Fostering a Health-Promoting Learning Environment in Medical Education: Adapting the Okanagan Charter for Administrators and Medical Educators

Victor Do, MD, Melanie Lewis, MD, MMEd, Cheryl Goldstein, MD, MPH, and Lyn K. Sonnenberg, MD, MSc, MEd

Abstract

Medical students enter medical school with similar or even better well-being than their age-matched peers in other educational programs, but there is predictable erosion of their well-being following matriculation. Interventions to counter this erosion predominantly focus on the individual level; however, significant systemic issues persist that thwart meaningful change. Effectively reforming the learning environment and more broadly targeting problematic aspects of the culture of medical education are essential steps to advance efforts to improve medical learner well-being. Although a healthy environment may allow learners to be well in the educational setting, a health-promoting learning environment strives to promote and embed well-being across all aspects of the learner's experience. Health-promoting learning environments operate by infusing health principles into all aspects of operations, practices, mandates, and businesses. The Okanagan Charter is a widely adopted international framework with principles for best practices of adoption. This charter has the recent endorsement of the Association of Faculties of Medicine of Canada, representing all faculties of medicine in Canada, and serves as a framework for reassessing work on well-being in medical education. In response to this endorsement, the authors have adapted the 5 strategies from the charter for pragmatic integration into the medical education environment and added a sixth strategy: (1) embed health in all policies; (2) develop sustainable, supportive spaces; (3) create thriving medical communities and culture; (4) encourage, support, and sustain meaningful personal development; (5) review, develop, and strengthen faculty-level health services; and (6) collaborate and invest in continuous improvement and evaluation. For each of these 6 strategic directions, actionable steps for implementation in academic medicine are provided to create sustainable and meaningful change.

Medical students enter medical school with similar or even better well-being than their age-matched peers in other educational programs; however, there is predictable erosion of their well-being following matriculation.[1–3] A concerning phenomenon is that medical school itself seems to contribute to poor well-being.[4,5] The COVID-19 pandemic further exacerbated long-standing issues affecting both learners and the learning environment.[6–8] Despite the increased focus on physician and learner well-being, implemented measures have been ineffective,[6] and the problem of how to address medical student well-being after matriculation remains.

Please see the end of this article for information about the authors.

Correspondence should be addressed to Victor Do, The Hospital for Sick Children, 555 University Ave., Toronto, ON M5G 1X8, Canada; email: vdo@ualberta.ca; Twitter: @VDoTweets.

Acad Med. 2023;98:672–679.
First published online January 24, 2023
doi: 10.1097/ACM.0000000000005159

Medical student well-being is a complex, multifaceted issue. Medical education has long approached well-being by focusing on individual interventions, often lacking coordinated, strategic, systems-level approaches. Although attention to personal resilience plays a role in medical student well-being, evidence indicates that it is not an effective sole strategy. Significant systemic issues persist that thwart meaningful change, leaving a gap that must be addressed; medical education must improve the learning environment.[8–10] The learning environment is the physical, social, and psychological context in which individuals learn,[11,12] and this environment is heavily influenced by cultural and institutional contexts.[13] A longitudinal study by Dyrbye et al[14] highlighted learning environment characteristics associated with burnout, empathy, and career regret, noting the importance of learning environment interventions and the elimination of mistreatment. Studies demonstrate that poor health among medical students is not experienced equally, with medical students from marginalized backgrounds reporting high rates of discriminatory experiences, which are associated with worse mental well-being.[15,16] National educational bodies, such as the Association of Faculties of Medicine of Canada (AFMC)[17] and the Association of American Medical Colleges,[18] have previously made commitments to improving well-being that feature the learning environment and allude to systemic factors. These plans have generally outlined the creation of working groups and the reaffirmation of commitments to learner well-being rather than the delineation of specific plans. However, as awareness of the issues of physician and learner burnout and distress increases, the onus and opportunity to address identified challenges, including the hidden curriculum, also increase.

The hidden curriculum is defined as implicit and/or unintended influences within medicine that reflect culture, values, moral judgments, and behavior and is a key driver that thwarts the efforts of meaningful change in health care learning and work environments.[19] Effectively reforming the learning environment and more broadly targeting

aspects of the culture of medical education are essential steps to advance efforts to improve medical learner well-being. Although a healthy environment may allow a learner to be well in the educational setting, a health-promoting learning environment (HPLE) strives to promote and embed well-being across all aspects of the learner's experience. Drawing on the existing body of work in health-promoting education will help translate the principles of public health and health promotion to the academic learning setting. This change shifts the focus of well-being work to the cultural and learning environment, instead of relying on personal resilience strategies.

Health-promoting education has a rich background. The first International Conference on Health Promoting Universities took place in 1996 in the United Kingdom, building on the work of the initial Ottawa Charter for Health Promotion[20] (1986) and the World Health Organization[21] (1995) and recognizing the role institutions of higher education play in individual and community well-being. In 2005, the Edmonton Charter for Health Promoting Universities and Institutions of Higher Education[22] further defined a "health-promoting" institution of higher education. In 2015, the Okanagan Charter[23] provided a tangible framework and an enticing opportunity for faculties of medicine to address and support HPLE. The Okanagan Charter, which was developed broadly for universities and colleges, was largely unknown within faculties of medicine before 2021. This article provides a background primer on the Okanagan Charter, detailing its application to medical education and the 6 strategic directions for implementation in academic medicine.

