuroticism are linked to higher burnout rates in clerks.²⁰ Self-identification with descriptors including "type A," "workaholic," and "control-freak" were associated with adverse wellness outcomes.²¹

Promising results from targeted interventions at the individual level have been reported within the domains of physical health (e.g. diet), social relationships (e.g. close relationships), and mental health (e.g. non-medical cultural and recreational interests).^{22,23} Resilience, one's ability to adapt to conditions of adversity or recover quickly from demanding experiences, is also a protective individual-level characteristic.²³ Positive results have emerged from the Simulated Training for Resilience in Various Environments resiliency training, suggesting arousal management, including controlled breathing and visualization, can promote medical students' wellness.²⁴

System-level factors

Students deal with system-level factors within the working and learning environments, throughout their training.^{10,25} Self-Determination Theory posits that the overarching qualities of a health-promoting learning environment are tied to students' motivation: the three basic psychological needs of autonomy, competence, and relatedness.²⁶

Unfortunately, the frustration of these needs occurs within the Canadian medical education system, wherein students experience rigid scheduling and a limited sense of control that challenges autonomy.²⁷ High expectations for academic performance combined with a perfectionist culture can hinder perceived competence.^{10,28} Other cultural elements, including mistreatment and a reluctance to admit vulnerability, can impede relatedness.^{29,30} Underlying these challenges is the "hidden curriculum": the implicit and informal learning in medicine that perpetuates norms such as dehumanization and hidden assessments.³¹

Evidence-based system-level strategies for health-promoting learning environments include flexible scheduling and accommodations policies fostering learner autonomy; pass-fail grading and effective feedback-delivery to increase perceived competence; and transparency surrounding mistreatment and the hidden curriculum to improve relatedness.^{18,32-34}

What is next? Towards a pedagogy of wellness in undergraduate medical education

We reviewed the negative effects of medical education on students' wellness and the patchwork of existing local interventions. The *status quo* places future physicians and patients at risk of poor outcomes.³⁵ Though some concerted efforts to improve learner wellness are being made, Canadian stakeholders – students, faculty, and standards-setters – remain fragmented by membership and geography. Furthermore, wellness initiatives compete for human and monetary resources and dedicated curriculum time. Nonetheless, these barriers are being overcome by newly available funding, and the incorporation of wellness into policy and institutional norms.³⁶

A wellness curriculum framework for Canadian undergraduate medical education is necessary to organize and guide wellness content targeting individual-level skill development and will be an essential complement to current national standards. It should integrate the wellness domains – as defined by recognized standard-setting organizations such as the World Health Organization³⁷ – that are the most pertinent to medical students. Such a framework should complement existing curricula and student-driven initiatives locally, while promoting consistent delivery and accountability in alignment with existing national wellness competencies.^{11,12} A skills-based council should develop this framework with diverse representation from the learner, educator, and standards-setting bodies, using a multi-pronged approach to assess contextual needs. After development, the framework should be piloted in a phased, iterative fashion adapted to local curricula to identify barriers to implementation, areas for improvement, and learner wellness outcomes. Success indicators should be assessed and rely on several factors, including outcomes from wellness scales validated in the medical learner population, perceived impact of the framework, and degree of implementation.

Wellness initiatives derived from the framework should comply with the following evidence-based principles. First, they should be informed by the learners who experience them.³⁸ Second, attempts to support student wellness should begin by considering their basic psychological needs.³⁰ Third, a successful shift towards a well-physician workforce requires concerted individual- and system-level efforts.^{18,19} Fourth, wellness assessments using validated

metrics should guide curriculum evaluation and development over time.

It is time to develop a standardized framework to guide the implementation of skills-based wellness curricula across Canadian medical schools. Such a framework will facilitate the alignment between the individual- and system-level, and help achieve sustainable and improved wellness outcomes for medical students. Physicians whose wellness needs are supported throughout their training will positively contribute to the quality of patient care, work environments, and a healthy Canadian population.

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References

1. Dyrbye LN, West CP, Satele D, et al. Burnout among u.s. medical students, residents, and early career physicians relative to the general U.S. population. *Acad Med*. 2014;89(3):443-451. <https://doi.org/10.1097/ACM.000000000000134>.
2. Hope V, Henderson M. Medical student depression, anxiety and distress outside North America: a systematic review. *Med Educ*. 2014;48(10):963-979. <https://doi.org/10.1111/medu.12512>.
3. Canadian Medical Association. CMA national physician health survey: a national snapshot. <https://www.cma.ca/sites/default/files/2018-11/nph-survey-e.pdf>. Published Oct 2018. [Accessed Dec 15, 2020].
4. Maser B, Danilewitz M, Guérin E, Findlay L, Frank E. Medical student psychological distress and mental illness relative to the general population: a Canadian cross-sectional survey.

