Educator Well-Being in Academic Medicine

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Foreword

Since its inception the American Medical Association's Accelerating Change in Medical Education Consortium has made innovation that improves medical education—and, ultimately, patient outcomes—a driving objective. Well-being, with a particular focus on medical students, has long been important to this work. With the onset of the COVID-19 pandemic, however, it became clear educator well-being needed to be part of the fundamental calculus.

Much as the ongoing pandemic highlighted cracks in many American societal structures and institutions, it exposed cracks in the medical education system. In real time, and in real ways, we have learned educator well-being efforts are too often under-resourced. When the pandemic emerged early in 2020, many of those inadequacies were revealed as educators had to pivot to teaching virtually, which was novel for many. Those who were also clinicians were pulled away from educational duties to care for the increasing number of patients with COVID-19. Educators without clinical duties often had to cover some of the educational and academic responsibilities of those whose clinical workload had expanded. Everything during the pandemic required a greater cognitive load, and there was more to come.

The murder of George Floyd in May 2020, and the deaths of other Black people as a result of police action, increased the focus on structural racism. This, in turn, contributed to additional educator stress as those from historically excluded groups, while still processing their own experiences to these horrific events, were asked, implicitly and explicitly, to participate in addressing these difficult challenges. Many faculty from dominant cultures also experienced the increased need to grapple with structural racism personally and in their official roles, but often the lacked training to do so effectively.

The stresses of the pandemic and increased attention to social injustice formed a perfect storm, one that placed medical education at increased risk of losing core educators. The consortium chose to lean into the moment, seeking to gather and understand the spectrum of issues and points of view needed to shape a well-informed response.

This book, *Educator Well-Being in Academic Medicine*, which is a partial extension of the consortium's early discussions and activities, presents the work of experts from across the country who have studied, planned and implemented educator well-being programs in undergraduate and graduate medical education. The authors and editors provide concrete, systems-based solutions to better support the educational mission, and by extension, educator well-being.

We are pleased to offer this book and look forward to learning about your experiences in improving educator well-being at your institution.

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Preface

The American Medical Association is deeply invested in supporting the well-being of physicians and endorses the objectives of the Quadruple Aim: improving the health of populations, enhancing the patient experience of care, reducing the per capita cost of health care and improving the work life of physicians and other health care professionals.[1]

Many well-being initiatives, whether targeting practicing physicians or those in training, focus on the attributes and resilience of the individual. The AMA, recognizing that negative work environments cannot be overcome by individual resilience alone, continues to press vigorously for organizational and systems-level changes, including those that will have a direct and positive effects on medical education. Removing obstacles to care, such as burdensome documentation or inefficient workflows, allows physicians to concentrate their efforts on the needs of patients and communities. Programs such as the AMA's STEPS*forward* offer pragmatic strategies to refine practices and improve organizational culture to support well-being.

Health care systems and medical education institutions and programs have a duty to attend to workforce well-being. It is both the right thing to do and the fiscally responsible approach to take. Burnout can be very costly to an organization. For example, physicians who experience burnout are twice as likely to leave their organization,[2,3] with the estimated costs to replace a single physician ranging from $500,000 to $1.3 million. Across the U.S. health care system, physician burnout is estimated to cost approximately $5 billion annually.[4,5]

This ties back to the well-being of educators in medicine—a topic that does not get enough attention. Just as the well-being of physicians is foundational to optimal clinical care, the well-being of educators is foundational to optimal learning environments. The AMA Accelerating Change in Medical Education Consortium has modeled its efforts to support well-being in the medical education setting after many of the organizational strategies the AMA has applied to physicians in the health care setting. Paralleling the framework and principles established for care providers, members of the consortium outlined the unique needs of educators and generated a preliminary guide in February 2022 (reprinted in the Appendix) for protecting the educational mission. That was an important first step. This book takes those efforts and insights to the next level by providing greater actionable detail to guide organizations dedicated to supporting the educators who cultivate our future health care workforce.

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Letter from the editors

Dear Readers,

We are pleased to present *Educator Well-Being in Academic Medicine*. The idea for this book emerged from a thematic discussion series hosted early in 2021 by the American Medical Association Accelerating Change in Medical Education Consortium. The series, entitled "Supporting Medical Educators During Disruption and Beyond," saw more than 60 different medical institutions participate in active discussions that identified the need to better address the value of medical education and the well-being of educators. The COVID-19 pandemic, which remains an ongoing concern, highlighted the fact that educator well-being has not received the attention it deserves and has not been formally addressed.

We are deeply committed to the educational mission of academic medicine and to playing an active role in addressing the issue of educator well-being. It is clear that if we are to tackle the systemic and cultural issues that impact educator well-being, our efforts must be inclusive of both clinical and nonclinical educators from allopathic and osteopathic institutions and across the undergraduate and graduate continuum. Only then can we ensure that individual educators remain well and flourish as they make invaluable contributions to educating our future scientists and physicians.

With this in mind—and to honor our personal commitment to support a healthy, diverse and inclusive workforce where education is valued—we reached out to colleagues from across the continuum to provide expert lenses and guidance regarding the issues in academic medicine that need attention and action.

Our goal in creating this book is to provide administrators and leaders in academic medicine with a unique, solutions-focused guide for taking the needed steps at their institutions to ensure educators feel valued and the educational mission is uplifted and sustained. Grounded in evidence-based research and through personal narratives and lived experiences, the book chapters offer recommendations and guidance that are not only meant to resolve issues of well-being at the institutional level, but also to help heal U.S. medical education at the systems level, which we believe can only be achieved by supporting inclusive practices and policies.

We encourage readers to use this book as a guide to enrich educator well-being, both individually and collectively, and to further the discourse on systemic well-being in U.S. medical education. As co-editors, we take this opportunity to express our gratitude to the AMA, the authors and reviewers, and the many other individuals for their assistance in bringing this effort to life. We are proud to offer this book and feel strongly it

has the ability to be a seminal work that contributes to the body of literature focused on making academic medical institutions systemically well.

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Introduction

The well-being of educators is of paramount importance if academic medicine is to fulfill its role in producing a diverse and flourishing health care workforce. This publication articulates many of the issues—whether historical, structural, cultural or financial—that impact educator well-being and, in turn, influence educator efforts to meet the needs of students, institutions and patients.

Well-being can (and should) be characterized in many different ways. It is often viewed as a state of being or an experience. Far less often is it viewed as an *action*, which in fact may be the most relevant way to represent the role and impact of well-being in academic medical education. Well-being comprises many different facets, some often used as a preface or framework: emotional, social, cultural, psychological, financial, professional and personal—all have very different meanings and implications. It is critical to understand these and other frameworks and lenses if we are to design solutions that promote well-being. While these facets share many things in common, they also have unique contributing factors and often require divergent solutions.

Suppose well-being is indeed an action as well as a state of being. If this is the case, it cannot be achieved without intentional, sustained effort and support on the part of health systems, undergraduate and graduate medical education institutions, and individual educators. As an action, well-being shapes educators' capacity to engage emotionally and intellectually. It contributes to their motivation, sense of satisfaction and, ultimately, effectiveness and ability to achieve success. So, what should the well-being efforts of the health system, the medical education continuum and individual educators look like? Does the medical education system know enough to define, let alone address, well-being and the challenges educators face?

Additionally, the body of educators is broad and diverse. It is composed of individuals from a wide variety of communities, and each educator may embody multiple identities. For example, an educator who identifies as transgender and a member of a historically excluded racial and/or ethnic community will view well-being in variable and complex ways. If well-being is viewed as the outcome of interactions between individuals and the prevailing environment mediated by an intersectional web of identities, well-being is not one, but many things. Designing well-being solutions necessitates an awareness of how well-being is negotiated by individuals, identities and environmental factors; one size will not fit all.

Medical education as a profession presents its own diverse challenges when it comes to well-being. Educators' work is often invisible or poorly understood by students, administrators and health care systems, creating unique stressors and threats to well-being. The dozens of hours of design that can precede a high-quality instructional event take place in offices and conference rooms long before anyone experiences the event. The rigor that underlies meaningful assessment design and evaluation of sessions, courses, phases and programs is often invisible to those who receive only the reports that distill hundreds of hours of effort and skill.

All of this conspires to create a culture where well-being is experienced in hundreds of different ways yet treated as if a single approach can promote well-being for all. The stressors faced by faculty of color, LGBTQ+ faculty, and women faculty are the result of a combination of factors such as structural racism, prejudice and misogyny that are not just *additive*, but *multiplicative* of the stressors experienced by all educators. Worse, it is often

faculty from groups that have been historically excluded from medicine who are routinely tasked with chairing well-being, diversity, equity and inclusion efforts. This frequently imposed "diversity tax" compounds threats to well-being. The solutions to these and other problems must therefore be enlightened and diverse.

So, given these challenges how can an organization hope to embrace this complexity in a meaningful way? This publication is part of the answer. One of the key messages we hope readers will take from this book is that it is both impractical and counterproductive to assume well-being can be universally defined or that solutions can be transferred from one context to another without modification.

The content of this publication offers several views on well-being, from theoretical and conceptual perspectives to experiential narratives. It also adopts a systems view of the topic and proposes steps medical education organizations can take to define and begin to address well-being's cultivation. Chapter 1 provides the framework for the book by examining the value of education to the mission of academic medicine and the impact it may have on educator well-being. The authors discuss the challenges facing both basic science and clinical educators.

Chapter 2 considers the impact on well-being of the conflicting structural priorities present in academic health centers. For example, new faculty may be expected to model well-being and create a nurturing environment for students while experiencing personal burnout from the stressors of learning to be an effective teacher and establishing a research and funding portfolio. Chapter 3 focuses on the additional burdens placed on educators to simultaneously fulfill multiple roles across clinical care, research and administration in response to the bigger picture of academic medicine.

Chapter 4 shares a series of narratives that depict the challenges faced by educators from historically excluded groups and the impact those challenges have had on their well-being. These unique threats to well-being intersect and interact with those of being an educator. Chapter 5 discusses the challenges present in the intergenerational culture of medical education environments with specific emphasis on issues such as diminished autonomy, lack of faculty development and isolation.

Lastly, Chapter 6 explores the challenges inherent in the measurement of well-being. It provides an overview of the strengths and weaknesses of several conceptual frameworks, as well as the challenges inherent in data analysis and application of results. These frameworks will be more effective for some organizations than others and while not comprehensive, they highlight the need to operationally define well-being in a way that embraces the unique cultural climate of an institution. Each chapter offers thoughtful solutions to address the issues that are explored.

We recognize there are many audiences for this publication and that each will view well-being from a different perspective. This book attempts to provide as many perspectives as possible, including undergraduate medical education, graduate medical education, health care systems, administration, faculty and staff. It addresses issues faced by allopathic and osteopathic educators as well as those teaching basic science and clinical science.

It is not possible to fully address every context for medical education and well-being. However, we hope the approach the authors have used will provide readers with the tools and insights to conduct their own analyses and definitions of well-being at their institutions and to use the results to develop customized solutions well aligned with the culture and climate of their organizations.

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Chapter 1: Value of education to the institutional mission

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Chapter Summary

We can imagine a future where our most talented and inspiring medical educators have decided it is no longer worth it to teach. A future where, because the well-being of educators has not been adequately addressed, the health system risks losing the individuals who are unequivocally needed to educate the future workforce. We believe explicit changes to how institutions value educators, and the work done to advance the education mission, is paramount to the future sustainability and success of the national health care system. In this chapter we highlight the misalignment of current measures of educational success with the culture that we aspire to work within. We outline major challenges facing foundational science and clinical educators using an organizational framework proposed by Bolman and Deal.[1] We conclude by delineating specific changes we believe can help demonstrate the value of educators to institutions. Implementing these adaptations can aid in preserving educator well-being and help to positively transform the culture of medicine.

This introductory chapter helps set the stage for the book, highlighting numerous key issues that are central to the conversation about medical educator well-being. Through the lens of how educators and education are valued at institutions, we touch on components that are further explored in subsequent chapters, including: institutional structure (Chapter 2), functions that are characteristic of academic medicine (Chapter 3), concerns around diversity, equity and inclusion (Chapter 4), challenges relating to the intergenerational culture of medical education (Chapter 5), and the importance of measuring educator well-being (Chapter 6).

Introduction

The issue of physician well-being is increasingly in the public eye. That said, not all who educate medical students, residents and practicing physicians are physicians themselves, although much can be gleaned about educator well-being from data measuring the well-being of physicians. Equally as important, and intertwined with educator well-being, is the issue of how medical education and medical educators are valued.