The Okanagan Charter: An International Higher Education Health Promotion Charter

The Okanagan Charter (2015) was developed in collaboration with researchers, practitioners, administrators, learners, and policymakers from more than 45 countries and the World Health Organization.[23] The purposes of the Okanagan Charter are to (1) guide and inspire action using a framework aligned with principles of health-promoting universities and colleges, (2) generate dialogue and research that connects networks at all levels and accelerates action, and (3) mobilize action across sectors so that health is integrated in the policies and practices across organizations.[23] There are many examples of networks, including the UK Healthy Universities Network, that have implemented the Okanagan Charter. Germany, Switzerland, and Spain also have national networks that have adopted the Okanagan Charter principles. The widespread adoption is indicative of the collaborative nature of the charter, the universal well-being and health promotion principles in which the charter is grounded, and initial evidence of positive outcomes.[24–26]

To date, the Okanagan Charter is the most visionary, comprehensive approach to health-promoting universities and presents a roadmap for medical schools for achievable and sustainable change. Health-promoting environments foster the growth of all individuals involved and unlock the potential of the collective. A health-promoting environment must foster the principles of equity, diversity, inclusivity, and belonging (EDIB); create a culture of compassion, well-being, and social justice; and improve the lives of all those involved. Not only do individuals involved feel enriched in their activities, but a health-promoting environment fosters an overall sense of well-being. The goal is for individuals to live, learn, and work in a more fulfilled manner. Health-promoting environments ultimately strengthen the overall community and society at large.[23]

The Okanagan Charter for Medical Education

Despite the availability of this health-promoting framework, medical education has been slow to adopt this approach in addressing systemic challenges in well-being. In April 2022, the AFMC, as part of the Culture of Academic Medicine initiative, committed to working with Canada's[17] medical schools to adopt and implement the Okanagan Charter.[27] The vital questions are, "How can we apply this work within the unique realities of medical education and health care environments? What can we learn from early implementation in other higher education settings?"

Squires and London[28] have performed extensive work evaluating initial efforts to implement broadly within academia the Okanagan Charter calls to action. They concluded that supportive leadership, engaged champions, well-defined collaborative structures, and strategic communication strategies are critical for successful implementation. Furthermore, it is critical to ensure the work is highly visible and has well-defined goals and milestones. Dedicated human and financial resources are required. The efforts must include a focus on all students, faculty, and staff.[28] These insights can help inform our approach within the complexity of medical education.

The Okanagan Charter serves as a framework for how we can reassess our work on well-being in medical education. We have drawn from the existing literature and adapted the strategic objectives laid out in the Okanagan Charter to a medical school context to provide a model for successful creation of an HLPE through 6 overarching directions.

The 6 Strategic Directions for Implementation of the Okanagan Charter in Medical Education

Administrators and educators have opportunities to help build HPLEs within medical education. Of note, the strategic directions for implementation are not 6 separate, distinct directions, but all these directions support and build on and with each other. We have adapted the 5 strategic directions from the Okanagan Charter to translate the charter to the medical learning environment context and added a sixth focused on evaluation. These 6 strategic directions and actionable steps for implementation are summarized in Table 1.

Embed health in all policies

The first strategic direction—embed health in all policies—is adapted from the direction to embed health in all campus policies.[23] Well-being must be a central component of all policies and procedures across a medical school. In keeping with the core definition of an HPLE, well-being should be embedded into all aspects of campus culture, across the administrative, operations, and academic mandates.[23] Faculties, through formal governance processes, should review and amend all existing policies

and procedures that govern students, faculty, and staff to ensure they support well-being. Educators must consider how policies are being implemented and ensure their interpretations are in keeping with health promotion principles. Codeveloping and reviewing policy to ensure health promotion should always include the learner's perspective. With each new policy or procedure (and review of current ones), critical questions to ask should move beyond "Is this in alignment with accreditation standards?" to include "How is this aligned with creating and supporting a health-promoting work and learning environment?" Faculty development must accompany these changes so that policies are implemented as intended. Learners need to be empowered to provide feedback on policy implementation. It is

Table 1

Actionable Steps and Specific Examples for Consideration in Creating an HPLE Strategic Plan in Alignment With the Okanagan Charter

