Medical Student Well-Being

Minimize Burnout and Improve Mental Health Among Medical Students

Liselotte “Lotte” Dyrbye, MD, MHPE
Consultant, Division of Community Internal Medicine, Department of Internal Medicine, and Professor of Medical Education, Professor of Medicine, Mayo Clinic Department of Medicine Physician Well-Being Program

How Will This Module Help Me?

1. Describes the drivers and importance of medical student well-being
2. Provides ways to create a culture of well-being among medical students
3. Shares examples of successful medical school programs for student well-being
Introduction

Becoming and being a physician is arduous, challenging, and a privilege. Physicians are nearly twice as likely to experience burnout as other US workers, after controlling for work hours and other factors.1–3 Burnout is a syndrome of emotional exhaustion, depersonalization (eg, decreased empathy towards patients), and low sense of personal accomplishment that is primarily attributed to work-related stressors. It is important to understand that the high prevalence of burnout among physicians in practice is not reflective of a problem with admissions or defective personal characteristics. National studies have found that matriculating medical students have better mental health profiles than other similarly aged college graduates who pursue other careers.4

Once in medical school, however, medical students are more likely to experience burnout and depression than other similarly aged individuals pursuing different careers, and this elevated risk persists into residency.4 Burnout among medical students predicts developing thoughts of suicide over the course of one year and seriously considering dropping out of medical school. Additionally, burnout among medical students is associated with a 20% increased risk of alcohol abuse or dependence.9 It is also associated with lower performance on standardized assessments, medical errors, and sub-optimal patient care and professionalism. Burnout and depression prevent medical students from reaching their potential and threaten their professional development.

Medical students also experience other forms of distress, such as profound levels of stress, poor quality of life, and high degrees of fatigue. In fact, most medical students experience multiple forms of distress simultaneously, and the more forms of distress they experience the higher their risk is for thoughts of suicide and dropping out of medical school.

In addition to accreditation standards, there is a moral and ethical imperative for medical schools to address medical student well-being. Medical schools should take steps to reduce the risk of burnout and depression among their students and make an effort to promote a culture of well-being. This module provides a detailed approach to how this can be accomplished.

Eight STEPS to Minimize Burnout and Improve Mental Health Among Medical Students

1. Recognize Shared Responsibility
2. Measure Student Well-Being
Recognize Shared Responsibility

Student well-being is a shared responsibility of the individual learner, the school, and course and site faculty where students have clinical experiences. Within the constraints of a demanding schedule and multiple, competing priorities, individual medical students have responsibility for self-care, including engaging in healthy activities, eating nutritiously, sleeping adequately, managing their time, spending time with family and friends, and reaching out for help.

From a medical school perspective this responsibility includes implementing and evaluating primary and secondary prevention strategies with appropriate investment in well-being related infrastructure and resources, as well as organizational efforts to reduce drivers of distress. Typically, these strategies include having a dedicated individual (or group) charged with overseeing student well-being who is resourced and empowered to make school-level changes, such as the Assistant Dean of Students, Associate Director of Student Affairs, or Director of Student Well-Being.

Measure Student Well-Being

Medical student well-being should be a routine performance metric for a medical school. Best approaches include using a standardized instrument with national benchmarks to allow for comparison between how medical students are doing locally versus nationally.

Q&A

What are the best instruments to measure student well-being?

Brief, anonymous surveys using validated instruments are best. Several examples of such tools to assess dimensions of well-being can be found here.
Such data can be supplemented with information provided by the Association of American Medical Colleges (AAMC) national surveys: the Medical School Year Two Questionnaire (Y2Q) and the Medical School Graduation Questionnaire (GQ). The AAMC administers the Medical School Year Two Questionnaire (Y2Q) each year to all active, second-year students across the United States. The survey assesses students on topics ranging from their adjustment to medical school to future career plans, culminating in a national report illustrating the climate and culture of medical schools across the nation. The Medical School Graduation Questionnaire (GQ) is available to medical students eligible for graduation and is voluntary to complete. The survey assesses the medical student experience on topics, such as pre-clinical, clinical, and elective experiences, general medical education, student services, and experiences of negative behaviors.