The direct cost of physician burnout is estimated at $4.6 billion due to physician turnover and reduced clinical hours.[2] Competition for extramural funding to support the research mission of academic institutions is only increasing, and teaching continues to be undervalued at many institutions.[3,4] Pervasive practices of unfunded expectations for educators to teach students and graduate trainees, on top of full clinical and research workloads, are contributing to the challenges of educator well-being.[5] Further, the indirect costs to institutions may be an even greater burden on the health system. How can our medical scientists afford the time to invest in uncovering the next scientific discoveries, yet still devote time and effort to developing the educational skills needed to teach and mentor medical and graduate students? With physician burnout rates approaching 50% or higher,[6] the negative implications of burned-out educators as role models for medical students, graduate students, residents and fellows may have a far greater impact on the profession's future. We can imagine a future where the most talented and inspiring medical educators suddenly decide it is no longer worth it to teach because of the pressures to generate clinical revenue, balance time commitments for other administrative demands, acquire grants and disseminate research outcomes. The risk of not addressing the tension between

how faculty contributions to education are valued versus clinical productivity and research is high. As such, we propose a broad approach to thinking about the value and the well-being of educators as necessary components for the future sustainability and success of the medical education enterprise.

This chapter describes commonly used measures of medical educator value that are currently in place. We propose more meaningful metrics that will help achieve the desired culture in medical education. We further and intentionally focus on how the value of medical education, and valuing of educators, impacts educator well-being in ways that are relevant to health system leaders (e.g., CEOs, CFOs), academic undergraduate medical education (UME), graduate medical education (GME) leaders (e.g., deans, department chairs, program directors), and educators. The ability for all key stakeholders to understand the downstream consequences of insufficiently valuing medical educators, or the education mission, is paramount to ensuring academic medicine's future success.

Defining and Measuring Value

In his seminal paper, "What is Value in Health Care?" Michael Porter defines value as the desired patient outcomes divided by the cost to achieve those outcomes.[7] Similarly, in medical education, value can be defined as the sum of the quality of the education plus the experience of learners and educators, divided by the cost to deliver medical education (Fig. 1.1).[8] The costs, however, are not just that of the buildings, supplies, and staff and faculty time. Importantly, they also include the cost to educators and their well-being as they invest their efforts to advance the education mission, which is not consistently recognized, rewarded or supported across institutions.

$$V = \frac{Q + E}{\$}$$

where V = Value, Q = Quality, E = Experience, $\$$ = Cost

Fig. 1.1: Value Equation for Medical Education

W. Edwards Deming is commonly quoted: "Every system is perfectly designed to get the results it gets," which highlights the importance of focusing on and defining the results that are the most crucial to achieving the educational and medical culture we hope to work in. Academic medical centers and health systems highly prioritize clinical productivity, quality rankings, extramural grant funding and growing research space. National rankings of medical schools, in part, hinge on higher applicant-to-acceptance ratios, applicant grade point averages and medical college admissions test (MCAT®) scores,[9,10] which run counter to institutional efforts to improve diversity, equity, belonging and inclusion. United States Medical Licensing Exam® (USMLE®) and Comprehensive Osteopathic Medical Licensing Examination of the United States (COMLEX-USA) performance is also commonly used to compare the strength of students, and in aggregate, the programs, yet work against those favoring less emphasis on standardized test taking skills and efforts to achieve a diverse workforce. Altogether, the aforementioned measures do not necessarily contribute to high quality medical education programs. In this chapter, we outline the importance of measuring the scholarly approach to medical education

that fuels the continuous quality improvement of the enterprise. Quantifying the financial support of educators, and making it transparent and equitable, not only signals the importance of educator expertise to the education mission of academic institutions, but also signals the value of the education mission to the broader community. Resourcing and creating high regard for educator communities is vitally important. It encourages faculty engagement in educator training initiatives. Further, it creates an inclusive culture where faculty are more apt to feel safe in exploring educational innovations, which is critical to improving education practices. Perhaps most importantly, we emphasize the need to cultivate environments that value educator job satisfaction (balanced with learner satisfaction) and ensure faculty advancement and recognition for their impact as scholarly teachers, curriculum developers, assessors, leaders, mentors and coaches.[11-16]

Current State, Key Challenges

Funding issues in medical education—Costs, revenue and value

The current financial state of medical education poses many challenges for medical schools, but academic centers and medical schools can work in partnership to advance medical care. Many academic medical centers face significant financial pressures that have been exacerbated by the COVID-19 pandemic, and the pressure on educator productivity has increased.[17] In UME, where educators have been historically underfunded for teaching and course leadership positions, increasing or even maintaining appropriate levels of support may be challenging. In GME, Accreditation Council for Graduate Medical Education (ACGME) requirements mandate protected time for residency program directors. As a result, GME directors perhaps face fewer challenges in being funded and have more protected time to carry out their education and administrative duties than their UME colleagues. However, GME allows residents and fellows who earn salaries at a lower price point to provide expensive patient care and revenue for academic centers. Administration in these centers may view physicians-in-training as an expense with little revenue potential and may be hesitant to make significant investments that support resident education beyond what is required to meet accreditation standards. Zinoviev et al.[18] found that GME funding may not increase the financial stability of a hospital. This research also found that hospitals receiving more GME funding had lower financial standing than those that did not receive such funding or received less of it. Further, the loss of clinical revenue as a result of educational responsibilities will likely be reflected in further loss of support for the education mission beyond GME, including teaching and research support. These tensions between the health care system and medical education need to be considered as a part of any potential solutions.

Inadequate integration of education into the health care system and lack of educators' voices in decision-making

Physicians and scientists may perhaps view the health care system as a black box[19] because they have limited insights into the drivers that influence how health systems operate and how system leaders make decisions. Though medical education programs are central to academic medical centers, medical educators tend not to be well-integrated into the teams that influence decision-making at the systems level, which is another example of how the voice of the educator is not heard or valued. Consequently, educators often hold little sway in the decisions that can impact education, resulting in potentially profound negative impacts on education goals, clinical and non-clinical educators and, ultimately, learners.

Insufficient leadership training for clinical and foundational science educators

Patient outcomes are improved with effective physician leadership.[20] Physicians-in-training need to be prepared for informal or formal leadership roles once their training is complete. Sadowski et al.[21] conducted a systematic review on existing literature of GME curricula related to leadership development. They concluded that GME leadership curricula are heterogeneous and limited in its effectiveness. Similarly, many foundational science educators are thrust into leadership roles in medical education without significant leadership training.

Lack of time for scholarship

Many educators struggle to find adequate time in their busy schedules to participate in scholarly activities. Scholarly activities may include, but are not limited to, developing grant proposals, submitting peer-reviewed journal articles (or other academic publications), and/or presenting at professional conferences.[22] Zibrowski et al.[4] explored the insufficient time barrier in more detail and concluded that many educators are only able to devote negligible amounts of time to academic scholarship. The time-related factors involved three themes: fragmentation (i.e., Opportunities to work on education projects are sporadic.); prioritization (i.e., Work responsibilities compete for time, and there is difficulty in securing financially compensated time.); and motivation (i.e., This is directly impacted by the limited degree of recognition, support and funding for education work by department and institutional leadership.). Additionally, the lack of institutional funding is a major barrier to scholarly engagement since some educators need additional support for such things as data analysis, an area of expertise that many educators lack. Education grants are few and difficult to find, and the payment is significantly lower than for National Institutes of Health (NIH) grants. The education grants that exist are highly competitive, and there is often a lack of formal grant-writing training.[23] Further, many institutions de-prioritize education grant submissions since there are typically lower indirect costs that benefit the institution.[24]

Insufficient training and funding to carry out education research and scholarship

Many educators with leadership roles have had little to no formal training in academic research, which may hinder their productivity and academic advancement. Government and private financial support for education development remains inadequate and is dwarfed by grant support for biomedical research. If the U.S. health system is to further advance medical education, increased grant support for education research is of vital importance.

Lack of diversity, equity, inclusion and belonging in medicine

By 2060, more than 50% of Americans will identify as a race other than white; however, in 2018, fewer than 12% of physicians were from groups that have been historically excluded from medicine.[25] Within health care leadership, the numbers are worse with 98% of health care organization leaders being white. According to the Association of American Medical Colleges (AAMC),[26] as of 2018 fewer than 4% of full-time faculty in medical schools identified as Black or African American, and fewer than 6% identified as Hispanic, Latinx or of Spanish Origin. Further, these faculty face different barriers and challenges to success and well-being.[27] As discussed further in Chapter 4, these low numbers and unique challenges can have a negative impact on the presence of a diversified health care workforce, which includes medical students, physicians-in-training and faculty. The well-being of educators from groups that have been historically excluded and marginalized represents an area that needs specific solutions.

Opportunities and Solutions

Shanafelt's work has highlighted the importance of enhancing meaning in work as a mechanism to increase physician satisfaction and reduce burnout.[28] Other researchers have identified the best predictors of educators feeling energized and vital at work due to feeling a sense of belonging, having strong relationships with colleagues and having institutional support for their career development.[29-31] In this section we propose ideas organized and informed by the four frames outlined by Bolman and Deal[1] (Fig. 1.2): structural, human resource, symbolic and political. We emphasize the values of transparency, equity, support, community, training and recognition as fundamental to ensuring educators feel valued, sustained and, ultimately, well while working in medical education. We deliberately present a host of ideas and suggestions hoping to appeal to a broad spectrum of institutions and leaders. Some may be perceived as quite lofty and others ostensibly simple to implement. Others may be feasible with some modifications, and several are discussed in more detail in subsequent chapters. Altogether, we feel these represent a comprehensive set of evidence-based actions that can be taken to advance educator well-being.

Fig. 1.2: Four frames of organizational excellence informed by Bolman and Deal[1] structural, human resource, symbolic and political.

Structural

Funding medical education

Understanding the flow of funds in academic medical centers is anything but simple. Arguably, it is often only well understood by those at the higher levels of the organization. This may not be well-communicated or made transparent to educators and is certainly not consistent across institutions. For educators to feel valued, and for the education mission to be perceived as valuable (rather than a money-losing endeavor), institutions might consider the following to improve how educators feel about the value they bring to the institution:

- **Protect time and provide transparency**

  For faculty who are involved in educational activities, their time should be supported (both in teaching and in training), and the level of support, including how it is derived, needs to be transparent. Much like the ACGME delineates required levels of protected time for residency program directors,[32] medical schools can identify a broad array of core roles and expected effort for educators to ensure the optimal design and delivery of the UME program. While the Liaison Committee on Medical Education (LCME) does not currently dictate requirements for support of teaching faculty, this could be an area for future advocacy, whereby accreditation requirements could expect transparency and clear financial support of educators to have protected time to teach and direct major components of UME programs.

- **Track and communicate**

  For those who receive significant support, education leaders should generate regular reports of education productivity and communicate the quality and value of educators' efforts to division leads, department chairs and supervisors. The actual time commitment and performance outcomes influenced by educators should be made clear to highlight the value of the educators and their contributions to achieving the goals of the education mission.[33]

- **Prioritize equity for educators**

  The support for faculty time required to engage in the education mission should, at minimum, be consistent across faculty devoting significant effort to education. Consideration should be given to how to ensure equity in remuneration for contributions to other mission areas (i.e., research, administration, clinical). Faculty often feel disincentivized to teach (i.e., are expected to spend their evenings and weekends preparing for education activities to preserve clinical time and revenue generation).[4] Gender-based pay inequities remain an important challenge for female educators. Clinician-educators may opt for greater schedule flexibility offered by having a mixture of clinical and education roles in their professional lives. Reducing salary disparities between male and female clinician-educators will help institutions appoint and retain quality female clinical faculty who choose careers in academic medicine.

  Similarly, institutions must also ensure an equitable pathway to appointing and retaining non-clinician educators. Leaders should consider compensation plans that reward non-clinician educators just as those with active labs and grant funding. At the same time, leaders should recognize the incredible challenge of maintaining active labs and writing grants in the face of increased work responsibilities and expectations. This should also include equitable support for non-clinician educators dedicated to full-time teaching. After all, education is the key to the success of translational science.

- **Provide education about funding**

  We recommend that institutions consider how they can openly share how expenses are allocated and revenues are generated by each mission area to create a culture of transparency, accountability and understanding.[34] Most educators have limited knowledge of how funds flow within an organization. Educating everyone, even at a rudimentary level, about how education is supported can go a long way toward engendering trust. Free, online resources such as those published by the AAMC[35] can be utilized to accomplish this goal.

- **Develop education incentives**

  In the same way that incentives for clinical and research productivity are baked into the culture of an institution and remuneration practices, there should be comparable education incentives. Models for

recognizing, incentivizing and tracking outcomes that meet institutional education goals are best when they are consistent across departments, developed in partnership with educators, communicated to educators and incentivized to advance desirable behaviors (i.e., as opposed to merely accounting for time spent teaching at the cost of education quality).[36]

Promotion process reform

"Not everything that can be counted counts and not everything that counts can be counted." (attributed to Albert Einstein).

