

Medical Student Mental Health Culture, Environment, and the Need for Change

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Concerns about the mental health of future physicians have existed for decades. For example, in 1936, Strecker et al¹ described 4 levels of impairment of psychologic functioning of medical students. In this issue of *JAMA*, 80 years later, the studies by Rotenstein and colleagues² and by Wasson and colleagues³ shed new light on the issue of poor mental health of medical students by examining 2 different aspects of the problem.



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The meta-analysis by Rotenstein et al² of 195 studies of medical student depression and suicidality highlights that the mental health of medical students is a global problem of significant proportion. Based on data from 167 cross-sectional studies ($n = 116\,628$) and 16 longitudinal studies ($n = 5728$) from 43 countries, the estimated overall pooled prevalence of depression or depressive symptoms was 27.2% and ranged from 9.3% to 55.9% across assessment modes. Based on prevalence data from 24 cross-sectional studies ($n = 21\,002$) from 15 countries, the authors also found that the estimated overall pooled prevalence of suicidal ideation was 11.1% and ranged from 7.4% to 24.2% depending on assessment modes.

Wasson and colleagues³ focused on solutions to the problem in their systematic review of 28 interventions designed to promote medical student well-being. The authors found that limited evidence suggests that some specific learning environment interventions (such as a pass/fail grading system, mental health programs, mind-body skills programs, curriculum structure, multicomponent program reform, wellness programs, and advising/mentoring programs) were associated with improved emotional well-being among medical students. However, the authors acknowledge that the overall quality of the evidence was low and suggest that high-quality medical education research addressing student well-being is needed.

When viewed together and within the context of 8 decades of study and awareness of the problem, the reports by Rotenstein et al and Wasson et al lead to an important question: What is it about the culture of medicine and of medical education that has allowed this problem to remain so long unaddressed and for studies of interventions to lag so far behind the number of studies of the nature of the problem? If the training of future physicians is to improve, it is important to understand the culture, know its history and its legacy, and then consider how to address the factors that may still remain as barriers to change.

Several aspects of the culture of medicine and medical education have likely contributed to the delayed and until re-

cently muted response to the long-standing problem of poor mental health of medical students. The first is the belief by some that medicine is a demanding profession and, therefore, medical school should also be extremely rigorous and demanding.⁴ If students are not “strong” enough to handle the stress, then they should probably seek another profession. This sentiment has certainly diminished in recent decades but has not disappeared entirely; some senior faculty and administrators still express dismay about the “softening” of the culture and the students. These beliefs are in some ways related to a parallel and similarly flawed aspect of medical culture that may present a significant barrier to change: the firm belief that more pressure, more hours, and more demands must lead to better educational outcomes and that with less rigorous training, the standards are being lowered.

This commonly embraced error stems from a lack of understanding of the inverted U-shaped curve. As described by Gladwell,⁵ performance almost always follows an upside-down U-shape. The inverted U-shaped curve best known to most physicians is the Starling curve, in which stroke volume increases with ventricular end diastolic volume until the point at which it increases less quickly, plateaus, and then declines. The same inverted U-shaped curve is found throughout human endeavors. For example, preclinical curriculum changes at one institution in 2010⁶ involved reducing curricular hours 10%, working with faculty to reduce the volume of material and level of detail, changing to pass/fail grading, and encouraging students to become involved in elective and volunteer activities that they cared about. In the 2015 Association of American Medical Colleges Year 2 Questionnaire, compared with other US medical students, students in this educational atmosphere reported spending 1½ hours less in class or studying each day. These students reported lower stress, less exhaustion, and greater sense of engagement in medical school and also had improved quality of life, mental health, and academic performance.

A second aspect of medical culture is that mental health problems ordinarily have not been taken as seriously as physical problems, and treatment has generally been embraced over prevention. For years, psychiatry and psychology have been viewed by many in academic medicine as soft sciences. Coverage and payment for treatment of mental health problems has lagged that for “physical” ailments.⁷ Considering that the US health care system is better characterized as a disease-oriented system rather than one designed to promote wellness,⁸ it is not surprising that student mental health has also been neglected and preventive measures have been slow to evolve.