**How should results be shared?**

Aggregate, de-identified results should be shared with students during town halls, in communications (e.g., letters), and during face-to-face meetings with medical school leadership. Analyzing data by demographic and school related factors (year in school, site) can allow for identification of “hot spots” for local intervention.

### Optimize the Curriculum

The relationship of many curricular elements to well-being have been examined to date, including hours spent in small lecture and clinical experiences, amount of vacation allocated, number and time devoted to testing, and grading. Of these factors only pass-fail grading was independently associated with reduced risk of burnout. Additionally, research has found that among first and second year (pre-clinical) medical students there is no relationship between hours spent in lectures and small groups, hours of clinical experiences, hours and number of exams, weeks of vacation, and any measure of student well-being, including burnout, quality of life, or depressive symptoms.

In particular, a pass/fail grading system is key for decreasing burnout, stress, and serious thoughts of dropping out. In a large multi-institutional study of first- and second-year medical students, those NOT in a pass/fail curriculum had nearly double rates of burnout, higher stress levels, and were 60% more likely to consider dropping out.\(^{23}\) Switching to pass/fail grading during the non-clinical years does not have a detrimental impact on learning as measured by the United States Medical Licensing Examination (USMLE) Step 1 score or clerkship grades.

**Table 2. Benefits of Pass/Fail Grading in Years 1 and 2**

<table>
<thead>
<tr>
<th>Pass/Fail Grading in Years 1 and 2</th>
<th>No difference in knowledge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Better well-being</td>
<td>USMLE Step 1</td>
</tr>
<tr>
<td>Lower stress</td>
<td>Clerkship grades</td>
</tr>
<tr>
<td>Improved mood</td>
<td>USMLE Step 2 Clinical Knowledge (CK)</td>
</tr>
<tr>
<td>Higher group cohesion</td>
<td></td>
</tr>
<tr>
<td>Better overall well-being</td>
<td></td>
</tr>
<tr>
<td>Improved satisfaction</td>
<td></td>
</tr>
</tbody>
</table>

Sources: Rohe 2006\(^{23}\), Bloodgood 2009\(^{24}\)
An excessive workload (curriculumegaly) adds enormous stress to medical students and contributes to limited time for self-care. In addition, required attendance and lack of flexible schedules contribute to their sense of lack of control over their daily lives. Clinical experiences involving excessive administrative tasks or work inefficiencies are also likely to contribute.

Table 3. Curricular Drivers of Distress

<table>
<thead>
<tr>
<th>Drivers</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nature of the work (human dissection; death and suffering)</td>
<td>Debrief sessions to help deal with inherent challenges of doctoring</td>
</tr>
<tr>
<td>Curriculomegaly (ie, excessive workload)</td>
<td>Peer support programs</td>
</tr>
<tr>
<td>Lack of control and flexibility</td>
<td>Pass-fail grading</td>
</tr>
<tr>
<td>Threats to meaning (eg, lack of connection to patient care, excessive administrative tasks, work inefficiency)</td>
<td>Competency-based education</td>
</tr>
<tr>
<td>Grading schema</td>
<td>Criterion-based grading</td>
</tr>
<tr>
<td>Research expectations</td>
<td>Curricular reform</td>
</tr>
<tr>
<td>Competition</td>
<td>Research facilitators (e.g., mentors, access to statisticians)</td>
</tr>
<tr>
<td>Poorly organized clinical rotations</td>
<td>Program evaluations to optimize: Organization of rotations, opportunity for meaningful work, manageable workload</td>
</tr>
<tr>
<td>Norm-based grading</td>
<td></td>
</tr>
</tbody>
</table>

Sources: Mazurkiewicz 2012, Santen 2010

Traditionally, efforts to improve medical student mental health have been focused on enhancing access to mental health providers, reducing the stigma of mental health services to encourage utilization, and implementing ancillary wellness programs. These well-intended efforts do not typically address the root causes of stress and a multi-faceted curricular change is needed.

