

Resident Wellness Matters: Optimizing Resident Education and Wellness Through the Learning Environment

M.L. Jennings, MD, and Stuart J. Slavin, MD, MEd

Abstract

The problem of poor mental health in residency is well established. Burnout, depression, and suicidal ideation are prevalent among resident physicians, and these problems appear to persist into practice. Leaders in graduate medical education such as policy makers at the Accreditation Council for Graduate Medical Education (ACGME) and directors of individual programs and institutions should acknowledge these important issues and take steps to address

them. The ACGME's Clinical Learning Environment Review (CLER) Program currently outlines an expectation that institutions both educate residents about burnout and measure burnout annually. The CLER Program could go further by expecting institutions to create quality initiatives to enhance resident wellness and increase resident engagement. The ACGME should also call for and support research in this area. Leaders or directors of individual programs and institutions

should consider wellness initiatives that both (1) identify and address suboptimal aspects of the learning environment and (2) train residents in resilience skills. Efforts to improve the residency learning environment could be guided by the work of Maslach and Leiter, who describe six categories of work stress that can contribute to burnout: (1) workload, (2) control, (3) balance between effort and reward, (4) community, (5) fairness, and (6) values.

Residency training in the United States appears to have negative effects on the health and well-being of trainees. Burnout and depression are quite prevalent among residents—higher than in college graduates who are of similar age.¹ Burnout is a maladaptive syndrome that results from chronic work stress. In physicians, burnout is characterized by feeling emotionally depleted (emotional exhaustion) and/or having a distant or uncaring attitude toward patients and work (depersonalization or cynicism).^{2,3} The largest study of resident burnout, involving a survey of over 15,000 internal medicine trainees, revealed that 51.5% of these trainees met criteria for burnout.⁴ Further, investigators studying pediatric, anesthesia, and surgery residents describe burnout rates between 41% and 74%.⁵⁻⁷ According to one study of residents

and fellows from all specialties, about half (50.8%) of the over 7,000 trainees reported depressive symptoms in the past two weeks, and 8.1% reported suicidal thoughts in the past 12 months.¹ A study of anesthesia residents revealed that 22% screened positive for major depressive disorder, whereas 5% reported suicidal ideation in the past two weeks—more than twice the rate of their age-matched peers in the general U.S. population.⁶

Resident wellness matters. Studies suggest that resident burnout is associated with self-reported errors, as well as with decreased adherence to best practices and changes in clinical reasoning.^{6,8-10} One study found that depressed pediatric residents made five times more medication errors than their nondepressed peers.⁵ Poor mental health is known to negatively affect physical health,¹¹ personal relationships, and the ability and motivation to learn. Although data relating burnout and medical knowledge in residents have been inconsistent,^{12,13} one study showed that anesthesia residents with burnout or depression reported being less likely to read about the next day's cases.⁶ Poor mental health in residency may be followed by poor mental health in practice.¹ Physicians have high rates of depression and burnout, and many are disenchanted with the demands and stresses of clinical practice.^{1,14} Physicians also have a significantly elevated

suicide risk compared with the general population.^{15,16}

Regrettably few data suggest which aspects of residency contribute most to burnout and depression¹⁷⁻²¹ or how to mitigate these issues.²² Change is clearly needed. The Accreditation Council for Graduate Medical Education (ACGME) and the individual institutions and residency programs that are the setting for graduate medical education (GME) can contribute by acknowledging the problem of poor mental health in residency and supporting the process of finding solutions.

What Can the ACGME and Individual Programs and Institutions Do?