While manuscripts and grants are easily countable, the positive impact teaching faculty have on learners can be more difficult to quantify. Satisfaction with promotion progress is lower for clinical faculty who find themselves less likely to be at higher academic ranks and contributes to the increased likelihood these faculty will leave academic medicine.[37-39] Academic medical centers struggle to achieve parity in advancement and promotions between educators and discovery-oriented researchers in part because of narrow definitions of scholarship, lack of clear criteria for measuring excellence and barriers to making education contributions available for peer review.[40] As of 2019, fewer than 10% of U.S. medical schools have thoroughly embraced published recommendations for documenting and evaluating educational excellence.[41] To address the gap in how education is valued in the promotion and tenure process we recommend that institutions implement the following:

- ● **Develop clear criteria**
  Institutions can partner with education leaders and faculty educators to develop clear criteria for promotion based on excellence in education. The specific measures of educational excellence should go beyond papers published and consider the value of taking a scholarly approach to education design, education delivery and the impact on learning outcomes.[11,12] One approach may be to create a standards-based, peer-reviewed teaching award committee to evaluate the impact of education faculty in order to inform promotion and tenure committee decisions.[14] Another is the creation of academies of medical educators. These academies are now highly prevalent in academic medicine and allow those gaining membership a means of demonstrating formal institutional recognition for excellence in education.[13]

- ● **Use consistent guidelines for evaluation**
  The AAMC proposes five core educator domains (teaching, curriculum development, advising and mentoring, education leadership, and learner assessment) and we suggest that each be recognized in the review of faculty for promotion.[15] Furthermore, consistent guidelines for evaluating educator excellence should be utilized by retention, promotion and tenure decision-making committees, such as those proposed by Gusic et al.[16]

- ● **Utilize appropriate tools**
  Educator portfolios (EPs) or annotated curriculum vitae are effective tools for educators to communicate both qualitatively and quantitatively their accomplishments within education. However, the integration of EPs, or the ability to provide sufficient annotation, may require institutions to develop, adapt or acquire new platforms. Further, educators must be prepared to effectively utilize these tools, and reviewers must be trained to evaluate the content using appropriate criteria.[40,42] In spite of such

barriers, these tools have great potential to help re-shape how educators demonstrate, and institutions assess, excellence in education.

- **Representation**
  Education faculty should be represented in all departmental and institutional committees that render decisions for the retention, promotion and tenure of faculty. This ensures adequate interpretation of educator impact and evaluation of excellence which may improve consistency of the application of guidelines across departments and the institution.

Invest in infrastructure, practices and personnel

Central to the origins of burnout in physicians are decreased control over the workload and inefficient use of time due to administrative requirements.[43] To address these common issues, institutions might consider the following opportunities to make meaningful change.

- **Mitigate clerical burden**
  Hiring and assigning sufficient staff to support educators to eliminate non-essential tasks (e.g., organizing learning materials in learning management systems, messaging learners about course changes) is an opportunity to allow educators to focus on teaching and assessment roles that will likely improve job satisfaction.

- **Invest in technology**
  Investing and training educators in the use of easy access/user-friendly education technology and tools that allow the quick completion of required tasks (e.g., applications that can be easily loaded and completed on portable personal devices). Personnel focused on maintaining up-to-date knowledge of new technology that helps programs keep pace with emerging tools making educators' lives easier (and teaching and learning better) further demonstrates institutional commitment to promoting educator quality of life.

- **Eliminate inefficient workflows**
  Opportunities to improve educator efficiency can come in multiple forms and some of the most impactful fall in the following areas.
  - Electronic health records (EHRs): Providing robust training and practice for learners to utilize and navigate EHRs in advance of arriving in clinics and hospitals will eliminate the need for educators to guide and train new learners in the use of this critical tool.
  - Restructure learner assignments to allow longitudinal relationships to develop with educators, staff and sites (and the technology), as is the case with longitudinal integrated clerkships to substantially reduce the load on educators in this domain.
  - Documentation: Learning how to document patient encounters is a critical skill for early medical school learners. Integrating training and time for learners to take on documentation roles (e.g., scribes) in patient care settings from the outset of the training experience can decrease the burden on faculty and serves an important purpose in the education program for junior trainees.
  - Create value-added roles for learners: Capitalize on ways for learners to contribute to the system by 1) integrating students into quality improvement (QI) initiatives that improve clinical workflows and patient outcomes 2) allowing learners to assist with standardization of EHRs for QI initiatives and projects, and 3) training and deploying students as near-peer educators for more junior

students assigned to the same clinical sites. These strategies can increase learner site capacity while maintaining appropriate balance with educator effort and time for teaching.[44]

- **Invest in infrastructure to support education research**

  Clinical and foundational science faculty are typically well versed in the execution of clinical and bench research, and by comparison, funding opportunities in these domains greatly overshadow that available for education research. As a consequence, educators are often ill supported or trained to design, execute and successfully publish education research and are further hampered by the comparatively fewer avenues for disseminating their scholarship. Institutions should consider adopting the following to ensure the success of faculty in producing scholarly products:

  o Support the design and implementation of education research labs or centers to provide a framework to support the careers of educators in carrying out high quality education research.[45] These centers can provide statistical and grant writing support.

  o Create academies of medical educators that are well designed and resourced. This can be a powerful central institutional resource for development of faculty skills in research, providing cross-disciplinary mentorship and creating spaces for collaborative education projects.[51]

  o Advocate for a greater number of and more significant funding structures in support of education research (e.g., create awards comparable to the NIH RO1 grants, which largely favor bio-scientists, such as EO1s that would elevate education research to a similar stature as that of clinical and foundational science research). Possibilities include training grants aiming to produce future scientist and clinician educators similar to the NIH sponsored T35s or grants like the NIH R21s to fuel innovative teaching approaches and initiatives. Together these could greatly enhance institutional hunger to support education research as well as faculty and trainee development in education.

  o Invest in personnel who are experts in grant-writing and who will lead teams in being aware of funding opportunities, maintaining timelines and supporting education investigators. This effort can fuel the acquisition of extramural funding and grow the education research enterprise.

Human Resource

Institutions that prioritize understanding and working to meet educators' needs, while ensuring learners' needs are also met, will stand a higher chance of sustaining educator well-being. Affording educators the time and space to build community, have autonomy, feel empowered to do their roles well and grow professionally will further the cause. We suggest that institutions:

- Offer and guide educators toward comprehensive offerings of high quality, easily digestible professional development/training to meet their needs with consideration for differences across UME and GME. Sources both within and external to the institution are valuable. External programs for professional educator development such as those available through the Macy Foundation, International Association of Medical Science Educators and the AAMC can enhance the ability of educators to develop professional networks. Internally developed programming can meet the specific needs of educators tailored to institutional priorities and can be tightly aligned with program quality improvement efforts.
- Create communities of practice that can guide the development of interventions to make medical education more effective. These can help educators and learners better cope with medical education's

complexity and simultaneously create a welcoming community with an emphasis on explicitly addressing role modeling, mentoring and reflection.[49]

- Develop peer coaching programs that can further meet the needs of educators and may enhance teaching effectiveness. Embedding programs in the workplace setting and into routine workflows further increases access and feasibility for educator participation.[50] Incorporating peer feedback instead of primarily learner feedback into overall evaluations of educator effectiveness helps mitigate educator hesitancy to explore contentious or unpopular topics and can alleviate concern around trying out new or innovative approaches to teaching and assessment.[47,48]
- Commit to measuring the well-being of educators. Partnering with educators to devise plans and strategies to improve well-being when it is low demonstrates the commitment of the institution to valuing the importance of educator job satisfaction. Establishing leadership and resources to facilitate action and improvement further emphasizes the importance of educator well-being to the school and institution. Considerations for how to measure educator well-being are discussed in Chapter 6.
- Professional resources to support educators and their well-being, such as mental-health counseling and wellness programs should be available and easily accessible. These are commonly available to learners across the education continuum and there should be parity in offerings for educators. Communities of practice focused on educator well-being and peer support may also be particularly effective and can provide a supportive environment for educators to work through the challenges they face in education.

Symbolic

The symbolic domain addresses the importance of recognition, meaning, purpose, feelings of inspiration and a sense of community. Institutions, education leaders and educators should ensure the following are well integrated into systems as they bear significant weight in promoting the value of educators.

- **Recognition**
  Recognizing educator contributions is symbolically important as it affirms an individual's choice to pursue a path that is meaningful to society and the institution. Highly publicized and celebrated educator awards should be offered and recognize individuals who have made significant impact at the UME and GME level. They should originate from students and trainees as well as from administration and peers to fully emphasize the value of educators to various stakeholder groups. Aligning awards with institutional values further cultivates the behaviors desired among the education community and provides concrete ways for educators to demonstrate excellence for promotion and tenure decisions.
- **Reward**
  The sense of reward that emerges from sharing feelings of impact and inspiration among a community of educators—and with learners—further promotes educator identity development and well-being. Opportunities for educators to reflect and share challenges and successes, as in communities of practice or periodic educator retreats,[49] are potential mechanisms to foster this. Establishing forums and communications to celebrate accomplishments in education, which are on par with scientific accomplishments, can help elevate the importance and recognition for educators at an institutional level.
- **Sense of community**
  Academies of educators can be effective investments that serve to raise the prominence of the education mission and create a community and home for educators.[51] Creating a place of belonging

for educators within a community that shares goals, ideals and a common sense of meaning and purpose can help sustain educators especially in the face of stress and adversity.

Political

The pressures to generate clinical revenue or foundational/translational science research grant dollars are at odds with investing in educators to develop their teaching skills. Financial downturns further strain leaders to match expenditures and revenues to attain the best value for their investments. With value considered in terms of cost, choices are often made for financial reasons rather than institutional goals.[46] To capitalize on opportunities for win-wins in education and the health care system, we suggest the following.

- **Representation**
  Assure routine and broad representation of education leadership and educators on system-level committees to provide a voice in the decision-making process. This is particularly important with regard to decisions about what is financially supported and prioritized (e.g., faculty effort to teach, personnel to support educators, technological investments to mitigate administrative burden on educators).
- **Advocacy**
  o Advocate for the creation of larger, more numerous and higher profile education grants that will bring institutional recognition to education innovation efforts and the faculty that lead and contribute to them.
  o Create guidelines for educator retention, promotion and tenure committees that identify contributions toward the education mission.
  o Invest in people to develop relationships with philanthropic organizations or individuals who may garner financial support for medical education efforts in both public and private medical education institutions. For publicly funded institutions, identify government relations personnel to partner with education leaders to advocate for expanded state appropriations for education efforts.

The well-being of educators is of fundamental importance as it impacts the quality of the education experience for learners across the medical education continuum. Feeling valued and celebrated for education accomplishments are some of the key factors that contribute to educator well-being. We have summarized a host of opportunities to promote educator well-being, utilizing an organizational framework anchored in structural, human resource, symbolic and political domains. Education and institutional leaders can utilize these recommendations to take actions that we believe are evidence-based and comprehensive. The following chapters will further explore the factors impacting well-being as well as the strategies to improve it.

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Case Study 1

Situation

A bench scientist has been studying neuronal development for 19 years and is currently a research associate professor working with a well-established principal investigator (PI). They have done well in the research track, with significant publications and consistent grant funding. They have always been interested in teaching, have formally taught graduate courses and mentored numerous undergraduate and graduate students as well as shared their research in various community outreach sessions. Over the years, their interest in education has

been growing, and they have recognized that they derive the most satisfaction when teaching. At their annual faculty review, this scientist broaches the topic of formalizing their teaching interests by getting involved in teaching medical students with the goal of becoming a full-time medical educator. They ask their department chair for guidance and support in making this transition. Their major concerns are that they do not have formal training in teaching, that they will not have time to devote to teaching and that their current principal investigator will not support them financially for teaching, since they were hired to do research. In addition, they have major concerns about retention, since they are on a year-to-year contract, and about promotion, since the criteria for the research track require evidence for "excellence in investigation."

Approach

The chair suggests that this scientist train up to teach a school of medicine laboratory course under the guidance of the current director, with the goal of taking over his didactic teaching and lab directing duties when he retires in 2-3 years. She also recommends that the scientist become a case-based learning facilitator to gain more experience and to become more involved in medical education. Finally, she recommends a formal track change to address issues of retention and promotion. To help ensure the scientist's success, the chair provides the following support.

- Initiates a conversation with scientist's principal investigator to ensure that they will have protected time for teaching and appropriate financial compensation
- Provides the scientist with a faculty mentoring committee with colleagues who have been heavily involved in medical education to provide guidance on teaching and career
- Sends the scientist to courses and national conferences for formal training in education (lesson and curriculum design, effective instruction methods, assessment, etc.)
- Advocates for the scientist when teaching opportunities arise so that their teaching eventually will be supported at a 1.0 FTE level
- Recommends that the scientist join the institution's Academy of Health Science Educators
- Consults with the office of academic affairs and faculty development to determine requirements for a track change and how to showcase hybrid achievements

Lessons learned

- Provide and fund opportunities for informal and formal training in education
- Support faculty financially during training and teaching
- Connect faculty with mentors to guide career development
- Connect faculty to local and national resources
- Advocate for faculty at departmental and institutional levels

Case Study 2

Situation

An emergency medicine physician graduated from residency four years ago and subsequently completed a two-year fellowship in simulation and medical education. At the completion of the fellowship, she obtained a master's degree in medical education. She is currently a core faculty member in the department of emergency medicine at an urban academic institution. Upon joining as faculty two years ago, this emergency medicine physician became involved in residency education and developed a simulation curriculum for the residency program. She is very interested in medical education and advancing her career in simulation. At the annual faculty review, she expressed her interest in becoming the director of simulation for the emergency medicine

residency program. She then asked the chairperson for guidance and support in obtaining this new leadership position. Her major concerns are lack of protected time to dedicate to the role and lack of funds to develop the simulation program for the department. In addition, she has concerns about her limited research experience as a junior faculty member.