4 Help Control Medical Student Debt

Approximately 76% of medical students graduate with educational debt. A 2018 analysis from AAMC reported that the median educational debt for medical students graduating in 2017 was $192,000. Educational debt can have a significant impact on a student’s overall well-being. In fact, medical school debt is an independent predictor of burnout and increases medical students’ risk of alcohol dependence and abuse. In addition, a multi-institutional longitudinal study of 1,701 medical students found that students who worked for income were significantly less likely to recover from burnout over the course of one year than students who were not employed.
The Liaison Committee on Medical Education requires that a “medical school provide its medical students with effective financial aid and debt management counseling and has mechanisms in place to minimize the impact of direct educational expenses (ie, tuition, fees, books, supplies) on medical student indebtedness.” Some medical schools are offering full tuition scholarships to assist students, based on the perspective that student debt may adversely affect and re-shape the healthcare industry and drive students towards more lucrative specialties and careers, leaving care gaps in less lucrative areas. Other universities are helping students manage debt by reducing tuition costs, offering a more digitized curriculum, or offering loan repayment assistance programs.

Q&A

Where can students find additional tuition information?

There is a range of expected tuition fees based on the individual institution. AAMC provides information across academic years in their Tuition and Student Fees Workbook. This workbook contains tuition and fees reported by accredited medical education programs and contains aggregate information organized by academic year, cost type (eg, tuition), medical school ownership (ie, public or private), and medical student residence status (ie, in-state or out-of-state).

Where can students learn more about debt repayment programs?

Resources on managing medical school debt can be found through various organizations. For example, the American Academy of Family Physicians (AAFP) offers a number of resources for medical students searching for educational financing and debt repayment programs. This resource provides students with everything from basic financing information to exploring service in health provider shortage areas (HPSAs) for loan forgiveness.

The AAMC also provides a robust resource covering information on loans, grants, financial literacy education and more. Students can find a list of state and federal loan resources, covering information on debt repayment and forgiveness programs, as well as, scholarships. In addition, AAMC offers the MedLoans® Organizer and Calculator tool to aid students in budgeting and managing their debt.
Refinancing is important as well to reduce the burden of medical school debt. Learn about refinancing to obtain favorable interest rates through the AMA Career Planning Resource.

Optimize the Learning Environment and Cultivate Community

Medical students expect to and desire to work hard. It is typically not work hours or clinical workload that lead to burnout, but rather a poor learning environment. This may include inadequate support from faculty, lack of supervision from residents, cynical residents, lack of variety of medical problems seen, and harassment/mistreatment. Therefore, it is essential that students can learn in an organized and supportive environment that promotes their personal and professional development.

Part of creating and supporting an optimal learning environment is understanding how students can be empowered in the clinic setting. To learn more, check out the AMA Medical Student Documentation Myth resource.

Q&A

What can be done to optimize the learning environment?

Program evaluations should be performed regularly and include an assessment of students’ perceptions of the learning environment, including the adequacy of emotional support, supervision, and faculty role modeling.

Social support buffers stress and helps to build resiliency. Medical schools should take steps to build community between students, and between students and faculty. For example:

- Learning communities such as organized study groups may reduce stress, anxiety, and depression.
- Longitudinal clerkships have the potential to build help students build meaningful relationships, support, and substantial involvement in patient care—all factors that should buffer against burnout.
- Enhanced social engagement, such as medical student lounges, mentorship families, and social events can help by reducing feelings of isolation and enhancing collegiality.

Deliberate strategies are needed to counter forces that erode connections with friends and colleagues, particularly during away rotations.

What is the role of faculty development?

It is a worthwhile investment to help faculty become more effective at delivering timely feedback and fostering a positive learning climate and effective relationships with medical students. Other positive supervisor behaviors include holding career development conversations, inspiring others to do their best, seeking opinions, treating others with respect and dignity, fostering a positive culture, keeping others informed of changes taking place, and encouraging others to develop their talents and skills.
What can be done to minimize student mistreatment?

Unfortunately, medical student mistreatment does occur in various forms, and has a negative impact on well-being and leads to an increased risk of burnout. New and accelerated efforts to more effectively address trainee harassment, discrimination, and belittlement are needed. While this is still an area of opportunity and improvement, many programs are working diligently on culture change, specifically focusing on promoting reliability and professional accountability among teaching faculty. Faculty training programs may include resources on how to help affected staff and patients, multi-level professional leadership training, and clear processes on how to capture, report, and address inappropriate behavior.