The ACGME

Although the ACGME has engaged over the years in issues relating to duty hours, these efforts have been designed to mitigate resident fatigue and reduce medical errors.²³ The ACGME has only recently begun to officially weigh in on resident mental health and wellness, through, specifically, the Clinical Learning Environment Review (CLER) Program. The CLER Program provides a mechanism for evaluating the quality of the learning environment provided in training hospitals and other GME settings. The CLER Program also

M.L. Jennings was recently a fourth-year resident and chief resident of scholarly activity, Division of Psychiatry, Department of Neurology and Psychiatry, Saint Louis University School of Medicine, St. Louis, Missouri. Dr. Jennings is currently an inpatient staff psychiatrist in San Antonio, Texas.

S.J. Slavin is associate dean for curriculum, Office of Curricular Affairs, and professor, Department of Pediatrics, Saint Louis University School of Medicine, St. Louis, Missouri.

Correspondence should be addressed to M.L. Jennings, 8026 Floyd Curl Dr, San Antonio, TX 78229; telephone: (210) 575-8110; e-mail: m.l.jenningsmd@gmail.com.

Acad Med. 2015;90:1246-1250.
First published online July 14, 2015
doi: 10.1097/ACM.0000000000000842

outlines the ACGME's expectations for individual programs and institutions involved in GME training. The most recent iteration of the CLER Program outlines the expectation that institutions both educate residents about burnout prevention and measure resident burnout annually.²⁴ The CLER Program can and should, however, go even further in advocating the well-being and health of residents. Although each individual's traits play a role in whether she or he experiences burnout, research suggests that burnout arises largely from the work environment.³ For this reason, the CLER Program—given its explicit emphasis on the learning environment—represents an ideal platform for promoting resident health and well-being. The CLER guidelines could, for example, specify that institutions create quality initiatives related to resident well-being and engagement. The ACGME could also promote resident well-being through the creation of a professionalism subcompetency related to wellness, such as the one outlined in CanMEDS for use in Canada.²⁵

For too long, resident distress has been an “elephant in the room” in GME—a problem that is plain to many but rarely spoken of in official settings. The ACGME can therefore make a positive impact simply by stating that resident mental health is a problem about which it is concerned. The ACGME should call on educators and researchers to create, test, and share solutions to this problem, through both research and quality improvement initiatives. The ACGME could support these efforts by funding pilot projects, offering guidance on methods, and helping to coordinate and sponsor larger, multisite studies.

Institutions and residency programs

Institutions and residency programs must also play a leading role in improving the mental health of residents. Programs and institutions involved in GME training, including teaching hospitals, should work with trainees to identify which aspects of residency programs are the most stressful (and the most rewarding), and design interventions accordingly. Conversations with trainees might occur through qualitative research (e.g., focus groups and interviews) or more informally. Discussions should be led by facilitators not directly involved in the residency program to enhance resident

openness and candor. Although research is vital, applying quality improvement processes to resident wellness might offer advantages such as faster results and an iterative process of measurement and improvement. One specific idea is for programs to view a resident's departure for reasons related to personal distress as a residency-related “adverse event” and to perform a root cause analysis so as to identify which aspects of the learning environment may have contributed.

Understanding the myriad ways in which the learning environments influence resident wellness could be guided by the work of organizational psychologists Maslach and Leiter,²⁶ whose burnout research suggests that six groups or categories of problems in the workplace contribute to burnout: (1) workload, (2) control, (3) balance between effort and reward, (4) community, (5) fairness, and (6) values (each discussed below). Once program and institutional leaders identify local stressors and rewards, they can begin to develop interventions.

An important part of the process to enhance wellness would be the participation of interested residents, ideally with protected time. Having a larger purpose might allow residents to channel negative feelings and to experience more meaning, community, and reward.²⁶ All residents should be informed about the results of any surveys on wellness, and they should be apprised of how the program or institution plans to respond. Sharing such information communicates that residents are valued. Indeed, assessing burnout and then doing nothing might actually cause harm.²⁷