Approach

The chairperson suggests that a formal interview process be set up for the position of director of simulation. The chair has reviewed the responsibilities for the role and states that a percentage of time will be allocated as protected time for the director of simulation role. In addition, the chair recommends creating a specific budget for the simulation program. To gain further research experience, the chair suggests that this emergency medicine physician participate in the departmental monthly research meetings and set up a one-on-one meeting with the department's research director. To help ensure her success, the chair provides the following support.

- Initiates conversation with the emergency medicine residency program director to ensure that she will have an opportunity to apply for the director of simulation position
- Communicates with the director of finance of the department to confirm the protected time allocation for the director of simulation position
- Connects her with colleagues who have been heavily involved in medical education research
- Provides access to a formal institution-wide mentorship program allowing opportunity to connect with mentors who can provide guidance on teaching and career planning
- Recommends that she join local, regional and national organizations focusing on simulation

Lessons learned

- Support faculty with protected time to pursue educational endeavors and leadership roles
- Allocate funds to specific budgets focusing on educational advancement
- Provide and fund opportunities for education research
- Connect faculty with mentors to guide career development
- Connect faculty to local and national resources
- Advocate for faculty at departmental and institutional levels

Take-Home Points

- The low value placed on educators' contributions to the education mission is a problem for the sustainability of the future workforce.
- Educator well-being is directly impacted by how frequently foundational science and clinician educators encounter barriers and disincentives to engaging in education activities.
- We propose numerous actionable ways that institutions can implement to overcome these challenges and ensure the sustainability of medical educators and the education mission and, ultimately, educator well-being.

Solutions

Structural

- Protect time for educators to be engaged in education roles.
- Be transparent about how the education enterprise and education effort is funded.
- Create equity for educators dedicating time to education, and as possible, create equity for faculty time across mission areas (education, research, administration, clinical).
- Offer incentives to educators for quality education contributions.
- Promote faculty educators using clear and consistent criteria recognizing all areas of education excellence.
- Reduce clerical burden and inefficiencies in carrying out education tasks.
- Invest in education research infrastructure and support for educators to carry out high quality education scholarship.

Human resource

- Support professional development in education.
- Create opportunities for educators to form communities of practice and coaching programs to enhance skill building.
- Measure educator well-being and deploy resources to improve it if it is faltering.

Symbolic

- Foster a culture that recognizes and rewards outstanding educators.
- Create a sense of community amidst education-oriented faculty.

Political

- Ensure representation of education leadership and faculty educators on system-level committees to provide an education voice in institutional decisions.
- Advocate for financial support for education efforts and faculty.
- Advocate for more numerous, substantial and high-profile education grants.

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Chapter 2: Institutional structure

Abigail Ford Winkel, MD, MHPE, and Annie Robinson, MS, CHWC

Chapter Summary

Balancing health care, education and finance means that academic medical centers must balance conflicting incentives. To support the thriving of academic medicine, institutions and educators who work with medical students in undergraduate medical education (UME) and residents and fellows in graduate medical education (GME) need alignment between the academic missions of education, research, service and clinical practice. This requires prioritizing faculty development, delineating clear job structures, providing adequate support for job functions, making necessary changes in culture and mentorship, and identifying promotion pathways in financially viable ways. In this chapter, we identify the unique challenges educators face in the systems within which they work, illustrate how paradoxical expectations can compromise educator well-being, and consider institutional interventions that could help foster well-being. Collaboration between educational and clinical leadership and research missions is essential to ensure educator engagement. Educators may feel isolated in addressing their unique challenges. However, these are common problems that can be addressed by common approaches focused on supporting and celebrating the contributions of these highly valuable members of the professional community.

Educators and Institutions: Competing Priorities and Values

Health care institutions focus on educating the future health care workforce and expanding medical science, and educators occupy a wide range of roles.[1] To meet the realities of health care in the 21st century, business models for medical institutions face many challenges. Clinical care accounts for the majority of revenue, with significant contributions from research grants and smaller proportions from tuition, endowments and other sources.[2] Medical educators work in these real-world settings. A substantial number who are responsible for training medical students and residents also typically bear responsibility for clinical productivity. In addition, some educators face pressure to either maintain research funding or effectively maintain their responsibilities as an administrator. Thus, educators may feel pulled between the competing priorities and values of these various roles without adequate support.[1] As discussed throughout this book, health care professionals are at high risk of burnout.[3] Protecting the well-being of clinical and non-clinical educators and preventing the exhaustion, cynicism and low sense of accomplishment associated with burnout is essential. Humans thrive when we feel a sense of self-efficacy, the belief in our own capacity to be successful in our pursuits.[4] Institutional structures must support the self-efficacy and well-being of educators as they juggle their professional commitments. Health care organizations that both value and give structural support to professional well-being will create cultures that reinforce a sense of competency, accomplishment and satisfaction, which results in a thriving workforce.

The prevalence of burnout, its root causes and its extensive consequences are well-documented.[5] The Mayo Foundation for Medical Education and Research identifies seven key driver dimensions that fuel burnout:

1. Excessive workload and job demands
2. Lack of control and flexibility
3. Challenges of work-life integration
4. Inadequate social support and community at work
5. Misalignment with organizational culture and values

6. Inefficiency and low resources
7. Disconnection from meaning in work[6]

These drivers lead to "exhaustion, cynicism, inefficiency."[6] Among the most significant drivers of burnout that educators experience are workload-related demands due to workplace inefficiencies, excessive work and hours, adverse organizational culture, and barriers to work-life integration.[5] In efforts to control the care costs, academic health centers may become overly lean, providing insufficient administrative support to educators. When educators are pulled in so many directions without adequate support, they feel powerless. Since institutions still expect them to fulfill multifaceted job responsibilities, their sense of self-efficacy naturally wavers or even dissolves. Furthermore, employees in competitive institutions may fear retaliation and experience intimidation. When these feelings are potentially combined with ineffective systems of accountability, educators' feelings of helplessness and burnout can be exacerbated.

Further, educators often hold roles related to their clinical or research work that are situated in other mission areas. In some organizations, an office or department of medical education provides oversight for educators, but not all institutions have this structure. Organizational structures in which reporting lines are blurred for educators can result in poor boundaries for job responsibilities and work expectations, as well as challenges negotiating salaries or other benefits. Further, blurred reporting lines and conflicting communication among leaders across different mission areas can potentially leave educators feeling vulnerable and without a psychologically safe space to help resolve problems.

Of particular concern is the potential for educators to experience moral injury. Moral injury is "a particular type of trauma characterized by guilt, existential crisis and loss of trust that may develop following a perceived moral violation."[7] The guilt, shame, existential conflict and loss of trust associated with moral injury may increase the risk of depression, anxiety, substance use disorders and other problems. As researchers work to understand workplace burnout among physicians and other health care professionals, they recognize elements of moral injury as the duties of their professional lives challenge their own values and norms. However, the term "burnout" may not encapsulate the full scope of the emotional distress suffered by health care professionals or point toward the most effective solutions.[8] Continuing to explore the full range of mental health disorders and treatment needed for health care professionals is important to the welfare of the populations they serve.

Importantly, the above-mentioned drivers of burnout can also be considered in the reverse direction, as targets for organizational interventions to improve engagement. When institutions prioritize and value these facets of professional life, educators feel "vigor, dedication, absorption."[6] Supporting well-being not only benefits the individual, but it also improves the performance of the academic health care system.[9] Many institutions have adopted a position of improving access to mental health services for members of the workforce, which both addresses the problem and sends a powerful message about the value of addressing psychological and emotional needs. When institutions address structural issues, it communicates that they acknowledge and care about the needs of the individuals working in that system, which leads to cultural change. A strong leadership commitment to well-being, putting infrastructure in place and measuring the impact of changes provides feedback about interventions. Recognizing and appreciating those who champion necessary changes and being sure to create fair and inclusive programs all contribute to improvements in culture.

A Structure and Culture Supporting Well-Being: A Paradigm Shift

The implementation of well-being interventions requires institutions to shift their priorities from the immediate focus on financial and reputational success to learner and educator well-being. Ironically, burnout and moral distress in the workforce lead to what institutions want to avoid: compromised performance and quality.[9] In studies of physicians and nurses, burnout predicted medical errors, health care-associated infections, patient mortality ratios and poor interpersonal teamwork.[5] The degree of a physician's depersonalization impacts patient satisfaction with the care they receive and the physician's self-reported adherence to medical advice and job satisfaction. In addition, educators dissatisfied with their jobs are more likely to leave those jobs, which results in high turnover and loss of productivity.[10] When institutions do not make necessary systemic changes to mitigate burnout, burnout increases expenditures via higher turnover rates, medical errors, malpractice claims and lower productivity. Thus, a shift is vital for both educators/researchers and institutions for both quality and cost.

The epidemic of burnout in health care indicates that cultural transformation is imperative. However, how can we replace the presiding culture of burnout with a culture of well-being? While researchers have provided valuable insight into systemic interventions, the efficacy of these proposed solutions is contingent upon the whole community enacting a culture of well-being. Cultural norms need not be passed on; institutions can interrupt their transmission, reassess and augment them.[11] Evolving to meet the needs of modern realities will require a re-examination of how leaders and systems transform and what values guide those transformations.[2]

Finally, the COVID-19 pandemic has disrupted the status quo in the lives of educators. While educators have experienced unforeseen challenges to their well-being, these disruptions have provided insights into addressing the existing challenges in medical education. As medical institutions work to manage the complex financial realities of the current era, lean management systems have proven that redundancies exist. Amid faculty and staff attrition, greater work burdens have fallen on those educators who continue to teach in medical education.

Organizational Strategies to Improve Professional Well-Being

Several prominent U.S. organizations have developed conceptual models of professional well-being as roadmaps for individuals and institutions seeking to mitigate, heal and create alternatives to burnout. Along with the Mayo Clinic, institutions like Stanford University and the National Academy of Medicine have embarked on a mission to better understand and develop conceptual models for navigating this national crisis. The Stanford Model

Fig. 2.1: The Stanford WellMD Model
https://wellmd.stanford.edu/about/model-external.html

of Professional Fulfillment[12] illustrates one way that institutions can assess and address well-being issues. (Fig. 2.1). It identifies three dimensions—efficiency of practice, a culture of wellness, and personal resilience—as essential to mitigate burnout and promote fulfillment. The first two are factors that organizations have more control over than individuals do. While many current approaches to addressing well-being focus on the domain of personal resilience through interventions to cope with stressors, addressing structural and cultural issues is more likely to have a lasting impact on well-being.

Similarly, the National Academy of Medicine model of factors affecting clinician well-being and resilience identifies personal factors, skills and abilities that the clinician can control and recognizes the significant contribution of factors outside of the individual's control (Fig. 2.2).[13] These include organizational factors, the learning and practice environment, and other external factors that influence clinician well-being, the clinician-patient relationship, and ultimately, patient well-being. In both models, the balance between what individuals can do and what institutions can do clearly shows a heavier weight of responsibility falling on institutions to create solutions.