Promote Self-Care and Resiliency

Providing resources to promote self-care and resiliency should be part of every medical school's strategy to promote student well-being. Unfortunately, students have limited time for self-care and this creates a new tension for them as they become role models for patients. Students should be educated to strive for healthy self-improvement and to avoid the self-destructive and exhausting road of perfectionism.

Other common experiences include feeling of inadequacy and feeling like an imposter. Dealing with such feelings by having faculty talk about their own experience tends to be helpful. Many schools are trying to emphasize the need for self-care by providing personal days during the clerkship year.

Click each hotspot to identify examples of self-care resources medical schools can provide.

Q&A

How can students recognize the need for self-care?

Recognizing a level of distress that leads to a high risk of detrimental impact on one’s medical training and personal life is difficult; in fact, most physicians are unable to accurately recognize their own distress. Many may find the feedback from the 7-Item May Clinic Physician Well-Being Index helpful, and nearly half have been found to make a lifestyle change as a direct result of the feedback.

What can students do on an individual level?

Although the matter of how best to promote self-care strategies and adaptive coping strategies remains understudied, a cognitive behavioral approach may be one strategy to make the information practical. For example, Kushner et al developed a curriculum in which students were asked to identify an area of
personal wellness they wished to improve and subsequently monitored their personal behavior in this area, developed cognitive expertise in the recommended behavior, devised a strategy and set a personal goal for improvement, implemented a plan, and self-assessed their efficacy.\(^{59}\)

### Table 5. Individual Strategies to Lower Risk of Burnout and Facilitate Higher QOL

<table>
<thead>
<tr>
<th>Individual Strategies to Lower Risk of Burnout and Facilitate Higher QOL</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Adequate sleep</td>
</tr>
<tr>
<td>• Build relationships and social support</td>
</tr>
<tr>
<td>• Maintain personal health</td>
</tr>
<tr>
<td>• Manage stress</td>
</tr>
<tr>
<td>• Find meaning in work</td>
</tr>
<tr>
<td>• Engage in recreation/hobbies</td>
</tr>
<tr>
<td>• Exercise</td>
</tr>
<tr>
<td>• Maintain positive outlook</td>
</tr>
</tbody>
</table>

| • Avoid mentality of delayed gratification                   |
| • Seek advice about debt reduction                           |
| • Maximize work-life balance                                 |
| • Compliant with national exercise guidelines                |
| • Up-to-date with prev. health care screening                 |
| • Greater use of approach-oriented coping strategies         |
| • Positive coping skills                                     |
| • Involvement in extra curricular activities                 |

Sources: Dyrbye 2014\(^6\), West 2011\(^{10}\), Shanafelt 2002\(^{21}\), Prins 2008\(^{31}\), Ripp 2011\(^{41}\), Campbell 2010\(^{40}\), Dahlin 2007\(^{34}\), Dyrbye 2009\(^{42}\), Dyrbye 2010\(^{34}\), Dyrbye 2017\(^{55}\), Thompson 2016\(^{56}\), Haglund 2009\(^{57}\), Lapinski 2016\(^{58}\)

### 7

**Provide Adequate Services for Those Already Affected by Burnout or Distress**

Despite these prevention efforts, approximately half of medical students experience symptoms of burnout and nearly a third have symptoms of depression. Therefore, medical schools need to take proactive steps to identify students in need of individualized services and provide barrier-free access to mental health care. The Liaison Committee on Medical Education (LCME) has also assessed the need for addressing medical student mental health and has issued specific requirements on standards for accreditation to medical schools.

For example, LCME standards state that diagnostic, preventive, and therapeutic health services must be accessible to medical school students near the site of their required educational experiences, which may include classroom facilities, rotation sites, etc. Policies should be in place that allow students to be excused to seek necessary health care.

Furthermore, LCME standards require that medical students seeking health services are not penalized within the program or in their careers for doing so. Health professionals providing any services, including psychiatric or psychological counseling, should not be involved in the academic assessment or promotion of students in a medical school program. Legal requirements for security, privacy, confidentiality, and accessibility should be met when maintaining medical student health records.

**Q&A**

**How can we support student access to resources in order to prevent absenteeism?**

Being proactive includes monitoring and responding to absences. Negative life events increase risk of depression and burnout. Although such events are outside the control of medical schools, knowing about them, and reaching out to the student offering support and reasonable accommodations can be helpful.