Interventions at the individual level are also essential. For example, programs should seek to promote resilience and engagement in residents by teaching them advanced coping skills. The fields of cognitive psychology, positive psychology, and mindfulness offer a rich variety of evidence-based approaches to reduce distress and cultivate meaning and resilience, some of which have been piloted in programs for physicians.^{28–31} Course facilitators can inform residents about common cognitive distortions in training such as overvaluing negative feedback or feeling like an impostor who does not belong³²; faculty could also teach techniques for reframing negative ideas, such as imagining what advice

residents would give a friend in the same situation. Residents could also be encouraged to avoid maladaptive coping strategies common to physicians such as perfectionism³³ and postponing one's personal life indefinitely.³⁴ Presenting such material in an interactive group setting may serve to normalize resident distress and promote positive group dynamics. Resilience promotion initiatives should include faculty whenever possible, as residents are not likely to flourish in a program in which faculty are suffering.

Individual skills programs may help promote more resilience in residents and help them cope with the inevitable challenges of training; however, these programs do not address the important role of the learning environment.

What Can Exploring Workplace Stressors Reveal?

Exploring how the six aforementioned categories of workplace stress might affect trainees can point to possible solutions. Although more research is needed regarding which aspects of residency are the most stressful,³⁵ enough is known to begin designing interventions. We do not intend for the following ideas to be prescriptions but, instead, suggestions of possible avenues to test through research and quality improvement.

Workload

Work overload occurs when the physical, cognitive, and emotional demands of work exceed a person's resources to meet them. For a physician resident, these demands entail more than just the actual number of hours worked and patients seen. Rather, patient complexity, the proportion of new to familiar patients, the efficiency of documentation software, the quality and presence of support staff, travel between work sites, and supervising faculty all also affect workload.³⁶ Reducing workload by lowering patient panels or hiring physician extenders or scribes might be possible in some settings. Other potential approaches include removing unnecessary tasks, improving nonclinical processes, explicitly teaching learners how to organize information, and helping them optimize their use of the electronic medical record.³⁶

A less discussed aspect of residency that might contribute to workload is

the emotional burden that results from witnessing suffering and death, losing a patient, or feeling incompetent. Although compartmentalizing feelings is a common strategy among physicians, it may not be an effective one.³⁷ Providing information about “real-life” grieving might be helpful in this regard, and residents could be required during difficult rotations to meet with trained personnel such as grief counselors, who could encourage and teach healthy ways to process emotions.³⁸

Control

Whenever possible, residents should be engaged in decisions that affect them. Residents have significant responsibilities in patient care, but limited ability to influence care decisions, their schedules, or their work environment. Chief residents and staff should try to honor scheduling requests and distribute call schedules with significant advance notice, and hospitals should accommodate reasonable requests to improve computer work rooms and call rooms where residents may sleep while on call.³⁹ In the face of work overload, the ability to influence others to achieve one's goals has been associated with less perceived strain.^{39,40} With this in mind, programs and institutions could seek to improve residents' sense of autonomy and self-efficacy at work by teaching communication skills related to working in teams, managing conflict, and making effective requests to administration.⁴⁰

Balance between effort and reward

The rewards of work include both material compensation and intangible rewards, such as a sense of accomplishment. Financial reward covers salaries, benefits, debt burden, and the ability to moonlight. Many residents (52% of males and 43% of females) feel they are *not* fairly compensated, according to a 2014 Medscape survey, and some have felt strongly enough to organize.^{41,42} At the same time, medical student debt has tripled in the past two decades. In 1992, the median debt for indebted medical school graduates (81% of total graduates of U.S. MD-granting institutions) was \$50,000, while in 2012, more graduates (86%) had debt, and the median debt had jumped to \$170,000.^{43–45} (Of note, these data do not include credit card or other types of debt.) In a study of radiology trainees, feeling financially stressed and having more debt were associated with burnout and decreased quality of life,

whereas moonlighting was associated with less exhaustion and a better quality of life.⁴⁶ Feeling financially stressed appeared to correlate more strongly with negative outcomes than the actual amount of debt.⁴⁶ Educating medical students and residents about personal finance (or encouraging them to learn for themselves) might help some trainees cope with financial stress better by enhancing self-efficacy. Allowing residents to moonlight could be another option. Given the financial strain that many residents experience,⁴³ institutions should seek to support trainees wherever possible by, for example, waiving parking fees, serving better food in the cafeteria, and ensuring (as discussed above) that workspaces are adequately and ergonomically equipped.