Actionable steps for implementation	Examples
Embed health in all policies	
• Review and amend all existing faculty policies and procedures that govern students, faculty, and staff to ensure they support well-being. • Codevelop with learners and faculty a review protocol to objectively review policies and procedures' effects on well-being. • When adopting or amending policies, programs should move beyond the question, "Is this in alignment with accreditation standards?" to include "How is this aligned with creating and supporting a health-promoting work and learning environment?" • Consider faculty development needs to ensure health-promoting changes are implemented and facilitated as intended. • Strategically measure well-being to ensure that metrics inform policy and collectively undertake continued efforts to elucidate the most informative well-being measures. • Use the American Medical Association CWO roadmap, which has 9 steps for leading change, as a starting point for developing and executing the CWO role.	• Systematically review attendance and leave policies to ensure reasonable flexibility and consideration of individual circumstances to support health and well-being. • If a new absence policy is passed, ensure all course and clerkship rotation coordinators are aware of implications so that the policy will be enacted as intended and without undue demands being placed on the learners who request a leave of absence. • Codevelop a review protocol with assistance from individuals with health promotion, occupational health, and project management expertise during an annual faculty retreat. • If academic appeals, remediation, and leave policies are scheduled to be reviewed, strategically include evaluative questions to inform this process. • Include the maintenance of healthy work and learning environments in overarching faculty of medicine strategic plans in addition to UGME, PGME, and graduate studies strategic plans.
Develop sustainable, supportive spaces	
• Design physical, social, and virtual spaces to consider the building of community and collegiality along with the equity, diversity, inclusion, and belonging needs of work and learning spaces. • Follow universal design and accessibility strategies, as opposed to ableist constructs, in design and development. • Ensure virtual spaces are thoughtfully considered in sustainability. • Engage stakeholders and the community in the design process.	• Directly raise space considerations with the university architect and building and maintenance services before any new designs are created and address these considerations during annual budget discussions. • Consider the following specific environmental factors: all-gender bathrooms, breastfeeding and pumping space, accessible or powered doors to all educational spaces and call rooms, religious observance spaces, and learner, faculty, and staff lounges. • Consider the use of virtual spaces for meetings for individuals from distributed campuses, which allows for ease of participation without the need for travel time and promotes inclusion and community. • Encourage the CWO to lead a subcommittee of diverse learner and faculty representatives to provide input on campus facility needs.
Create thriving medical communities and culture	
• Clearly and broadly communicate strong leadership commitment to creating culture change in medicine and include actionably strategic steps in the communication. • Support zero-tolerance harassment and mistreatment policies. • Create brave spaces where the community can discuss issues. • Continue to develop faculty and curriculum to address psychological safety and the hidden curriculum. • Develop, communicate, and evaluate mistreatment and antiracism policies, procedures, and reporting strategies. • Recommit to a set of core values that set the tone for a positive culture.	• Encourage faculty leadership to regularly communicate efforts on well-being and culture change in medicine in routinely distributed emails and newsletters. • Include in these communications information on mistreatment, equity, diversity, inclusivity, and belonging and related policies and procedures along with faculty and learner resources and educational offerings to support well-being. • Feature a section dedicated to accountability for well-being on faculty websites. • Commit funds to developing a core set of faculty development workshops on supporting psychological safety and methods to address the hidden curriculum.
Encourage, support, and sustain meaningful personal development	
• Design and deliver evidenced-informed wellness education initiatives, through well-being curricula and targeted resources, to help individuals maintain their physical, mental, social, and spiritual health needs. • Develop resources and curricula to support the development of positive coping strategies and the development of growth mindsets. • Ensure that a wide range of programming and supports are available and effectively developed to support individuals to develop skills in a variety of contexts.	• Use Thomas and Kern's curriculum development framework[56] to develop a core curriculum to support well-being. Consider teaching strategies that will engender deep learning instead of didactic or lecture-based sessions. • Develop and offer the following types of faculty programs: coaching, peer support networks, Balint groups, and counseling services. • Ensure personal well-being offerings go beyond cursory initiatives (yoga and healthy eating) and include shared responsibility with systems change.

(*Table continues*)

Table 1
(Continued)

Actionable steps for implementation	Examples
Review, develop, and strengthen faculty-level health services	
• Review existing health services, resources, and programs to look for duplication and opportunities for alignment with health-promoting strategies. • Ensure accessibility of services by identifying barriers that thwart possible uptake. • Service development, such as counseling, peer support, and coaching, must include principles of equity, diversity, inclusivity, and belonging. • Encourage learners to engage in help-seeking behaviors and regard asking for help as a sign of strength. • Clarify confidential procedures around disclosures of health challenges and disabilities. • Employee and family assistance programs should be easily accessible, confidential, and comprehensive. • Remove barriers and align policy for learners to attend health-related appointments and to take leaves of absence to attend to personal and medical needs. • Construct a well-developed communication strategy that raises awareness of existing resources and policies and encourages use of health-promoting services. • Develop a strategic approach to collecting data on use and experience of health-promoting services to ensure they continue to be strengthened.	• Create a faculty-specific health-promoting environment committee to assist in conducting an environmental programming review that encompasses all relevant university and faculty services to ensure a central repository, which will identify strengths and opportunities for additional services and reallocation of resources when there is significant duplication. (Creation of these committees must be carefully performed with multistakeholder involvement to ensure evidenced-based practices are followed, e.g., there is evidence that individuals of color value counselors with similar backgrounds.) • When reviews are completed and a revised suite of services is available, communicate updates via faculty leadership communication means (noted in the strategic direction above; not that consistent reminders regarding the available services are required for uptake to occur). • In the spirit of continuous improvement, (as discussed further in the strategic direction below), use user surveys and focus groups to strengthen and revise offered services so that evaluation can be meaningfully sought.
Collaborate and invest in continuous improvement and evaluation	
• Actively collect data on the health of learning and working environments and then use these findings to support ongoing quality improvement of existing initiatives and identify gaps. • Use accreditation processes as opportunities to evaluate well-being within the medical school. • Convene a multistakeholder working group at the faculty level that will develop an HPLE strategy that encompasses all key stakeholder groups in the faculty and health system. • Integrate well-being into the overarching faculty strategic plan, supported with sufficient financial and human resources and endorsed by the highest faculty governing body and faculty leadership.	• Assign the CWO to lead a health-promoting environment committee, which should include learner representatives, clinical and academic faculty, health authority or hospital representation, leadership, and administrative staff, that meets at minimum quarterly. Consider structuring the committee to include a core steering group and multiple working groups and giving the committee administrative, project management, and communication support and the ability to report to faculty administration (e.g., dean's council) for authoritative support. • Develop and adopt a data collection plan, including yearly targeted surveys that use validated instruments and specific questions related to the learning environment and are designed with the assistance of data management experts, including psychometricians. • Give the health-promoting environment committee the authority to review these data and develop potential action plans.