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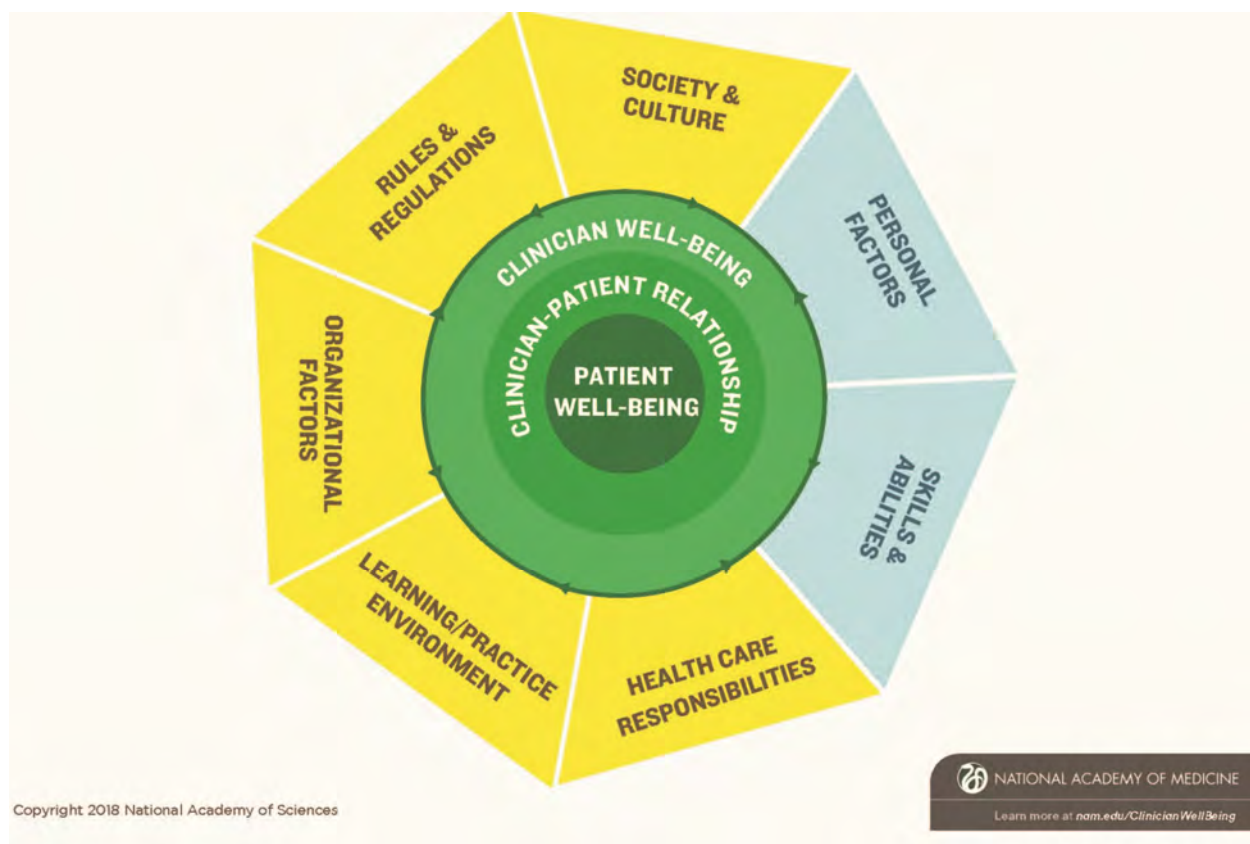
Fig. 2.2: Factors affecting clinician well-being and resilience
This conceptual model depicts the factors associated with clinician well-being and resilience; applies these factors across all health care professions, specialties, settings and career stages; and emphasizes the link between clinician well-being and outcomes for clinicians, patients and the health system. The model should be used to understand well-being, rather than as a diagnostic or assessment tool. Used with permission from the National Academy of Medicine. Learn more at NAM.edu/clinicianwellbeing.

EXTERNAL FACTORS

SOCIETY & CULTURE

- Alignment of societal expectations and clinician's role
- Culture of safety and transparency
- Discrimination and overt and unconscious bias
- Media portrayal
- Patient behaviors and expectations
- Political and economic climates
- Social determinants of health
- Stigmatization of mental illness

RULES & REGULATIONS

- Accreditation, high-stakes assessments and publicized quality ratings
- Documentation and reporting requirements
- Human resource policies and compensation issues
- Initial licensure and certification
- Insurance company policies
- Litigation risk
- Maintenance of licensure and certification
- National and state policies and practices
- Reimbursement structure
- Shifting systems of care and administrative requirements

ORGANIZATIONAL FACTORS

- Bureaucracy
- Congruent organizational mission and values
- Culture, leadership and staff engagement
- Data collection requirements
- Diversity and inclusion
- Harassment and discrimination
- Level of support for all health care team members
- Power dynamics
- Professional development opportunities
- Scope of practice
- Workload, performance, compensation, and value attributed to work elements

LEARNING/PRACTICE ENVIRONMENT

- Autonomy
- Collaborative vs. competitive environment
- Curriculum
- Health IT interoperability and usability/electronic health records
- Learning and practice setting
- Mentorship program
- Physical learning and practice conditions
- Professional relationships
- Student affairs policies
- Student-centered and patient-centered focus
- Team structures and functionality

HEALTH CARE RESPONSIBILITIES

- Administrative responsibilities
- Alignment of responsibility and authority
- Clinical responsibilities
- Learning/career stage
- Patient population
- Specialty related issues
- Student/trainee responsibilities
- Teaching and research

INDIVIDUAL FACTORS

PERSONAL FACTORS

- Access to a personal mentor
- Inclusion and connectivity
- Family dynamics
- Financial stressors/economic vitality
- Flexibility and ability to respond to change
- Level of engagement/connection to meaning and purpose in work
- Personality traits
- Personal values, ethics and morals
- Physical, mental, and spiritual well-being
- Relationships and social support
- Sense of meaning
- Work-life integration

SKILLS & ABILITIES

- Clinical competency level/experience
- Communication skills
- Coping skills
- Delegation
- Empathy
- Management and leadership
- Mastering new technologies or proficient use of technology
- Optimizing workflow
- Organizational skills
- Resilience skills/practices
- Teamwork skills

Institutional Structural Solutions

In 2019, the National Academy of Medicine concluded in a consensus study that institutions should enact a "systems approach to professional well-being" to address systemic and policy changes necessary to foster positive work and learning environments.[13] Research indicates an array of approaches are needed to mitigate burnout and promote engagement, from micro-interventions that provide coping skills and opportunities to process to macro-interventions addressing structural and cultural barriers to well-being (Fig 2.3). Recommended large-scale interventions to improve educational environments include:

- Cutting back the administrative burden from compliance, regulatory and policy mandates that deplete educators by adding time-consuming paperwork that reduces the time and energy they should be devoting to their work and their learners.
- Optimizing technological tools for efficiency and effectiveness to eliminate stress and result in higher-quality work.
- Eliminating barriers that prevent educators and learners from accessing mental health services due to both stigma and access issues.

Supporting educators at medical institutions starts with 1) clear job descriptions, 2) developing available pathways for development and 3) advancement and support for navigating conflicting responsibilities. Job dissatisfaction and attrition result when these needs are not met, and may be higher among educators in clinical roles who bear greater pressure to generate clinical revenue.[9] Further, identifying advocates for faculty who can help clarify boundaries and job responsibilities, negotiate salary, and manage work expectations across activities is essential to mitigate burnout. Effective communication between leadership across different mission areas can inform how best to support educators working within these different capacities. Educators need a psychologically safe space to help resolve problems and to report incidents of mistreatment. It is also important to clearly communicate information about resources available to faculty through human resources or the office of an ombudsperson.
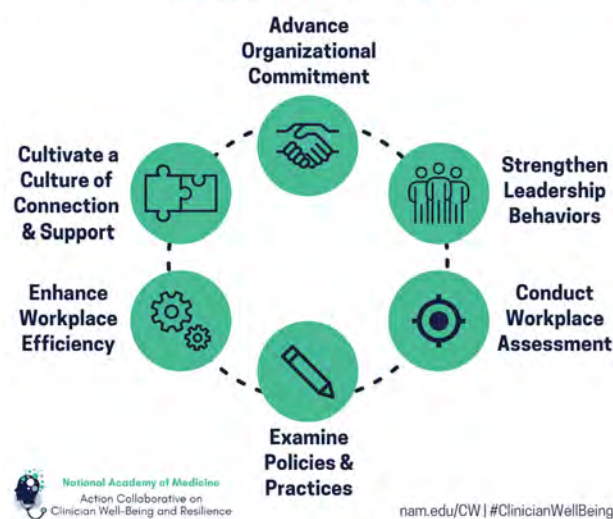
Fig. 2.3: National Academy of Medicine Resource Compendium for Healthcare Workforce Well-Being. https://nam.edu/compendium-of-key-resources-for-improving-clinician-well-being/. Reprinted with permission.

Paths to professional advancement should reflect the importance of these educators to the health of the medical institution. These paths should not narrowly focus on the contributions to research and teaching, as they may not align with the other job duties of educators. As discussed in Chapter 1, promotion pathways play a key role in signaling value to roles occupied by faculty. While research careers remain critical to advancing science and supporting the reputation of academic institutions, expanding pathways to include contributions to

clinical and educational work and defining paths to leadership for those individuals is critical for a flourishing education mission.

Finally, additional steps an organization might take include identifying well-being champions, forming an interdepartmental well-being committee, facilitating narrative medicine sessions, hosting listening sessions with educators and learners to elicit feedback and developing concrete and transparent action plans to address challenges.

Mentoring

Mentorship has played an important role in the development of careers in medicine and has been shown to influence research productivity, promotion, retention and satisfaction across the lifetime of careers.[14] Mentoring can advance the quality of work across research, patient care and leadership; however, mentorship requires time and skill. While mentoring can be a mutually rewarding activity for both the mentor and mentee, a structure to inform and reward mentoring activities is important to ensure that a diverse group of participants get the support they need in their pathway to medicine. Without formal structure, certain groups may identify mentors more easily and receive higher-quality mentorship than others. Specifically, the value of sponsorship (i.e., advocating for concrete opportunities for sponsees) compared to the type of mentorship focused on relationship development and emotional support has been known to influence career success. In addition, women and faculty from historically excluded and marginalized groups may not have equitable access to mentors. Making mentoring a core strategic priority and providing a scaffold and support for this process will result in a better distribution of mentoring throughout faculty than assuming mentoring will occur based on serendipitous connections.

Research into mentoring programs in academic medicine suggests that mentoring programs should include mentor preparation, planning committees, mentor-mentee contracts, mentor-mentee pairing, mentoring activities, formal curricula and program funding.[15] Supporting mentoring programs with adequate resources, setting aside protected time for mentoring activities, and engaging mentees in selecting mentors were critical to successful uptake of mentoring programs. In addition, a well-being plan for educators and trainees alike should be viewed as essential for creative scholarly work by clinical educators and researchers and should be considered in mentoring discussions alongside other goals.

Accounting for Educational Contributions

In addition to the advancement and recognition of the value of contributions across an institution's mission areas, material rewards or incentives for the work of educators hold promise. Financial rewards for educational contributions, sometimes termed "educational value units" (EVUs), have been implemented in some settings to mirror the rewards given for clinical productivity. These systems identify time-based activities that can be counted and rewarded for educational work. Medical institutions that use this type of system report that educators are willing to engage with this type of system, and as a result, a more balanced distribution of educational responsibilities increases across the faculty body.[16] Research regarding the implementation of EVUs across different institutional settings is needed to identify the most effective means of using these systems; however, EVUs lend promise to ensuring that educators are rewarded and not penalized for integrating innovative and impactful educational work into their job duties.

Scholarly Growth and Research Support

Educators in academic centers aspire to contribute to scholarship in addition to their contributions to clinical work and teaching. When a scarcity of resources prevents educators from investing as much as they would like in the academic part of their job, stress and burnout can result. Thus, the success of academic clinicians is critically dependent on the availability of sufficient resources to support their academic responsibilities. Success in academic medicine requires scholarly output, whether it centers on educational or research scholarship. Workshops for the development of grantsmanship skills that focus on National Institutes of Health research and career development awards are typically highly effective, specifically if they include a strong peer and mentor-driven feedback system. Core facilities providing services such as statistical consultation and experimental design are also excellent in promoting rigorous research.

Supporting Mental Health

While progress has been made in recognizing the importance of health care workers attending to their own mental health, high rates of depression, suicide and other mental health problems remain. With barriers such as privacy concerns, reputation risks, licensing and hospital privileges in place, many individuals do not get the care they need for manageable problems. Institutional culture can celebrate attending to mental health care needs as part of professionalism, rather than evidence of weakness. Internal policies and health care plans must support access to mental health services. Efforts must be made to reduce stigma as well as to address licensing issues that can dissuade individuals from seeking necessary mental health care.[17]

Equity and Opportunity

It is critical to enhance workforce diversity to meet the population's needs and address the needs of women and other historically excluded and marginalized groups. Unfortunately, significant gender gaps persist in the representation of women and people of color in the context of medical institution leadership. Multiple studies exploring the influence of gender on careers in medicine suggest that implicit cultural norms of success and leadership are biased towards white, male, cisgender individuals.[18] Women in particular are at higher risk of burnout navigating their professional lives.[19,20] Barriers impede the academic medical careers of Black, Indigenous and people of color (BIPOC). These issues include the "diversity tax," which is the expectation that BIPOC educators must bear the responsibility of mentoring others; serving as the sole representatives of institutional-based diversity, equity and inclusion issues; seeing more historically excluded and minoritized patients; and ultimately shouldering heavier clinical loads.

Additionally, the distance traveled through education and training might result in greater need to support skill development and address imposter syndrome. Representation of BIPOC in senior leadership and on committees is important to minimize power differentials and empower BIPOC educators.[21] These factors intersect and complicate professional pathways for women and BIPOC, resulting in greater threats to educator well-being. Increasing transparency around professional roles and expectations could be one way to improve these problems. Other solutions include developing concrete and explicit structures for career development and structured mentorship and addressing issues of implicit bias. Chapter 4 includes a further discussion of these issues.