Importantly, residency and the practice of medicine can provide meaningful nonfinancial rewards. Receiving teaching from faculty, respect from staff and colleagues, and appreciation from patients can all be sustaining and positive inputs.³⁴ Cultivating a sense of meaning and purpose may also help enhance physician wellness and engagement, an approach that could be applied to residents too.^{28,47}

Community

Programs and institutions can enhance both community and reward by fostering a culture of mutual appreciation and teamwork, in which residents and faculty regularly recognize each other's contributions and hard work. A less cohesive culture, on the other hand, might lead to feeling unsupported, unappreciated, and isolated. Conflict at work can markedly decrease quality of life, and colleagues and faculty who are overworked or burned out may be unable to interact positively or provide real support.

Efforts to build community in residency can be informal or formal, and they should be tailored to the personality of individual programs. To enhance communication among faculty and residents at work, programs and institutions could provide training (as discussed above) on interpersonal skills at work such as how to effectively address conflict⁴⁰ and how to give, receive, and elicit helpful feedback.

Fairness

Perceiving unfairness or injustice can evoke negative emotions and attitudes,

which can increase burnout.²⁸ Residents may perceive that they are being treated differently and unfairly as compared with peers in the same program, or they may perceive that residents in other specialties seem to enjoy more hospital-sponsored resources. Programs and institutions should strive for transparency whenever possible regarding decision making and distribution of resources. Treating different residents differently or instituting policies without explanation may lead residents to feel resentful and disrespected.

Values

Doing work that clashes with one's personal values can be demoralizing and distressing, while doing work that aligns with one's values can feel fulfilling. When the work environment or work tasks do not support deeply held values, *moral distress* may occur.⁴⁸ The presence of value conflicts in physicians is also associated with burnout.⁴⁹ One manifestation of conflicting values in GME is when residents are asked to participate in care that they feel is suboptimal or otherwise unethical.^{48,50} Examples of suboptimal care include discharging a stabilized but chronically ill homeless person to the street, taking aggressive measures at the end of life, and observing an attending physician deliver bad news in an insensitive way.^{48,50}

Other sources of conflicting values may include exposure to unprofessional conduct⁵¹ and working in an environment with low quality and safety standards.⁵² In other words, improving quality of care in an organization may have the unintended benefit of decreasing physician burnout.

Programs and institutions should be open to resident feedback about ethical concerns, and they should strive to ensure that their mission and value statements are not simply words but, rather, guideposts that are reflected in daily activities and interactions.

Finally, residents may feel conflicted as they navigate the tension between responsibilities to patients and work and responsibilities to home and personal commitments and relationships. Some physicians have benefited from learning strategies such as prioritizing tasks and implementing and maintaining boundaries between their personal and work lives.⁵³

Additionally, mental health services need to be in place to enable convenient and confidential access to care for residents who need or want it for any reason. Some residency programs still create resident work schedules and manifest cultural attitudes that make seeing a professional extremely difficult. Institutions might experiment with creative approaches to providing mental health services, such as providers who work by phone or who maintain a flexible schedule. Residents should have the option of seeing providers who are unaffiliated with the training hospital, and any co-pays or deductibles should remain low. Further, encouraging residents to utilize counseling or coaching⁵³ services for “normal” life stressors might destigmatize help-seeking and lower the bar for some residents to get support.