Abbreviations: CWO, chief wellness officer; HPLE, health-promoting learning environment; PGME, postgraduate medical education; UGME, undergraduate medical education.

important to acknowledge that policies, procedures, and governance within the clinical settings (e.g., hospital work policies) may be considered outside the scope of the faculty of medicine or medical school administration. These rules may be governed by the local health authority, hospital administration itself, government, or any combination thereof. Faculties of medicine may have variable access and influence at these decision-making tables. The policies and procedures that govern the clinical environments are critical to the well-being of both the learner and faculty; thus, it is still incumbent on medical school administration to work in partnership with the appropriate hospital and health authority governance bodies. Occupational burnout is well studied among health care professionals and is known to be negatively associated with quality of care, patient satisfaction, medical errors, and higher staff turnover, making it highly relevant to hospital administration and a worthwhile endeavor for stakeholders to work collaboratively.

Embedding health in policies requires leadership commitment and support as well as engaged champions who contribute at different levels of governance to serve as the health promotion voice. Development of these analytical skills requires training, mentorship, and protected time. The complexity of being able to effectively influence policy and procedures from a well-being perspective has led health care organizations to adopt the role of chief wellness officer (CWO), a position that is meant to focus on protecting clinicians from occupational distress, enabling them to provide high-quality care along with a satisfying and sustainable career.[29] Organizational efforts to address burnout require an approach that tackles a wide range of potential drivers. Considering how to optimize workloads, improve efficiencies, address work–life integration, optimize electronic health records, and foster collegiality are only some of the factors that have policy and procedure levers that require a well-being lens.[30] Effectively measuring well-being and collecting data on appropriate metrics are important to inform policy. Ultimately, as has been stressed, an overarching strategy that encompasses these 6 strategic

directions is required. Thus, an effective senior leader with authority and resources is required for the implementation of the Okanagan Charter.[31] Commitment to a well-resourced CWO office is key to being able to embed health in all policies and set an organization on a path to developing a health-promoting working and learning environment. The American Medical Association has created a CWO roadmap with 9 steps for leading change that can serve as a starting point.[32]

Develop sustainable, supportive spaces

The second strategic direction—develop sustainable, supportive spaces—is adapted from the direction to create supportive campus environments.[23] Faculties must develop and execute strategies that create respectful, inclusive, fair, and equitable learning and working spaces. Physical, social, and virtual spaces should be designed with sustainability and resilience, underlying the natural social, cultural, and academic contexts that accompany each space. Literature on healthy building, workspace, and living design is plentiful, including examples of health care facility design.[33,34] Many of these goals relate to *simple* measures. Bringing back the doctor's lounge has been discussed as one tool to help address physician well-being challenges. With the doctor's lounge a modern-day casualty to the increasing cost-cutting measures and demand for patient care space, the value of a space that fosters connectedness and community is perhaps more important than ever. Learner lounges and other equivalent community-building spaces need to be considered in physical space designs.

Working to bring about culture change and create an HPLE requires attention to EDIB issues. We must work with expert colleagues to ensure that clinical and nonclinical learning environments are built and maintained in a manner that ensures everyone feels supported and welcomed, particularly those who are from underrepresented groups in medicine.[35,36] Clinical settings without breastfeeding rooms, all-gender bathrooms, physical accessibility, and religious observance spaces tell certain individuals that they do not belong. Building designs that follow ableist constructs create physical barriers and unwelcoming spaces. Fostering online connectedness and ensuring individuals are accommodated while working and learning are newer considerations.

Create thriving medical communities and culture

The third strategic direction—create thriving medical communities and culture—is adapted from the direction to generate thriving communities and a culture of well-being.[23] Many versions of the quote "culture eats strategy for breakfast," attributed to Peter Drucker, have been espoused in recent years.[37] It is important to educate and empower students, faculty, and staff about ways to support peers and foster psychologically safe environments, given the toxic culture often referenced within medicine.[38] Psychological safety refers to an individual's perceptions of consequences to taking interpersonal risks in a particular context.[39] It is not merely the absence of mistreatment. As we highlighted at the beginning of this article, a culture of compassion fosters the potential of the collective through the values of social justice and inclusivity. Creating psychologically safe environments and revealing the hidden curriculum in medicine contribute to thriving communities.