As discussed in Chapter 3, adequate professional development is critical to support educators in keeping up with transformations in teaching modalities and curriculum design. Being able to effectively adapt to changes in content, format and goals of educational programs requires educators to adopt a growth mindset toward learning themselves. In addition, educators' roles may change as the curriculum evolves, and clear reporting systems within the educational mission can provide scaffolding to allow faculty to develop new skills and integrate feedback in a constructive way.

During this time, recognizing the humanity and the limits of educators has emerged as critically important. Adjusting timelines and work schedules, accommodating leaves of absence and advocating for flexibility have allowed many educators to remain engaged and satisfied in their work despite the additional burdens. With increased reliance on distance learning and remote work, educators and students' comfort with these technologies has increased. While the isolation of the COVID-19 pandemic revealed how important social connections within the academic medical center community are to educators, this flexibility had benefits for work-life integration. Learning how best to use these tools outside of the pandemic is an opportunity for an improved experience for educators.

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Case Study

Situation
A pediatrician was offered a role as a medical student clerkship director. The role came with 0.2 FTE dedicated administrative time to support the medical student curriculum, evaluation and mentoring and pursue scholarship in education. Her clinical director has ensured that one day per week, she is not assigned clinical duties; however, she has the same relative value unit (RVU) target and does the same number of weeks attending on the inpatient units each year as her partners. While this arrangement was intended to ensure fairness within the group, with required clerkship activities taking place on the medical student schedule, the pediatrician has more inpatient service weeks than medical school vacation weeks. She winds up covering more of the holiday and summer weeks, rather than being able to take vacation with her family. In addition, her regular panels are frequently overbooked to account for the day per week that she is not seeing patients because she is teaching medical students. Bonuses within the clinical practice are calculated based on RVU targets. She feels that she is penalized for the educational leadership role and suffering from burnout.

Approach
She discussed the situation with her mentor and the vice chair for education who was able to advocate to the department chair. In discussions with the clinical director, her RVU target for the practice was adjusted to reflect the 80% clinical time. Clear communication with the practice manager ensured that the clinic schedule reflected the time set aside for education work, and service weeks were adjusted to 80% of the total.

Lessons learned
- Medical educators are at risk of being overwhelmed by conflicting responsibilities in educational and clinical roles.

- Clear communication around job duties and expectations for educational roles is essential to prevent burnout.
- Mentoring plays an important role in helping identify when issues need to be addressed at a structural level through advocacy to leadership of mission areas.

Take-Home Points

- Educators working in health care risk being pulled between competing missions of clinical, research and educational work.
- Organizations bear responsibility for removing drivers of burnout and creating efficient systems that support a culture of well-being.
- Clear reporting systems, job descriptions and adequate administrative support for educator roles are essential.
- Mentoring programs and faculty development that include research training and promotion tracks valorize the efforts of educators and may improve well-being.
- Removing barriers and ensuring adequate access to mental health care is an institutional imperative to support a flourishing educator workforce.

Solutions

Prioritize well-being at an institutional level

- Undertake an institution-wide survey of well-being and aim to implement a certain number of efficient solutions to identified systematic sources of stress and burnout.
- Adopt a model of well-being and use it as a measure to identify and address issues and assess the impact of interventions.

Reduce unnecessary workload

- Consult with a specialist in how to utilize technology tools to ease the burdens educators face in managing workload.
- Ensure enough clinical and administrative staff have been hired in proportion to the workload.
- Reduce compliance, regulatory and policy mandates for educators to allow their time to be devoted to their work and learners.

Improve professional development and support

- Address implicit bias and develop structures that support women and BIPOC career development and mentorship.
- Develop professional development programs to build skills in educational and administrative roles to support educators.
- Create a sophisticated mentoring program.

Improve mental health

- Create accessible mental health services covered by the institution's insurance for educators that are on par with the services that exist for trainees.
- Address mental health stigma by normalizing mental health experiences (e.g., by facilitating opportunities to share experiences with burnout/well-being in panel discussions or support groups).

Improve work-life integration

- Experiment with strategies that support work-life integration, such as remote flexibility and hybrid opportunities.
- Improve transparency around job duties and compensation to ensure full scope of work is reflected.

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Chapter 3: Responding to/functioning in the larger picture of academic medicine

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Chapter Summary

"Help me remember why
I chose to heed this call.

Condemned to hold the skies
on shoulders not of gods,
the weight of heavy flesh
bears mightily on my soul..."

An excerpt from *On Burnout: An Ode to Atlas*
by Sherine Salib, MD[1]
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Educators are a principal and irreplaceable constituent in the development of the physician workforce. Preclinical educators provide the knowledge and skills that learners use to engage their clinical training following the long-standing adage of "see one, do one, teach one" (SODOTO), with the "see one" aspect of this tripartite approach being predicated on the need for an experienced educator to model clinical skills and behaviors. The advances in evidence-based learning principles, educational technologies and instructional pedagogies challenge the applicability of the SODOTO approach to modern medical education,[2] yet the paramount role of the educator remains consistent. What also remains consistent are the inherent challenges of educators within the larger picture of academic medicine including competing demands of patient care, research and administrative responsibilities. In this chapter, we focus on the curricular and accreditation stressors educators face in the specialized context of academic medicine and propose ways in which these stressors can be addressed to preserve educator well-being.

Curricular Stressors

The education mission of academic medicine is the reason a medical school can call itself a school.[3] This mission focuses on the preparation and training of medical students and residents for careers as practicing physicians. Allopathic and osteopathic medical education programs establish curricula that aligns their educational program objectives with the standards set forth by the Liaison Committee on Medical Education (LCME) and the Committee on Osteopathic College Accreditation (COCA). Medical school and residency curricula are then continually changing to meet accreditation standards, as well as the ongoing evolution of the field reflecting scientific advancements, medical breakthroughs, systems-related upgrades and societal issues.[4] This pervasive state of change creates stressors on educators, particularly those related to curriculum and teaching.

Redesigns of educational programs and curricular reform

Educators experience a direct impact and notable stressors when schools undertake curricular reform. LCME and COCA standards require a regular review of the curriculum by allopathic and osteopathic medical schools and related, corresponding action by educators to address areas that are not satisfactory.[5,6] While curricular

reform commonly occurs from local institutional pressures, such as meeting accreditation standards and curriculum review processes, national movements in medical education also prompt medical schools to respond with shifts in their curriculum. Curricular response to a national movement is not always an explicit accreditation requirement yet may feel like an imperative for schools to maintain a competitive status when compared with peer institutions. For example, emerging trends identified in health professions education include interprofessional education, education on the social determinants of health, competency-based medical education (CBME), artificial intelligence and the integration of new educational and information technologies.[7] Attempts to implement one or all of these trends will be met by conflicts, including the limited number of curricular hours, faculty availability and content expertise, and the structural constraints of an existing curriculum.

Further, curricular reform often represents a dramatic transformation focused on contemporary areas like health systems science and diversity, equity and inclusion (DEI) that current educators may not have been formally taught during their own academic experiences.[8] Developing entirely new courses integrating novel content along with learning principles and pedagogies that are foreign to educators increases the burden on them. Educators may feel ill-equipped to support the implementation of curricular reform without appropriate and relevant professional development. They may develop concerns that their content expertise and teaching opportunities could be eliminated. Additionally, associated curricular stressors arise from administrative and scheduling challenges due to the need to balance existing teaching, clinical and research schedules with potential travel to distributed academic sites.

Beyond content and structural changes, assessments related to curricular reform also contribute greatly to educator burdens. For example, educators in graduate medical education (GME) experience pressures while assessing specialty specific milestones through clinical competency committees (CCC). CCCs vary widely in membership, structure and process, likely due to a variety of factors including the limited description of CCCs in the Accreditation Council for Graduate Medical Education (ACGME) common program requirements, the range in program sizes and availability of institutional resources. This creates barriers to establishing generalized best practices and professional development around CCC work. More importantly, educators participating in CCCs often engage in secondary roles beyond their primary one to determine trainee achievement of milestones with added work related to providing feedback, developing remediation strategies and participating in continuous quality improvement activities for the residency program.[9] When assessment methods around milestones change due to curriculum reform, there is often little guidance to educators on how to approach such changes and limited bandwidth for them to react.

Educators in undergraduate medical education (UME) encounter similar pressures due to assessment needs resulting from curricular reform. For example, CBME often requires a significantly greater number of assessments of students, both formative and summative, and ideally in a workplace-based setting. The impact and dependence on educators to reliably assess students within CBME becomes a notable barrier to implementing such programs.[10] Related administrative responsibilities and requirements to learn new systems (e.g., systems for evaluation, scheduling and curriculum mapping to support CBME) create more barriers and lead to change fatigue.

A broader issue related to assessment revolves around collecting, analyzing and reporting learner performance data. The lack of sufficient assessment data, missing evaluations or poor-quality data places educators in a challenging decision-making position that requires additional effort to seek supporting data and evaluations or drawing conclusions that may not be evidence-based.[9] Implementing effective solutions to this data problem is, however, time-consuming, costly and labor intensive, leaving the onus on educators to derive their own manually driven, inefficient options.

Addressing curricular stressors is imperative for educator well-being and their probable impact on faculty educator attrition. A report by the Association of American Medical Colleges (AAMC) found an average overall faculty attrition rate of 38% and a higher rate of 43% of first-time assistant professors leaving academic medicine within a 10-year period.[11] Faculty who identified as women and non-white demonstrated disproportionately higher rates of attrition leading to implications for institutional DEI efforts as well.[11] Educators and trainees from backgrounds historically excluded from medicine are often asked or expected to take on the bulk of the efforts around curricular development and teaching on DEI content, typically without adequate compensation, adding to the diversity tax and contributing to burnout. Though diversity officers are being hired at schools to fill these gaps around DEI curriculum and support, there are limited standards for teaching and training educators for this role. In turn, potential stressors related to the marginalization of the diversity officer role in the hierarchy of academic medicine compound the marginalization that was likely already present based on the race of the educator carrying forth the DEI work.

Teaching to the test

The United States Medical Licensing Examination® (USMLE®) Step 1 is the first part of a three-step examination for medical licensure in the U.S. Preparing students to perform successfully on USMLE Step 1 alongside meeting a medical school's graduation requirements is another considerable curricular stressor on educators. Educators are assigned the explicit expectation to teach to the learning objectives of a course and program while also addressing the expectation to ensure student readiness for USMLE Step 1. The latter is arguably the greater priority from the student perspective[12] and an implied priority for schools. Accordingly, the pressures of "teaching to the test" for student satisfaction and program reputation can be repressive to the creativity and innovation of educators, and a decreased focus on teaching around their content of expertise evokes concerns about their ability to hold onto their teaching responsibilities. Contributing to this stressful situation is the availability of an increasing number of third-party study aids that focus on USMLE Step 1 preparation. When the intrinsic value of an educator's work is diminished, curricular teaching hours on top of competing demands affect the motivation to teach.[13]

The transition of USMLE Step 1 to pass/fail scoring in January 2022[14] and a national reaction to find alternative markers to assess students' readiness for residency has the potential to renew primacy for new curricular content and curriculum design. The Comprehensive Osteopathic Medical Licensing Examination of the United States (COMLEX-USA) Level 1 from the National Board of Osteopathic Medical Examiners (NBOME) is akin to the USMLE Step 1 for medical licensure of osteopathic physicians. In a move aimed at student wellness, the COMLEX-USA Level 1 also went to pass/fail scoring in May 2022.[15] The implications of this change to the Step 1 and Level 1 exams are broad in scope and could bring relevance and value back to the role of the educator if they result in a movement beyond "teaching to the test."

Adapting to innovations and the use of educational technology

In March 2020, the world at-large found itself forced into a pandemic response due to the surge of COVID-19. Educational institutions at all levels were impacted as COVID-19 guidelines required physical distancing and strict limits on mass gatherings. These restrictions affected the ability to conduct direct, face-to-face instruction for students and residents. Educators suddenly found themselves pivoting to emergency remote teaching with little or no preparation. At times, students were removed from their clinical rotations and residents experienced disruption in their in-person learning. Virtual and hybrid instruction during COVID-19 demanded that faculty build a teaching skill set that included synchronous instruction on video-conferencing platforms, creating instructional videos for teaching asynchronously and supporting remote active learning (e.g., through small-group activities and student assessment). The toll on educator well-being during this time was immeasurable as the uncertainty and lack of knowledge around the disease made it difficult to plan for curricular alternatives and pressures to provide sufficient required clinical experiences for students and residents grew. Clinical responsibilities for educators simultaneously increased as it became paramount to address the increased patient load. Subsequently, research agendas were put on hold contributing to concerns about promotion and advancement, and inordinate personal demands became arduous to balance.

The motivations for educators to teach appear to be primarily altruistic. Educators have a desire to help learners become good doctors.[16] Despite such admirable motivations, educators largely come into their teaching roles without formal training in pedagogy. Reflections on the response to the COVID-19 pandemic from an academic medicine perspective highlight the need to train faculty to be flexible, adaptive and evolving teachers. In a study that aimed to assess medical educator knowledge around pedagogy, content and technology knowledge as well as the intersections of these three types of knowledge, faculty reported having a high level of content knowledge, while rating their pedagogical and technological knowledge lower.[17] Knowledge related to technology at any intersection of knowledge type (e.g., technological and pedagogical knowledge) was also significantly lower. Implications of such findings emphasize the significance of educator development around teaching and especially around the use of technology for teaching.