In Sum

The mental health of residents remains a significant problem in the United States. Collectively, the ACGME, institutions, and residency programs can take steps to better address this problem. More research on interventions is certainly needed. A quality improvement approach to resident wellness would permit leaders to tailor unique interventions while leveraging recent efforts to develop quality improvement activities across GME. If successful, not only will residents benefit, but their current and future patients are likely to as well.

Funding/Support: S.J. Slavin currently receives research funding from the Josiah Macy Jr. Foundation. M.L. Jennings currently receives research funding from the Lown Institute.

Other disclosures: None reported.

Ethical approval: Reported as not applicable.

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;89:443–451.
- 2 West CP, Dyrbye LN, Sloan JA, Shanafelt TD. Single item measures of emotional exhaustion and depersonalization are useful for assessing burnout in medical professionals. *J Gen Intern Med.* 2009;24:1318–1321.
- 3 Maslach C, Schaufeli WB, Leiter MP. Job burnout. *Annu Rev Psychol.* 2001;52:397–422.
- 4 West CP, Shanafelt TD, Kolars JC. Quality of life, burnout, educational debt, and medical knowledge among internal medicine residents. *JAMA.* 2011;396:929–960.

- 5 Fahrenkopf AM, Sectish TC, Barger LK, et al. Rates of medication errors among depressed and burnt out residents: Prospective cohort study. *BMJ.* 2008;336:488–491.
- 6 de Oliveira GS Jr, Chang R, Fitzgerald PC, et al. The prevalence of burnout and depression and their association with adherence to safety and practice standards: A survey of United States anesthesiology trainees. *Anesth Analg.* 2013;117:182–193.
- 7 Gelfand DV, Podnos YD, Carmichael JC, Saltzman DJ, Wilson SE, Williams RA. Effect of the 80-hour workweek on resident burnout. *Arch Surg.* 2004;139:933–938.
- 8 Shanafelt TD, Bradley KA, Wipf JE, Back AL. Burnout and self-reported patient care in an internal medicine residency program. *Ann Intern Med.* 2002;136:358–367.
- 9 Durning SJ, Costanzo M, Artino AR Jr, et al. Functional neuroimaging correlates of burnout among internal medicine residents and faculty members. *Front Psychiatry.* 2013;4:131.
- 10 West CP, Tan AD, Habermann TM, Sloan JA, Shanafelt TD. Association of resident fatigue and distress with perceived medical errors. *JAMA.* 2009;302:1294–1300.
- 11 Katon WJ. Epidemiology and treatment of depression in patients with chronic medical illness. *Dialogues Clin Neurosci.* 2011;13:7–23.
- 12 Beckman TJ, Reed DA, Shanafelt TD, West CP. Resident physician well-being and assessments of their knowledge and clinical performance. *J Gen Intern Med.* 2012;27:325–330.
- 13 West CP, Shanafelt TD, Cook DA. Lack of association between resident doctors’ well-being and medical knowledge. *Med Educ.* 2010;44:1224–1231.
- 14 Pho K. Why you need to hear from miserable doctors. *KevinMD.com.* April 16, 2014. <http://www.kevinmd.com/blog/2014/04/hear-miserable-doctors.html>. Accessed June 4, 2015.
- 15 Schernhammer ES, Colditz GA. Suicide rates among physicians: A quantitative and gender assessment (meta-analysis). *Am J Psychiatry.* 2004;161:2295–2302.
- 16 Lindeman S, Laara E, Hakko H, Lonnqvist J. A systematic review on gender-specific suicide mortality in medical doctors. *Br J Psychiatry.* 1996;168:274–279.
- 17 Block L, Wu AW, Feldman L, Yeh HC, Desai SV. Residency schedule, burnout and patient care among first-year residents. *Postgrad Med J.* 2013;89:495–500.
- 18 Panagopoulou E, Montgomery A, Benos A. Burnout in internal medicine physicians: Differences between residents and specialists. *Eur J Intern Med.* 2006;17:195–200.
- 19 Blanchard P, Truchot D, Albiges-Sauvin L, et al. Prevalence and causes of burnout amongst oncology residents: A comprehensive nationwide cross-sectional study. *Eur J Cancer.* 2010;46:2708–2715.
- 20 McNeeley MF, Perez FA, Chew FS. The emotional wellness of radiology trainees: Prevalence and predictors of burnout. *Acad Radiol.* 2013;20:647–655.
- 21 Billings ME, Lazarus M, Wenrich M, Curtis JR, Engelberg RA. The effect of the hidden curriculum on resident burnout and cynicism. *J Grad Med Educ.* 2011;3:503–510.
- 22 Williams D, Tricomi G, Gupta J, Janise A. Efficacy of burnout interventions in the