Learner mistreatment cannot be tolerated, and actions need to accompany words. Medicine and health care often operate within a hierarchical culture of fear of speaking out and concern regarding disclosure of vulnerability.[40,41] Leadership must make it a priority to change this narrative and develop campaigns to positively recognize those who take deliberate steps to create a supportive culture that in turn fosters well-being capacity. Evidence demonstrates that a healthy environment leads to higher productivity, satisfaction, creativity, and enhanced patient care.[42,43] Medical schools can start with unequivocally supporting and being accountable to zero-tolerance harassment and mistreatment policies. A relatively easy on-ramp to this space can be through creating or supporting opportunities, such as Balint groups and ice cream rounds, that start to provide spaces to reveal and address issues around culture that contribute to the erosion of well-being within our communities.[44,45]A thriving community and culture cannot happen without EDIB. Sonnenberg et al[46] outline 6 practical steps on how to address antiracism and enact allyship. Efforts to advance EDIB are core to well-being efforts; thus, everyone must commit to the learning and relearning process required to center these efforts in their work.

Encourage, support, and sustain meaningful personal development

The fourth strategic direction—encourage, support, and sustain meaningful personal development—is adapted from the direction to support personal development.[23] Supporting personal development remains a critical component of supporting well-being, despite wellness and resilience modules becoming prone to online parody, particularly by the well-known Dr. Glaucomflecken.[47] These criticisms are important, and they bring about important scrutiny as to how resilience and personal well-being development have been introduced into the health care settings. Online modules, which frequently require completion on one's own time, have too often been interventions of choice among health care organizations. Acknowledging recent debate about the balance between individual and systemic interventions to improve well-being, medical schools have introduced wellness-related curricula with varying degrees of success.[48,49] When borrowed from other settings or contexts and/or developed in a manner that seems removed from the day-to-day experiences of frontline staff, this method of personal skill building can be dispiriting. The creation of opportunities to build personal capacity and life-enhancing skills helps individuals reach their personal and professional potentials.

Professional and personal development education for faculty members must be grounded in theory and evidence informed by codevelopment, integration, flexibility, and personalization. An example of the challenge of personal development approaches can be found in examining mindfulness interventions, which have had mixed results and at times have not been well received as an effective strategy by medical learners.[50] Isolated mindfulness interventions are not grounded in self-determination theory because they do not support psychological need fulfillment.[51] Personal skill development must be paired with organizational wellness policies and

practice to optimize effectiveness and buy-in. Educators tasked with leading sessions on personal well-being strategies need to be grounded in a health promotion approach and be supported to validate concerns on addressing the learning environment issues concurrently.

Review, develop, and strengthen faculty-level health services

The fifth strategic direction—review, develop, and strengthen faculty-level health services—is adapted from the direction to create or reorient campus services.[23] Faculties should be commended for supporting student, resident, and graduate student affairs' offices. The review of existing health services, resources, and programs to look for duplication and opportunities for alignment is important for continuous assessment. Services must be readily accessible and have as few barriers as possible toward uptake. Service development, such as counseling, peer support, and coaching, must also consider EDIB principles. Medical students' help-seeking behaviors are influenced by risk-benefit evaluations, with significant consideration given to how disclosures may affect their academic future. Medical schools are encouraged to support learners to engage in help-seeking behaviors and regard asking for help as a sign of strength.[52] The clarification of confidential procedures around disclosures of illness is critical. Staff and faculty support also needs to be robustly developed. Employee and family assistance programs should be easily accessible, confidential, and comprehensive. Removing barriers for learners to attend health-related appointments and to take leaves of absence to attend to personal and medical needs should be reflected in policy. A well-developed communication strategy that raises awareness of existing resources and policies and encourages use of health-promoting services is an important part of this strategic direction. Faculties should take a strategic approach to collecting data on use and experience of these services to ensure that the services continue to be strengthened.

Collaborate and invest in continuous improvement and evaluation

The sixth strategic direction—collaborate and invest in continuous improvement and evaluation—is a new goal. Coordinated strategic efforts are critical to ensuring sustainable change. To facilitate continuous improvement and rigorous evaluation, programs must actively collect data on the health of learning and working environments and then use these findings to continue improving support for well-being. Both the Committee on Accreditation of Canadian Medical Schools and the Liaison Committee on Medical Education have accreditation standards related to the learning environment, mistreatment, and student support.[53] Just as accreditation should encourage continuous improvement among programs, we can also encourage programs to use these opportunities to evaluate well-being within medical schools. To effectively undertake the change management process, faculties of medicine should convene a multistakeholder working group that will develop an HPLE strategy that encompasses all key stakeholder groups in the faculty and health system. This group could be led by the CWO or an equivalent leader. Integration of well-being into the overarching faculty strategic plan, with sufficient financial and human resources support and endorsement from the highest faculty governing body and faculty leadership, will demonstrate true commitment to the advancement of well-being. Led by the HPLE working group, an evaluation strategy would include a baseline well-being survey, a needs assessment, and an environmental programming review. Initial consultations for strategy development should include focus group interviews. The surveys, needs assessments, and environmental programming reviews would be performed serially every 1 to 2 years alongside focus groups that focus on hot spot areas (e.g., departments identified as having more concerns during initial surveys). The strategy should use validated tools and evidence-based instruments. We reinforce the importance of qualitative data alongside surveys to inform next steps.