A critical lesson learned here is to recognize the need to prepare educators now for what uncertainties may follow with the ultimate goal of decreasing their burdens and burnout. Two recommendations[18] that resulted from the collaborative work among members of the American Medical Association Accelerating Change in Medical Education Consortium and the AMA Council on Medical Education in response to the COVID-19 pandemic are to 1) "leverage shared online or commercial resources as appropriate rather than generating new institutionally based materials or solutions" and 2) "provide training for educators in tools for remote education, simulation and for engaging learners in remote care settings." Such recommendations underscore the value of reducing educator burden and increasing support through training. Chapter 5 further explores insights gleaned from the COVID-19 pandemic to inform the future age of well-being in academic medicine.

Accreditation Stressors

Medical education programs leading to the MD degree in the United States are accredited by the LCME. Programs leading to the DO degree are accredited by the COCA. The ACGME accredits medical residency and fellowship programs.

Medical education accreditation has become more complex, data focused and resource intensive over the years. For example, in UME, the LCME reformatted its accreditation standards in 2002 to clearly link team findings and data to specific standards. This change led to greater clarity and precision, but also an associated increase in severe action decisions.[19] Similarly, COCA regularly reviews and revises its accreditation standards, requiring schools to timely adjust to these changes to maintain accreditation. In 2012, the ACGME added a second type of survey visit in its adoption of the Clinical Learning Environment Review. These visits occur every 18 to 24 months in addition to institutional and program accreditation visits. Maintenance of medical education accreditation is a high-stakes endeavor for institutional sponsors. Accreditation status may be tied to federal and state funding, as well as trainee eligibility for licensure and board certification. For example, in 2014, the Joan C. Edwards School of Medicine at Marshall University cited the high cost of an adverse accreditation action in terms of direct expenses, opportunity costs, reputation, recruitment, grant procurement and morale.[20] The downstream effects of a severe accreditation decision contribute to the stress experienced by medical education leaders and educators as it relates to their roles in the accreditation process.

In UME, the LCME requires schools to practice continuous quality improvement, with a systematic and ongoing process for monitoring school-selected accreditation standards.[21] COCA requires schools to be compliant with all standards and meet all elements to achieve a full 10-year accreditation cycle.[6] When schools only focus on accreditation requirements right before a survey visit, they risk falling below these standards between visits. It is not unusual for a school to appoint a faculty accreditation lead for a survey visit who does not have responsibility for the ongoing management of accreditation compliance outside of survey visit preparation. The rush to move a school into compliance in short order creates undue stress for educators and others involved in the accreditation process, both before and after the accreditation review.

Sometimes schools assign the task of accreditation oversight to the same people who are already burdened with other major responsibilities. These educators are placed in the unenviable position of managing multiple competing priorities. In GME, the ACGME requires the appointment of a designated institutional official (DIO) to focus on institutional accreditation oversight. In hospital accreditation, the concept of being in compliance at all times is an accepted expectation, and resources are allocated to the ongoing accreditation readiness of a hospital. When this culture of continuous quality improvement for UME is not supported, it creates undue stress and burnout for educators who are tasked with this work in addition to their primary duties.

In GME, program directors often carry heavy clinical responsibilities on top of their accreditation oversight duties. While the ACGME has made efforts to ensure minimum time requirements for DIOs and program directors to focus on their administrative responsibilities, these requirements are not uniformly applied and may come at a cost to the sponsoring department. Faculty educators who carry these roles may suffer a loss of clinical incentive revenues or may take on additional clinical duties to avoid a reduction in pay. Institutions can respond to this disparity by developing a transparent funds flow model to ensure protected time and prevent educator burnout.

Finally, other accreditation-related factors that contribute to educator stress include the use of student and resident satisfaction surveys as quality measures. When triangulated with other performance metrics, learner surveys provide valuable information for further investigation. The fear of survey retaliation by learners when

educators' decisions do not align with learner expectations, however, can contribute to low educator morale and burnout. At its worst, educators may fail to move forward with positive initiatives to avoid learner dissatisfaction, especially if they lack the time or emotional reserve to effectively communicate and manage change with learners.

Possible Solutions

In the sections above, we outline common curricular and accreditation stressors that educators face in the context of academic medicine. Here we propose some possible solutions to address these stressors.

Professional development

A common thread among the curricular stressors described in this chapter is a lack of professional development for medical educators. Many receive little to no formal training on how to be effective teachers, even when they acquire education leadership roles.[22] Because medical education has traditionally been an apprenticeship, physicians are often assumed to be able to teach without focused training or competency assessment on the complex teaching skills necessary to succeed as a medical educator.[22] Some instructors may teach with the mindset "I was taught this way" or "When I went to medical school." These beliefs can lead to suboptimal learning environments that compromise learner performance and satisfaction. These factors may be exacerbated at institutions where educators, as well as course and clerkship directors, do not have a direct reporting relationship to medical education leaders. Such stressors can be potentially mitigated through the establishment of a department of medical education, assigning partial medical education department full-time equivalents (FTEs) to core educators and developing memorandums of understanding that provide clear reporting lines and identified mentors for these faculty. Investing in teaching academies can also improve faculty participation in professional development activities and equip them with requisite skills to effectively perform their educator functions.[23]

In planning professional development activities, it is important to adopt accessible and adaptable approaches as teaching often falls on a full plate of responsibilities for educators including research, patient care, maintenance of time-consuming electronic health records and pressures to meet relative value unit targets.[8] Professional development around curricular change is essential and since clinical and basic science faculty may be affected by curricular changes in different ways due to competing priorities of patient care and research, a unified approach to educator development may not always apply. Van Schaik[8] presents eight guiding principles for faculty development that the University of California, San Francisco followed in preparing faculty for curriculum reform. These include the following:
- Build on existing resources, networks and communities to avoid redundancy of effort; leverage existing expertise and identify gaps.
- Promote collaboration between content experts and faculty developers to mitigate turf wars, resistance to change and create buy-in.
- Develop curriculum leaders and faculty developers to ensure sustainability and capacity for future reform.

Professional development around technology should also be a priority. Technology plays a critical role in implementing and catalyzing innovation in medical education. For example, advances in virtual reality,

augmented reality, augmented intelligence, mixed reality and artificial intelligence present opportunities for innovation in learning clinical procedures and skills. The integration of tablet devices[24] and mobile medical devices such as handheld ultrasound offer other examples of technology used to motivate educational engagement for both educators and learners in medical education. Integration of such technologies enables opportunities for more engaging and active remote and hybrid education, delivery modalities that were emphasized during the COVID-19 pandemic. Providing educators with training on the use of technology and exposing them to the advances in the field will give them the building blocks to envision and lead cutting-edge curriculum and complement their altruistic motivations to teach.

Beyond professional development sessions on topics related to medical education and teaching, sessions designed to address leadership and self-development among educators can address their burnout and disengagement. Training sessions specifically addressing topics such as negotiation strategies and conflict management can serve as a mitigation approach to preserve educator vitality.

Curriculum review process

To achieve a balance between a proactive versus a reactive response to external influences on curriculum, medical education leadership need to pay particular attention to accreditation elements focused on curricular design, review and revision/content monitoring. LCME Element 8.3 describes the need to have a process for formal review of the phases of the curriculum including "horizontal and vertical integration of curriculum content and whether sufficient content is included and appropriately placed in the curriculum related to each of the medical education program objectives."[5] This curricular review process should provide educators the oversight necessary to determine how, when and if national movements and emerging trends are addressed and help mitigate stressors to educators as a result. Similarly, COCA Standard 6 requires the periodic and regular review and revision of an osteopathic curriculum by faculty.[6] When a well-defined process for curriculum review and monitoring is implemented as required by accreditation standards and educators are given a primary voice in this process, their needs and concerns can be made explicit and educator buy-in for curricular initiatives has a chance to thrive over educator burnout.

Institutional culture

Medical school senior leadership (e.g., chairs and dean) must create a culture of recognizing and rewarding excellence in education. While there are accreditation elements that address institutional support for educator development, promotion and tenure, specific accreditation mandates requiring a formal mentorship for junior and mid-career educators can promote institutional commitment to creating a culture of educational excellence among educators. Chapter 2 further explores the impact of institutional structure in supporting educator well-being.

Accreditation support

Institutional investment and commitment to the accreditation process are critical for the health of educators, as well as the vitality of the school. Institutions can support educators involved in accreditation oversight through the provision of time, staff and resources to carry out the duties of the position.

For example, the LCME recommends the appointment of a senior level administrator who is knowledgeable in LCME accreditation and has appropriate time allocated for the responsibility of monitoring and managing a school's continuous quality improvement process.[21] This administrator would ideally have access to experts in program evaluation, data analysis and information technology as well as sufficient time and resources to carry out an effective compliance system. COCA accreditation leaders similarly require protected time and resources to ensure ongoing compliance with accreditation standards. Many medical schools have formed units focused on education accreditation, compliance and quality to support educators overseeing these critical responsibilities.

In GME, ACGME institutional and program requirements specify protected time for directors and support staff. Institutions can support faculty directors by ensuring that clinical schedules align with the ACGME-required protected time and that forfeited clinical incentives can be earned through education-based achievements. Program coordinators with other department administrative responsibilities should be monitored for workload to avoid conflicts in duties. In addition, given the evolving and growing accreditation responsibilities, institutions should reevaluate designated protected time on a regular basis to ensure it aligns with required effort.

Institutions can further promote educator well-being and education innovation by adopting a growth mindset toward accreditation, celebrating overall success rather than reprimanding individual negative accreditation findings. A recommendation from the AMA in response to the COVID-19 pandemic suggested that organizations "advocate for appropriate adjustments in accreditation processes and assist leaders of educational programs to follow evolving recommendations and requirements."[18] Nationally, a collaborative between accrediting bodies and professional organizations, the Coalition for Physician Accountability, was successful in responding to challenges faced by educators during the COVID-19 pandemic. Such a collaborative could continue to convene on matters of mutual interest that promote educator well-being in accreditation, such as institutional support, professional training and survey instrument development.

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Case Study

Situation

University X is embarking on a curriculum redesign, moving from a lecture heavy, discipline-based curriculum to organ-based modules with an emphasis on active learning. At the same time, the school is preparing for an upcoming accreditation visit. The accreditation self-study uncovered several areas of noncompliance, and the medical education team has not been able to fully focus on curriculum reform while working with key stakeholders to address these accreditation concerns. Meanwhile, students openly voice discontent to the dean over the curriculum's lack of focus on USMLE Step 1 preparation at a town hall meeting. The medical education team feels overwhelmed and worries their reputation is on the line if the school suffers an adverse accreditation outcome.

Approach

The vice dean met with the dean to discuss these concerns. The school formed an education compliance and quality office with an associate dean and support staff to oversee the school's accreditation activities for the upcoming survey visit. This team was also charged with developing a system for continuous quality

improvement to maintain accreditation compliance on an ongoing basis. New faculty and staff were hired to develop and implement the redesigned curriculum. The redesigned curriculum included the addition of USMLE Step 1 practice questions as formative assessments. One of the most important actions taken by the dean was to emphasize to all stakeholders the value of curriculum reform and accreditation preparation. Importantly, a great deal of stress was removed from the medical education team when the dean reassured them that no matter the outcome of the accreditation visit, any identified concerns, including professional development opportunities focused on learning approaches and pedagogies, would be faced together as a team and resources would be allocated to address them. These efforts resulted in an acceleration of curricular innovations which were positively received by students and implementation of accreditation-related compliance systems that led to a successful accreditation survey visit.

Lessons learned

- Organizations need to conduct a regular inventory of administrative duties and ensure alignment of protected time for educators to successfully carry out these tasks.
- Institutions that invest in prospective accreditation oversight can avoid the direct and opportunity costs associated with an adverse outcome.
- Educators and leaders need affirmation for their successes and reassurance that they will not be reprimanded for institution-based concerns leading to accreditation findings, such as inadequate or inappropriate staffing.
- Professional development opportunities should be offered to help create a foundation for accreditation and curricular redesign efforts as well as personal and professional growth.

Take-Home Points

- In addition to the stressors that arise from the intersection of clinical, research and teaching responsibilities, educators in academic medicine are consistently confronted with stressors related to external forces, including curricular reform, emerging trends and accreditation requirements.
- Common curricular stressors arise from curriculum redesign and reform efforts that call upon educators to develop content, use learning approaches and embrace pedagogies in which they have little training or expertise. Implicit and explicit requirements to teach to USMLE and COMLEX-USA hinder educators' creativity and innovation.
- Additional stressors arise from accreditation requirements that require continuous quality improvement of a medical education program and tax educators who must respond to existing responsibilities with added accreditation tasks.
- Supporting educators through professional development in areas including teaching, accreditation, leadership skills and technology as well as enabling their voice in the curriculum review process are some steps that can be taken to address educator well-being.
- Institutional support through protected time for curricular and accreditation efforts and rewarding excellence in teaching offer another mitigation approach to preserve educator vitality.