- medical education pipeline. *Acad Psychiatry.* 2015;39:47–54.
- 23 Accreditation Council of Graduate Medical Education. ACGME duty hours. <https://www.acgme.org/acgmweb/tabid/271/GraduateMedicalEducation/DutyHours.aspx>. Accessed May 4, 2015.
- 24 Accreditation Council of Graduate Medical Education. CLER pathways to excellence: Expectations for an optimal clinical learning environment to achieve safe and high quality patient care. 2014. https://www.acgme.org/acgmweb/Portals/0/PDFs/CLER/CLER_Brochure.pdf. Accessed May 4, 2015.
- 25 Frank JR, Snell LS, Sherbino J, et al. Draft CanMEDS 2015: Physician Competency Framework—Series II. Ottawa, Ontario, Canada: Royal College of Physicians and Surgeons of Canada; May 2014. http://www.royalcollege.ca/portal/page/portal/rc/common/documents/canmeds/framework/canmeds2015_framework_series_II_e.pdf. Accessed May 4, 2015.
- 26 Maslach C, Leiter MP. *The Truth About Burnout: How Organizations Cause Personal Stress and What to Do About It.* San Francisco, Calif: Jossey-Bass; 1997.
- 27 Drummond D. Physician coach and CEO of theHappyMD.com. Personal communication (via telephone conference call). March 6, 2014.
- 28 West CP, Dyrbye LN, Rabatin JT, et al. Intervention to promote physician well-being, job satisfaction, and professionalism: A randomized clinical trial. *JAMA Intern Med.* 2014;174:527–533.
- 29 Fortney L, Luchterhand C, Zakletskaia L, Zgierska A, Rakel D. Abbreviated mindfulness intervention for job satisfaction, quality of life, and compassion in primary care clinicians: A pilot study. *Ann Fam Med.* 2013;1:412–420.
- 30 Regehr C, Glancy D, Pitts A, LeBlanc VR. Interventions to reduce the consequences of stress in physicians: A review and meta-analysis. *J Nerv Ment Dis.* 2014;202:353–359.
- 31 Sood A, Sharma V, Schroeder DR, Gorman B. Stress management and resiliency training (SMART) program among Department of Radiology faculty: A pilot randomized clinical trial. *Explore (NY).* 2014;10:358–363.
- 32 Sinha P. Why do doctors commit suicide? *NY Times.* September 4, 2014. <http://www.nytimes.com/2014/09/05/opinion/why-do-doctors-commit-suicide.html>. Accessed May 4, 2015.
- 33 Peters M, King J. Perfectionism in doctors. *BMJ.* 2012;344:e1674.
- 34 Balch CM, Shanafelt T. Combating stress and burnout in surgical practice: A review. *Thorac Surg Clin.* 2011;21:417–430.
- 35 Thomas NK. Resident burnout. *JAMA.* 2004;292:2880–2889.
- 36 Schumacher DJ, Slovin SR, Riebschleger MP, Englander R, Hicks PJ, Carraccio C. Perspective: Beyond counting hours: The importance of supervision, professionalism, transitions of care, and workload in residency training. *Acad Med.* 2012;87:883–888.
- 37 Granek L, Tozer R, Mazzotta P, Ramjaun A, Krzyzanowska M. Nature and impact of grief over patient loss on oncologists’ personal and professional lives. *Arch Intern Med.* 2012;172:964–966.
- 38 Pettinelli JD. Associate professor of medical family therapy. Personal communication, in conversation. Saint Louis University. June 2014.