Operationalizing and Logistics

The prospects of tackling this work alone can be daunting. As an initial step, we encourage medical schools to begin by identifying and supporting well-being champions. Individuals can start by considering these strategic direction areas in small parts of the curriculum and through policy review. For example, course coordinators can begin evaluating their courses from these perspectives. They will inevitably note a number of considerations that go beyond their individual courses but in the interim may be able to take small tangible actions. Medical school leadership can support well-being champions through connecting individuals in networks and recognizing their efforts as part of promotion and review processes. Leveraging networks across medical schools (e.g., those within a particular region of a country) can help share the workload and create a sense of community working toward a common goal—creating HPLEs in medical education. A collaborative that meets quarterly can be created to discuss common challenges, celebrate successes, and share resources. In Canada, the AFMC is leading a national collaborative on implementation of the Okanagan Charter, leveraging resources from a central grant from the Canadian Medical Association. For many institutions, funding could be a barrier; however, the financial case for focusing on well-being is strong. The business case for physician well-being investment has been established, with eroded well-being translating into higher clinician turnover, decreased productivity, and inferior health care quality and patient safety.[54] Faculties and health authorities must invest in these strategies. Making a thorough business case for resources—financial and human—is critical.

Conclusions

During the last several years, efforts to address issues related to physician health and well-being have resulted in tangible albeit slow changes. By developing HPLE strategic plans based on the 6 strategic directions noted in the Okanagan Charter, medical schools demonstrate a commitment to long-term sustainable action that will result in improved experiences for learners, staff, and faculty. In addition, by instituting HPLEs, medical education becomes the driving force for broader systems and culture change in medicine. When medical schools are successful in implementing integrated HPLE strategic plans, they improve not only learner and clinician mental health but also

health care delivery, benefiting patients and, more broadly, society. Measurable improvements in medical student mental health must be made for a sustainable future. Leaders are needed to step forward and create the substantive change needed in systems and culture.[9] This article outlines the strategic and practical steps needed to create sustainable change. How will your institution take this leadership challenge forward? How will you lead using this framework? As the proverb states, "The best time to plant a tree was 20 years ago. The second best time is now."[55]

Funding/Support: None reported.

Other disclosures: None reported.

Ethical approval: Reported as not applicable.

V. Do is a third-year pediatrics resident, University of Toronto, Toronto, Ontario, Canada.

M. Lewis is professor of pediatrics and chief wellness officer, Faculty of Medicine and Dentistry, University of Alberta, Edmonton, Alberta, Canada.

C. Goldstein is associate professor of medicine and associate dean, Office of Advocacy and Wellbeing, University of Alberta, Edmonton, Alberta, Canada.

L.K. Sonnenberg is professor of pediatrics and associate dean, Educational Innovation and Technology, University of Alberta, Edmonton, Alberta, Canada.