**How can we help reduce the stigma relating to mental health?**

Historically, the professional culture discouraged discussing “weaknesses,” neglected self-care, and was indifferent to personal wellness. Medical students are less willing to seek professional help for a serious mental health problem than both the general US population and age-matched peers.\(^{45}\) Stigma toward
mental health care is fueled both by what medical students observe in their learning environment and by what they personally believe. Strategies are needed to combat both sources of stigma.

Encourage help-seeking by providing:

- Absentee policy that allows time-off for personal medical appointments during clinical hours
- Access to mental health providers not involved in academic assessment or advancement process
- Care available at sites in reasonable proximity to required educational experiences
- “In network” options for off-campus/external mental health providers

Having faculty, residents, and students share their personal struggles and paths to overcome them can also help reduce stigma and encourage help-seeking. A video entitled “Make the Difference: Preventing Medical Trainee Suicide,” developed by Mayo Clinic and the American Foundation for Suicide Prevention, explains how medical students and residents can help prevent suicide by being alert of the signs of depression and how to be most helpful.

What can be done if the worst happens?

If a student suicide occurs, it is important to respond swiftly and appropriately. A suicide response toolkit has been developed by the American Foundation for Suicide Prevention to help schools deal with a student death by suicide in a manner that supports the community and lessens the risk of contagion.

Suicide Response Toolkit
(PDF, 1.75 MB)

Fund Organizational Science Around Well-Being

Research to date has primarily studied the prevalence and factors associated with medical student well-being. Few intervention studies have been conducted, and most of these have focused on individual strategies rather than organizational/medical school level interventions. Although each medical student has a responsibility to engage in self-care, it is system-level factors that are the greatest contributors to medical student distress. Solutions are needed, and for well-designed studies to occur, local investment in novel interventions focused on how to best promote individual healthy choices and improve the learning environment are needed. Vanguard
institutions should leverage their faculty to develop evidence-based strategies that other organizations/medical schools can implement. The creation of new knowledge on how best to reduce medical student burnout and enhance their well-being and professional competency development can be achieved through organizational science. Investment is critical to change and to the short and long-term health of medical students.

Learning Objectives
1. Explain the purpose and benefits of implementing well-being initiatives in your medical student program
2. Recognize ways to engage students and faculty to develop a well-being framework

Article Information

AMA CME Accreditation Information

Credit Designation Statement: The American Medical Association designates this enduring material activity for a maximum of 0.50 AMA PRA Category 1 Credit™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

ABP MOC Statement: Successful completion of this CME activity, which includes participation in the activity and individual assessment of and feedback to the learner, enables the learner to earn up to 0.50 MOC points in the American Board of Pediatrics’ (ABP) Maintenance of Certification (MOC) program. It is the CME activity provider’s responsibility to submit learner completion information to ACCME for the purpose of granting ABP MOC credit.

ABIM MOC Statement: Successful completion of this CME activity, which includes participation in the evaluation component, enables the participant to earn up to 0.50 Medical Knowledge MOC points the American Board of Internal Medicine’s (ABIM) Maintenance of Certification (MOC) program. Participants will earn MOC points equivalent to the amount of CME credits claimed for the activity. It is the CME activity provider’s responsibility to submit participant completion information to ACCME for the purpose of granting ABIM MOC credit.

ABONHS MOC Statement: Successful completion of this CME activity, which includes participation in the evaluation component, enables the participant to meet the expectations of the American Board of Otolaryngology’s Maintenance of Certification (MOC) program. It is the CME activity provider’s responsibility to submit participant completion information to ACCME for the purpose of recognizing participation.

References

24. Bloodgood RA, Short JG, Jackson JM, Martindale JR. A change to pass-fail grading in the first two years at one medical school results in improved psychological well-being. Acad Med. 2009;84(5):655–62. DOI: 10.1097/ ACM.0b013e31819f6d78

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 May; 89(5): 749–754.doi: 10.1097/ACM.0000000000000204


46. LCME® Functions and Structure of a Medical School: Standards for Accreditation of Medical Education Programs Leading to the MD Degree: 12.4 and 12.5