Downloaded from <http://journals.lww.com/academicmedicine> by BnDMfsePHkav1zEoun1tIQN4a+kULNEZgbslHo4X M0hCwCk1AWnYQpII0rHD3D0D0dfy7TtSFACI3VCAj/OA/vbDDa8k2+Y80H515KE= on 08/24/2023

- 39 Jennings ML. In a drafty call room, a miracle unfolds. *Curr Psychiatr*. 2014;13:e1–e2.
- 40 Perrewé PL, Zellars KL, Rossi AM, et al. Political skill: An antidote in the role overload-strain relationship. *J Occup Health Psychol*. 2005;10:239–250.
- 41 Kane L, Peckam C. Medscape residents salary and debt report 2014. August 2014. <http://www.medscape.com/features/slideshow/public/residents-salary-and-debt-report>. Accessed May 4, 2015.
- 42 Sunshine J. The residents rise up: How Congress and colluding hospitals take advantage of doctors in training. *Slate*. http://www.slate.com/articles/health_and_science/medical_examiner/2014/05/medical_residents_pay_doctors_in_training_are_organizing_for_collective.html. Published May 20, 2014. Accessed May 4, 2015.
- 43 Collier VU, McCue JD, Markus A, Smith L. Stress in medical residency: Status quo after a decade of reform? *Ann Intern Med*. 2002;136:384–390.
- 44 American Association of Medical Colleges. Physician education debt and the cost to attend medical school: 2012 update. February 2013. <https://www.aamc.org/download/328322/data/statedebtreport.pdf>. Accessed May 29, 2015.
- 45 American Association of Medical Colleges. Medical student education: Debt, costs, and loan repayment fact card. <https://www.aamc.org/download/152968/data/>. October 2014. Accessed May 4, 2015.
- 46 McNeeley MF, Perez FA, Chew FS. The emotional wellness of radiology trainees: Prevalence and predictors of burnout. *Acad Radiol*. 2013;20:647–655.
- 47 Shanafelt TA. Enhancing meaning in work: A prescription for preventing physician burnout and enhancing patient-centered care. *JAMA*. 2009;302:1338–1339.
- 48 Berger JT. Moral distress in medical education and training. *J Gen Intern Med*. 2014;29:395–398.
- 49 Leiter MP, Frank E, Matheson TJ. Demands, values, and burnout: Relevance for physicians. *Can Fam Physician*. 2009;55:1224–1225, 1225.e1.
- 50 Rosenbaum JR, Bradley EH, Holmboe ES, Farrell MH, Krumholz HM. Sources of ethical conflict in medical housestaff training: A qualitative study. *Am J Med*. 2004;116:402–407.
- 51 Billings ME, Lazarus ME, Wenrich M, Curtis JR, Engelberg RA. The effect of the hidden curriculum on resident burnout and cynicism. *J Grad Med Educ*. 2011;3:503–510.
- 52 Lee RT, Seo B, Hladkyj S, Lovell BL, Schwartzmann L. Correlates of physician burnout across regions and specialties: A meta-analysis. *Hum Resour Health*. 2013;11:48.
- 53 Schneider S, Kingsolver K, Rosdahl J. Physician coaching to enhance well-being: A qualitative analysis of a pilot intervention. *Explore (NY)*. 2014;10:372–379.

Downloaded from <http://journals.lww.com/academicmedicine> by BhDMf5ePHkav1ZEoun1tQIN4a+kULNEZgbsllHo4X M0hCwCk1AWnYQpI10rHD33D00dRy7TVSFAC13VC4/OAVpDDa8k2+Y6H515KE= on 08/24/2023