- Acad Med.* 2019;94(11):1781-1791. <https://doi.org/10.1097/ACM.0000000000002958>.
5. Canadian Federation of Medical Students. CFMS-FMEQ national health and well-being survey – student research position. Presented at: International Conference on Physician Health; Sept 18-20, 2016; Boston. <https://www.cfms.org/uploads/news-documents/Wellness%20Survey%20Research%20Position%202017.pdf>. [Accessed Jan 6, 2021].
 6. Bodenheimer T, Sinsky C. From triple to Quadruple Aim: Care of the patient requires care of the provider. *Ann Fam Med.* 2014;12(6):573-576. <https://doi.org/10.1370/afm.1713>.
 7. Place S, Talen M. Creating a culture of wellness: Conversations, curriculum, concrete resources, and control. *Int J Psychiatry Med.* 2013;45(4):333-344. <https://doi.org/10.2190/PM.45.4.d>.
 8. Shapiro DE, Duquette C, Abbott LM, Babineau T, Pearl A, Haidet P. Beyond burnout: a physician wellness hierarchy designed to prioritize interventions at the systems level. *Am J Med.* 2019;132(5):556-563. <https://doi.org/10.1016/j.amjmed.2018.11.028>.
 9. Slavin S. Reflections on a decade leading a medical student well-being initiative. *Acad Med.* 2019;94(6):771-774. <https://doi.org/10.1097/ACM.0000000000002540>.
 10. Canadian Medical Association. Background to CMA policy: physician health. https://www.cma.ca/sites/default/files/pdf/Events/PH_Policy-Background_EN_V2.pdf. Published 2017. [Accessed Nov 7, 2020].
 11. Frank JR, Snell L, Sherbino J, editors. CanMEDS 2015 Physician Competency Framework. Ottawa: Royal College of Physicians and Surgeons of Canada; 2015.
 12. Hastings-Truelove A, Dance E, Flynn L. Recommendations for physician wellness from a national task force. Panel presentation at: Canadian Conference on Physician Health; October 4-5, 2019; St. John's, Newfoundland, Canada. https://www.ccp2019.ca/sites/default/files/pdf/2.4_Recommendations%20for%20Physician%20Wellness%20from%20a%20National%20Task%20Force.pdf. [Accessed Nov 28, 2020].
 13. The Association of Faculties of Medicine of Canada. Physician wellness. https://afmc.ca/sites/default/files/pdf/2018-AFMC_Report_on_Mental_Health_Activities_EN.pdf. Published Apr 2018. [Accessed Jan 9, 2021].
 14. Drolet BC, Rodgers S. A comprehensive medical student wellness program-design and implementation at Vanderbilt school of medicine. *Acad Med.* 2010;85(1):103-110. <https://doi.org/10.1097/ACM.0b013e3181c46963>.
 15. Slavin SJ, Schindler DL, Chibnall JT. Medical student mental health 3.0: Improving student wellness through curricular changes. *Acad Med.* 2014;89(4):573-577. <https://doi.org/10.1097/ACM.000000000000166>.
 16. Velez C, Gupta N, Gendreau P. The development and implementation of a longitudinal wellness curriculum for mcgill university's undergraduate medical program. *Int J Whole Pers Care.* 2019;6(1):6. <https://doi.org/10.26443/ijwpc.v6i1.188>.
 17. Bart R, Ishak WW, Ganjian S, et al. The assessment and measurement of wellness in the clinical medical setting: A systematic review. *Innov Clin Neurosci.* 2018;15(9-10):14-23. /pmc/articles/PMC6292717/?report=abstract. Accessed December 24, 2020.
 18. Wasson LT, Cusmano A, Meli L, et al. Association between learning environment interventions and medical student well-being a systematic review. *JAMA.* 2016;316(21):2237-2252. <https://doi.org/10.1001/jama.2016.17573>.
 19. Ruotsalainen JH, Verbeek JH, Mariné A, Serra C. Preventing occupational stress in healthcare workers. *Cochrane Database Syst Rev.* 2015;2015(4):CD002892. <https://doi.org/10.1002/14651858.CD002892.pub5>.
 20. Lin CC, Lin BYJ, Lin C Der. Influence of clerks' personality on their burnout in the clinical workplace: a longitudinal observation. *BMC Med Educ.* 2016;16:30. <https://doi.org/10.1186/s12909-016-0553-0>.
 21. Lemaire JB, Wallace JE. How physicians identify with predetermined personalities and links to perceived performance and wellness outcomes: a cross-sectional study. *BMC Health Serv Res.* 2014;14(1):616. <https://doi.org/10.1186/s12913-014-0616-z>.
 22. Hategan A, Riddell T. Bridging the gap: responding to resident burnout and restoring well-being. *Perspect Med Educ.* 2020;9(2):117-122. <https://doi.org/10.1007/s40037-020-00567-3>.
 23. Epstein RM, Krasner MS. Physician resilience: what it means, why it matters, and how to promote it. *Acad Med.* 2013;88(3):301-303. <https://doi.org/10.1097/ACM.0b013e318280cff0>.
 24. Smith S, Griggs L, Rizutti F, Horton J, Brown A, Kassam A. Teaching mindfulness-based stress management techniques to medical learners through simulation. *Can Med Educ J.* 2020;12(1):e95. <https://doi.org/10.36834/cmej.69821>.
 25. Albuquerque J, Deshauer D. Physician health: beyond work-life balance. *CMAJ.* 2014;186(13):E502-E503. <https://doi.org/10.1503/cmaj.140708>.
 26. Niemiec CP, Ryan RM. Autonomy, competence, and relatedness in the classroom. *Theory Res Educ.* 2009;7(2):133-144. <https://doi.org/10.1177/1477878509104318>.
 27. Neufeld A, Malin G. Exploring the relationship between medical student basic psychological need satisfaction, resilience, and well-being: a quantitative study. *BMC Med Educ.* 2019;19:405. <https://doi.org/10.1186/s12909-019-1847-9>.