A third aspect of culture is the administrative structure and hierarchy within medical schools. Curricular offices (concerned with what is taught and how) and student affairs offices (concerned with student well-being) have historically been relatively siloed, with limited integration and collaboration. The resources available to these 2 offices do not appear, however, to have been equally divided. Most financial, research, and overall human resources have been directed to curricular and medical education offices rather than to student affairs offices. The consequence is that much more attention, effort, and resources have been focused on implementation and study of new teaching methods or on introduction of new content. Many deans of student affairs may also perceive that their voices do not carry as much weight as their peers' in the dean's office leadership.

A fourth aspect of the culture of medical education is the relative indifference and concerns held by the medical school administration related to student mental health. Indifference may be caused in part by the complexity of rapidly changing health care and research environments that draw the attention and focus of administrators. Another factor is the lack of accountability that deans are generally held to for the mental health outcomes of their students. Concern is also likely to be a powerful barrier—specifically, the concern by administrators that measuring the problem in their own institution could end up reflecting poorly on the institution.

A fifth aspect of culture that is critically important is the tendency to focus on teaching individuals self-care through mindfulness, wellness, and resilience programs rather than by addressing issues in the learning environment. When signals of problems involving student mental health arise, the reaction in medical education has commonly been failure to recognize that the main problem is often with the environment,

not the student. The response has often been limited, such as advising students to eat well, exercise, do yoga, meditate, and participate in narrative medicine activities. These approaches may allow educators to feel comforted by their efforts but also may distract educators from recognizing that the learning environment is at the core of the problem, and more must be done to improve it.

The meta-analysis by Rotenstein et al² has highlighted the prevalences of student depression and depressive symptoms and of suicidal ideation, and the study by Wasson et al³ has provided some evidence for possible approaches to improving the well-being of trainees, with the implications of both studies suggesting that further change in the medical education culture and environment is needed. A case for curricular changes to improve student well-being, such as pass/fail grading or reduction of contact hours, should argue that this does not have to result in lowered educational standards. In addition, student mental health outcomes must be viewed as critical program outcomes, as important as board scores and residency placements. Moreover, the further siloing of responsibility for student mental health is likely not to be effective. Some schools are appointing “wellness” deans or directors, but the responsibility for student well-being should not be limited to one office and one administrator; student wellness must be everyone's concern.

Medical schools need to step up to address the mental health crisis among medical students, and solutions cannot just come from the mental health side; the problem needs to be viewed as an environmental health issue. Medical school administrators must overcome any lingering indifference and institutional concerns and address this problem by concerted efforts to assess and monitor student well-being and to improve the culture and conditions in the educational environment.

ARTICLE INFORMATION

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Conflict of Interest Disclosures: The author has completed and submitted the ICMJE Form for Disclosure of Potential Conflicts of Interest and none were reported.

REFERENCES

1. Strecker EA, Appel KE, Palmer HD, Braceland FJ. Psychiatric studies in medical education, II: neurotic trends in senior medical students. *Am J Psychiatry*. 1937;93(5):1197-1229.
2. Rotenstein LS, Ramos MA, Torre M, et al. Prevalence of depression, depressive symptoms, and suicidal ideation among medical students: a systematic review and meta-analysis. *JAMA*. doi:10.1001/jama.2016.17324
3. Wasson LT, Cusmano A, Meli L, et al. Association between learning environment interventions and medical student well-being: a systematic review. *JAMA*. doi:10.1001/jama.2016.17573
4. Hafferty FW. Beyond curriculum reform: confronting medicine's hidden curriculum. *Acad Med*. 1998;73(4):403-407.
5. Gladwell M. *David and Goliath: Underdogs, Misfits, and the Art of Battling Giants*. New York, NY: Little Brown & Co; 2013.
6. Slavin SJ, Chibnall JT. Finding the why, changing the how: improving the mental health of medical students, residents, and physicians. *Acad Med*. 2016;91(9):1194-1196.
7. Goodell S. *Health Policy Brief: Mental Health Parity*. April 3, 2014. http://healthaffairs.org/healthpolicybriefs/brief_pdfs/healthpolicybrief_112.pdf Accessed October 16, 2016.
8. Fani Marvasti F, Stafford RS. From sick care to health care—reengineering prevention into the US system. *N Engl J Med*. 2012;367(10):889-891.