References

1 Dyrbye LN, Thomas MR, Shanafelt TD. Systematic review of depression, anxiety, and other indicators of psychological distress among U.S. and Canadian medical students. Acad Med. 2006;81:354–373.
2 Dyrbye L, Shanafelt T. A narrative review on burnout experienced by medical students and residents. Med Educ. 2016;50:132–149.
3 Maser B, Danilewitz M, Guerin 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;94:1781–1791.
4 Kjeldstadli K, Tyssen R, Finset A, et al. Life satisfaction and resilience in medical school: A six-year longitudinal, nationwide and comparative study. BMC Med Educ. 2006;6:48.
5 Brazeau CMLR, Shanafelt T, Durning SJ, et al. Distress among matriculating medical students relative to the general population. Acad Med. 2014;89:1520–1525.
6 D'Eon MF, Thompson G, Stacey A, et al. The alarming situation of medical student mental health. Can Med Educ J. 2021;12:176–178.
7 ElHawary H, Salimi A, Barone N, Alam P, Thibaudeau S. The effect of COVID-19 on medical students' education and wellbeing: A cross-sectional survey. Can Med Educ J. 2021;12:92–99.
8 Dyrbye LN, Lipscomb W, Thibault G. Redesigning the learning environment to promote learner well-being and professional development. Acad Med. 2020;95:674–678.
9 Dyrbye LN, Thomas MR, Harper W, et al. The learning environment and medical student burnout: A multicentre study. Med Educ. 2009;43:274–282.
10 Slavin SJ, Chibnall JT. Mistreatment of medical students in the third year may not be the problem. Med Teach. 2017;39:891–893.
11 Dunham L, Dekhtyar M, Gruener G, et al. Medical student perceptions of the learning environment in medical school change as students transition to clinical training in undergraduate medical school. Teach Learn Med. 2017;29:383–391.
12 Gruppen L, Irby D, Durning S, Maggio L. Interventions designed to improve the learning environment in the health professions: A scoping review. MedEdPublish. 2018;7:211.
13 Lawrence C, Mhlaba T, Stewart K, Moletsane R, Gaede B, Moshabela M. The hidden curricula of medical education: A scoping review. Acad Med. 2018;93:648–656.
14 Dyrbye L, Satele D, West C. A longitudinal national study exploring impact of the learning environment on medical student burnout, empathy, and career regret. Acad Med. 2021;96:S204–S205.
15 Rajapuram N, Langness S, Marshall MR, Sammann A. Medical students in distress: The impact of gender, race, debt, and disability. PLoS One. 2020;15:e0243250.
16 Dyrbye LN, Thomas MR, Eacker A, et al. Race, ethnicity, and medical student well-being in the United States. Arch Intern Med. 2007;167:2103–2109.
17 Verma S. Report on Mental Health Activities: Focus on Physician Health. Ottawa, ON, Canada: Association of Faculties of Medicine of Canada; 2018:1–45. https://www.afmc.ca/wp-content/uploads/2022/10/2018-AFMC_Report_on_Mental_Health_Activities_EN.pdf. Accessed January 7, 2023.
18 Association of American Medical Colleges. AAMC statement on commitment to clinician well-being and resilience. https://www.aamc.org/media/23696/download. Accessed January 7, 2023.
19 Hafferty FW, Franks R. The hidden curriculum, ethics teaching, and the structure of medical education. Acad Med. 1994;69:861–871.
20 Government of Canada. Ottawa Charter for Health Promotion: An International Conference on Health Promotion. Ottawa, ON, Canada: Government of Canada; 1986:1–5. https://www.canada.ca/en/public-health/services/health-promotion/population-health/ottawa-charter-health-promotion-international-conference-on-health-promotion.html. Accessed January 7, 2023.
21 World Health Organization. Health Promoting Schools. https://www.who.int/health-topics/health-promoting-schools#tab=tab_1. Accessed June 16, 2022.
22 The Edmonton Charter for Health Promoting Universities and Institutions of Higher Education. http://www.gesundheitsfoerdernde-hochschulen.de/Inhalte/E_Gefoe_HS_internat/2005_Edmonton_Charter_HPU.pdf. Accessed February 3, 2023.
23 Okanagan Charter: An International Charter for Health Promoting Universities and Colleges (2015). https://www.acha.org/documents/general/Okanagan_Charter_Oct_6_2015.pdf. Accessed January 7, 2023.
24 German Network Health Promoting Universities. 2011. http://www.gesundheitsfoerdernde-hochschulen.de/O1_Startseite/index.html. Accessed July 5, 2017.
25 Network Health Promoting Universities Switzerland. 2016. https://www.gesundehochschulen.ch. Accessed August 17, 2017.
26 Universitat d'Alacant. Spanish network of healthy universities (REUS). https://web.ua.es/en/universidad-saludable/spanish-network-of-healthy-universities-reus.html#keditor-carousel-1. Published 2014. Accessed July 5, 2017.
27 Association of Faculties of Medicine of Canada. AFMC endorses the Okanagan Charter: An international Charter for Health Promoting Universities and Colleges. https://www.afmc.ca/what-is-afmc-doing-to-improve-the-culture-of-academic-medicine. Accessed January 16, 2023.
28 Squires V, London C. The Okanagan Charter: Evolution of health promotion in Canadian higher education. Can J High Educ. 2022;51:100–114.
29 Ripp J, Shanafelt T. The health care chief wellness officer: What the role is and is not. Acad Med. 2020;95:1354–1358.
30 Dyrbye L, West C, Johnson P, et al. Burnout and satisfaction with work-life integration among nurses. J Occup Env Med. 2019;61:689–698.
31 Shanafelt T, Trockel M, Ripp J, Murphy M, Sandborg C, Bohman B. Building a program on well-being: Key design considerations to meet the unique needs of each organization. Acad Med. 2019;94:156–161.
32 Shanafelt T, Sinsky C. Chief Wellness Officer Road Map: Implement a Leadership Strategy for Professional Well-Being. Chicago, IL: American Medical Association; 2020.
33 Miedema E, Lindahl G, Elf M. Conceptualizing health promotion in relation to outpatient healthcare building design: A scoping review. HERD. 2019;12:69–86.
34 Dilani A, Armstrong K. The "salutogenic" approach: Designing a health-promoting hospital environment. World Hosp Health Serv Off J Int Hosp Fed. 2008;44:32–35.
35 Teshome BG, Desai MM, Gross CP, et al. Marginalized identities, mistreatment, discrimination, and burnout among US medical students: Cross sectional survey and retrospective cohort study. BMJ. 2022;376:e065984.
36 Lawrence JA, Davis BA, Corbette T, Hill EV, Williams DR, Reede JY. Racial/ethnic differences in burnout: A systematic review. J Racial Ethn Health Disparities. 2022;9:257–269.
37 Campbell D, Edgar D, Stonehouse G. Business Strategy: An Introduction. Basingstoke, UK: Palgrave Macmillan; 2011.

38 Shanafelt TD, Schein E, Minor LB, Trockel M, Schein P, Kirch D. Healing the professional culture of medicine. Mayo Clin Proc. 2019;94:1556–1566.

39 Edmondson AC, Lei Z. Psychological safety: The history, renaissance, and future of an interpersonal construct. Annu Rev Organ Psychol Organ Behav. 2014;1:23–43.