28. Vyas K, Stratton T, Soares N. Sources of medical student stress. *Educ Heal*. 2017;30(3):232. https://doi.org/10.4103/efh.Efh_54_16.
29. Kusurkar RA, Croiset G, Ten Cate TJ. Twelve tips to stimulate intrinsic motivation in students through autonomy-supportive classroom teaching derived from self-determination Theory. *Med Teach*. 2011;33(12):978-982. <https://doi.org/10.3109/0142159X.2011.599896>.
30. Neufeld A, Malin G. How medical students' perceptions of instructor autonomy-support mediate their motivation and psychological well-being. *Med Teach*. 2020;42(6):650-656. <https://doi.org/10.1080/0142159X.2020.1726308>.
31. Gaufberg EH, Batalden M, Sands R, Bell SK. The hidden curriculum: what can we learn from third-year medical student narrative reflections? *Acad Med*. 2010;85(11):1709-1716. <https://doi.org/10.1097/ACM.0b013e3181f57899>.
32. Cook AF, Arora VM, Rasinski KA, Curlin FA, Yoon JD. The prevalence of medical student mistreatment and its association with burnout. *Acad Med*. 2014;89(5):749-754. <https://doi.org/10.1097/ACM.0000000000000204>.
33. Hill MR, Goicochea S, Merlo LJ. In their own words: stressors facing medical students in the millennial generation. *Med Educ Online*. 2018;23(1):1530558. <https://doi.org/10.1080/10872981.2018.1530558>.
34. Bandini J, Mitchell C, Epstein-Peterson ZD, et al. Student and faculty reflections of the hidden curriculum: how does the hidden curriculum shape students' medical training and professionalization? *Am J Hosp Palliat Med*. 2017;34(1):57-63. <https://doi.org/10.1177/1049909115616359>.
35. Liu JX, Goryakin Y, Maeda A, Bruckner T, Scheffler R. Global health workforce labor market projections for 2030. *Hum Resour Health*. 2017;15(1):11. <https://doi.org/10.1186/s12960-017-0187-2>.
36. Canadian Medical Association. Physician Wellness+ Initiative dedicates \$15 million to support physicians and medical learners. <https://www.cma.ca/news/physician-wellness-initiative-dedicates-15-mill>. [Accessed Jan 28, 2021].
37. Smith BJ, Tang KC, Nutbeam D. WHO health promotion glossary: new terms. *Health Promot Int*. 2006;21(4):340-345. <https://doi.org/10.1093/heapro/dal033>.
38. Shanafelt TD, Mungo M, Schmitgen J, et al. Longitudinal Study evaluating the association between physician burnout and changes in professional work effort. *Mayo Clin Proc*. 2016;91(4):422-431. <https://doi.org/10.1016/j.mayocp.2016.02.001>.