40 Slavin SJ. Medical student mental health: Culture, environment, and the need for change. JAMA. 2016;316:2195–2196.

41 Salehi PP, Jacobs D, Suhail-Sindhu T, Judson BL, Azizzadeh B, Lee YH. Consequences of medical hierarchy on medical students, residents, and medical education in otolaryngology. Otolaryngol Neck Surg. 2020;163:906–914.

42 Han S, Shanafelt TD, Sinsky CA, et al. Estimating the attributable cost of physician burnout in the United States. Ann Intern Med. 2019;170:784–790.

43 Dewa CS, Jacobs P, Thanh NX, Loong D. An estimate of the cost of burnout on early retirement and reduction in clinical hours of practicing physicians in Canada. BMC Health Serv Res. 2014;14:254.

44 Yazdankhahfard M, Haghani F, Omid A. The Balint group and its application in medical education: A systematic review. J Educ Health Promot. 2019;8:124.

45 Calder-Sprackman S, Kumar T, Gerin-Lajoie C, Kilvert M, Sampsel K. Ice cream rounds: The adaptation, implementation, and evaluation of a peer-support wellness rounds in an emergency medicine resident training program. CJEM. 2018;20:777–780.

46 Sonnenberg LK, Do V, LeBlanc C, Busari JO. Six ways to get a grip by calling-out racism and enacting allyship in medical education. Can Med Educ J. 2021;12:111–115.

47 Flanary W. My Story: Dr Glaucomflecken. https://glaucomflecken.com/dr-glaucomflecken/. Accessed February 3, 2023.

48 Bourcier D, Far R, King L, et al. Canadian Federation of Medical Students Wellness Curriculum Framework. Ottawa, ON, Canada: Canadian Federation of Medical Students; 2021.

49 Houser MM, Worzella G, Burchsted S, Marquez C, Domack T, Acevedo Y. Wellness skills for medical learners and teachers: Perspective taking and cognitive flexibility. MedEdPORTAL. 2018;14:10674.

50 Scheepers RA, Emke H, Epstein RM, Lombarts KMJMH. The impact of mindfulness-based interventions on doctors' well-being and performance: A systematic review. Med Educ. 2020;54:138–149.

51 Neufeld A, Mossiere A, Malin G. Basic psychological needs, more than mindfulness and resilience, relate to medical student stress: A case for shifting the focus of wellness curricula. Med Teach. 2020;42:1401–1412.

52 Shahaf-Oren B, Madan I, Henderson C. "A lot of medical students, their biggest fear is failing at being seen to be a functional human": Disclosure and help-seeking decisions by medical students with health problems. BMC Med Educ. 2021;21:599.

53 Committee on Accreditation of Canadian Medical Schools. Standards and Elements. https://cacms-cafmc.ca/sites/default/files/documents/CACMS_Standards_and_Elements_AY_2021-2022.pdf. Published 2020. Accessed January 7, 2023.

54 Shanafelt T, Goh J, Sinsky C. The business case for investing in physician well-being. JAMA Intern Med. 2017;177:1826–1832.

55 The best time to plant a tree was 30 years ago, and the second best time to plant a tree is now. Quote Investigator. https://quoteinvestigator.com/2021/12/29/plant-tree. Accessed June 21, 2022.

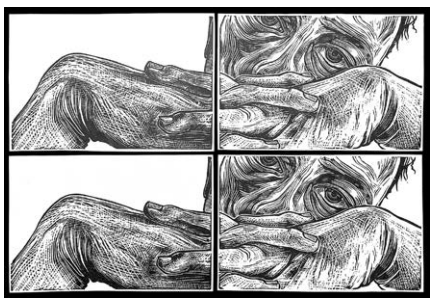
Reference cited in Table 1 only

56 Kern DE, Thomas PA, Bass EB, Howard DM. Curriculum Development for Medical Education: A Six Step Approach. Baltimore, MD: JHU Press; 1998.

Cover Art
Artist's Statement: Zoom Medical School

After 2 years of predominantly virtual medical school during the COVID-19 pandemic, I feel apprehensive about entering clinical rotations and translating my hands-off medical education into real-world patient care. Though terrifying, this transition to clinical work is at least accompanied by excitement over the prospect of trading recorded lectures full of cartoon diagrams for real experiences. The first half of medical school felt directionless and discouraging with endless hours alone in an on-campus dormitory, watching the product of my tuition money through a webcam.

My artwork *Zoom Medical School*, on the cover of this issue, reflects on the melancholic boredom that pervaded my experience, and the experiences of those around me, during the first half of medical school. Colorless, fractured, and stuffed into rectangular boxes, too small for comfort, the figure in this repeating linoleum print expresses the same tired resignation I felt. Though the medical student population was far from the hardest hit by the pandemic, for my cohort, it was a heavy weight on our collective morale.



Zoom Medical School

With the demanding nature of the next stage of training and the burden posed by burnout under normal circumstances, I am especially concerned with the long-term consequences of the past 2 years. Looking forward, I am hopeful a return to in-person interactions will breathe some much-needed life and motivation into my class of aspiring physicians. Still, this transition will undoubtedly require exceptional fortitude and patience from us and those training us.

Nathan Makarewicz

N. Makarewicz is a third-year medical student, Stanford Medical School, Stanford, California; email: nathansm@stanford.edu; ORCID: https://orcid.org/0000-0001-8255-7563.