Solutions

Addressing curricular stressors

- Move beyond "teaching to the test" to help bring relevance and value back to the role of the educator by finding alternative markers to assess students' readiness for residency and renewing primacy for new curricular content and curriculum design.
- Review the eight guiding principles for faculty development around curricular reform.[8]
- Establish a teaching academy or other formal faculty development opportunities to promote interdepartmental education, support the teaching faculty and encourage educational innovation and scholarship.
- Engage educator oversight in the curricular review process to determine how/when/if national movements and emerging trends are addressed and help mitigate stressors to educators as a result.
- Establish a department of medical education, assigning partial FTEs to core educators and developing memorandums of understanding that provide clear reporting lines and identified mentors for these faculty.
- Create a culture of recognizing and rewarding excellence in education led by the medical school senior leadership (e.g., the chair and dean).
- Design professional development around addressing leadership and self-development among educators (e.g., negotiation strategies, in addition to topics related to medical education).

Addressing accreditation stressors

- Appoint a senior administrator who is knowledgeable in LCME accreditation and has time allocated for the responsibility of monitoring and managing a school's continuous quality improvement process.

- Develop a transparent funds flow model to ensure protected time for accreditation efforts and reevaluation on a regular basis to ensure the time aligns with required effort.
- Support a national collaborative between accrediting bodies and professional organizations to respond to challenges faced by educators such as those during the COVID-19 pandemic.

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Chapter 4: Diversity, equity and inclusion

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> "No one is free until we are all free."—Rev. Dr. Martin Luther King, Jr.

Chapter Summary

Among educators from historically excluded and marginalized groups, the experience of well-being is often mediated through the lens of identity. Given the intersectional nature of identity, well-being becomes vulnerable along many axes of marginalization and exclusion. These axes include gender, race/ethnicity, sexual orientation, language, income, and physical ability and body habitus, to name a few. Narratives of lived experience provide a means of making explicit the structural and personally-mediated inequities that threaten the well-being of historically excluded and marginalized educators. Academic medicine environments will continue to threaten the well-being of these educators until institutions make conscious efforts to dismantle oppressive systems and more individuals are engaged in intentional anti-ableist, anti-sexist, anti-homophobic and anti-racist work. Ameliorating structural and personally-mediated mechanisms of oppression and alienation are essential to improving the well-being of historically excluded and marginalized educators. In this chapter, we comprehensively explain diversity, equity and inclusion (DEI) in the context of well-being in medical education. Additionally, we have included our personal narratives to provide insight into our lived experiences in the medical education realm. Last but certainly not least, we address the importance of intentionally incorporating DEI efforts into academic medical centers to promote systemic and sustainable well-being for all educators. The proposed competencies are the lessons that can be drawn from this chapter to help increase the well-being of historically excluded and marginalized educators.

Defining Diversity

Culturally, people define themselves by characteristics that set them apart from some people and connect them to others, producing narrowly defined norms that are purposely highly exclusive and hierarchical. Being a member of a historically excluded and marginalized community in academic environments that reflect the dominant white-centric social culture sets one outside the norm. The path to engagement, well-being and success is ripe with exclusion. This path reflects longstanding prejudices characterized as "isms" (e.g., racism, sexism, ableism and heterosexism). These "isms" represent structural discrimination that is deeply embedded in medical education through policies, practices, opportunities and assessments. Societally, such discrimination is bolstered by laws, written or unwritten policies and belief systems that perpetuate widespread unfair treatment of individuals based solely on their identity within a group.

Experiences that negatively impact the well-being of marginalized and minoritized educators are as ubiquitous as air and often equally invisible to everyone except these educators themselves. Lack of inclusion in the workplace is associated with poor mental well-being, physical health and retention.[1] As a result, historically excluded and marginalized educators are at risk of poorer well-being than the general population, with higher rates of suicide and depression and, gravely, less help-seeking behavior.[2,3]

What is Well-Being?

Of the elements in the triad of disease, illness and well-being, the latter is often the most difficult to delineate. The health system has specific classifications for pathologic processes identified by constellations of history, physical findings, diagnostic imaging and laboratory results to define disease. Illness then is the individual experience of disease.[4] Well-being, however, presents a unique challenge. It is defined by social and cultural norms. Depending on an individual's relationship with the dominant culture, the norm might not always be normal in one's cultural frame of reference. As an example, aging is a normal process; however, American culture highly prizes youth. At a cultural and social level, the norm of youth does not align with the normal fact of aging. As people age, they may feel stigmatized and develop a negative image (and experience) of themselves and their state of well-being related to the passage of youth. This is analogous to the experience of historically excluded marginalized educators in medical education environments that reflect the dominant social culture.

Workplace mistreatment and organizational culture are linked to much of the distress experienced by historically excluded and marginalized educators. Unfortunately, workplace mistreatment is more common for non-majority groups, including racial and ethnic discrimination, sexual and gender harassment, and mistreatment due to disability status.[2-8] Given these associations, it is clear that educators and physicians who identify as members of the non-majority face stress and discriminatory experiences that threaten their overall well-being.

The Critical Nature of Language and Agency

Assigning language or terminology to historically excluded and marginalized communities is one way in which the majority population attempts to course correct and encourage respectful communication. However, in doing so, agency over a person's identity is often taken away, again, at the hands of the dominant group. Examples include the use of the term *disabled* as a way of defining oneself or one's community. This term is excluded in academic medical journals in favor of *person with a disability*, even though many individuals with disabilities identify as—and proudly refer to themselves as—disabled. Additionally, some language is used to describe an entire community, such as minoritized, but it also speaks to the experiences of the individuals it references. Some may hold one or more diverse identities, but not identify with specific experiences and, thus, not identify with the terms used to describe their community or position in society. For these reasons, authors of the following narratives have been given freedom in their use of language. In doing so, each contributing author can express both their identity as they desire and describe their experiences using language that feels authentic. We encourage the reader to ask when unsure how to refer to a group or population in everyday communications, advocacy or academic work.

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"When they approach me, they see only my surroundings, themselves or figments of their imagination, indeed, everything and anything except me."
Ralph Ellison, *Invisible Man*, 1952

A paradoxical experience confronts historically underrepresented educators whose identity does not conform to the dominant identity of an institution: one of simultaneous invisibility and hypervisibility. Settles et al. describe

issues of invisibility for historically underrepresented educators as manifesting predominantly through social and professional exclusion as well as lack of recognition for their scholarship and achievement by colleagues, whereas historically underrepresented educators also experience hypervisibility through tokenism and feelings of being used by one's institution to represent diversity.[9] As such, a historically underrepresented educator's sense of visibility in the workplace is often experienced bi-directionally. They may feel invisible to others in the professional world because of the feelings of being "unseen and unheard" by their peers and feel invisible because they do not see their identity reflected in academic medicine. For educators who do not witness the representation of their experiences and identities in the dominant narratives of their institutional culture, the experience of invisibility can be alienating and professionally stunting. Invisibility can foment feelings of imposter syndrome. When confronted with the lack of diversity within leadership positions in academic medicine, historically underrepresented educators may feel they have limited opportunities for professional growth. Additionally, the impact of invisibility on the well-being of underrepresented faculty members can be profound, especially when pain and trauma caused by experiences and events that attack their identities go unrecognized and unaddressed by their institution.

As an Asian American and Pacific Islander (AAPI)-identified educator, I was devastated by the targeted murders of eight people, six of whom were women of Asian descent, at Atlanta area spas in 2021. These murders shook me on a deeply personal level and left me feeling fragile and vulnerable during an already fraught time in our country. While the media covered the event and I experienced vocal outpourings of grief and outrage, particularly from the AAPI community, I recall initial silence within my own workplace. The lack of acknowledgement of the event by my colleagues and my institution left me deeply disappointed. I found myself wondering if my institution did not recognize the trauma that this event could elicit among AAPI students, faculty and staff. I feared we would be left to grieve in silence and continue with our work without acknowledging our trauma.

Under the gaze of hypervisibility, the historically underrepresented educator is seen and recognized by one's institution but only to serve the purpose of institutional diversity. Ironically, this diminishes the focus on the individual faculty member. Like invisibility, hypervisibility may be perpetuated by a bi-directional gaze; our institution acknowledges us precisely for our status as being underrepresented and subjects us to tokenism by which we are expected to represent the entirety of our community. Nevertheless, we, as historically underrepresented educators, may place burdens of infallibility upon ourselves as representatives of our community who bear the "minority tax" in efforts to advance the standing, not of ourselves, but as members of our community.

Invisibility and hypervisibility can be simultaneously experienced, yet they do not cancel each other out. Instead, both can co-exist as heavy burdens felt by historically underrepresented educators under which well-being suffers. What connects invisibility and hypervisibility is this: It is the experience of being denied the opportunity to be known and valued for our individual attributes, talents and potential. Seen or unseen, we are not truly known.

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"... when markers of race, gender, gender fluidity, sexual orientation, ethnicity, religion and other factors are the only criteria considered in hiring or admissions, students are cheated, as are those chosen to meet diversity measures on the basis of identity alone. Nothing is more essentialist or constraining than diversity understood strictly in terms of identity."
Michael Rectenwald, *Springtime for Snowflakes: Social Justice and Its Postmodern Parentage*, 2018

Walking into the room, I am honored to have an opportunity to serve on this committee, yet I see no one else like me. Questions begin to swirl in my mind. Was I the right person? Will my voice be heard? Am I the only one? As an African American, female, non-physician assistant dean, my intersectionalities allow me to bring diversity to the table; however, in the room, I am often overshadowed. My experience is not unique. It is the experience of numerous others who find themselves being the lone representative of their gender, race, ethnicity and/or sexual orientation in a meeting or on a committee.

In a recent essay, Camille Garrison describes herself as the "Lonely Only," because of how often she finds herself in situations where she is the only person of a particular identity group in a room.[10] Academician Amado Padilla refers to this phenomenon as the "cultural tax"—an obligation to show good citizenship toward the institution by serving its needs for ethnic representation on committees or to demonstrate knowledge and commitment to a cultural group. Such service may even bring accolades to the institution, but the institution does not usually reward it.[11] This "taxation" is not new in academia. In today's academy, you can insert—gender, race, ethnicity, religious affiliation, sexual orientation—as groups affected by such "taxation."

One may ask, "How can this be detrimental to one's well-being?" Carrying a burden has always been detrimental. The burden is exacerbated when it requires a single person to carry the "weight" of an entire group by speaking as the sole representative of that group. This causes undue stress for the individual who, in particular environments, must choose comments more carefully than others. There is often uncertainty that, when one does speak, the comments will be taken seriously. In some cases, the sentiment is that one has been given a "seat" at the table but no voice in the conversation.

What is the solution? A possible solution is acknowledging that, even as members of specific communities, I come to the table with individual thoughts and perspectives. Ask me to take a "seat" for the value I bring without expecting to speak for an entire group. I don't expect others to speak with one voice. Faculty, who are not members of the majority culture, should be afforded that same consideration.

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"How can you thank a man for giving you what's already yours? How then can you thank him for giving you only part of what's already yours? You haven't even made progress, if what's being given to you, you should have had already. That's not progress."
Malcolm X, *The Ballot or the Bullet*, 1964

When one grows up amid scarcity, being grateful to others for what is given to you is key to survival. When I finished residency and was offered a job, I never questioned it. I was grateful. When a myriad of opportunities

arrived shortly thereafter, no matter how big or small they were, particularly if they involved diversity work, I was grateful. Not knowing which ones to turn down or pursue, I took all of them, never thinking I had earned my place or could say no. When I was overstretched to the limit, doing it all, and despite my efforts, my advancement was stagnant, I did not question the system, the process and the structures that led to that stagnation. Instead, I questioned myself, my abilities and my belonging. My perceived failures were isolating and my overcommitment exhausting. Sadly, I was not the only one experiencing this. How does one travel the path of academic medicine without a guide? How does one picture oneself at the top of the mountain when the people at the top of the mountain look nothing like you? The answer is simple. One does not.

Mentoring has been well documented to positively impact career advancement, productivity, career satisfaction and retention.[12] It is also well known that minority educators remain underrepresented at all levels of academic medicine and are less likely to have mentors as trainees and faculty.[13] This leads to getting lost and feeling overwhelmed, overstretched and ultimately, burned out. More attention has been recently given to the emotional protection that mentoring offers, particularly for historically underrepresented and women educators. All of whom are more likely to experience racism, direct discrimination and "ambient discrimination."[14] Having a mentor can validate one's identity and experiences and provide a safe space for reflection. However, the assumption that historically underrepresented educators and learners can only be mentored by other historically underrepresented educators further contributes to this disparity. It also further increases the minority tax and the pressure we put on ourselves to take on all the mentoring efforts of everyone who looks like us. There are many benefits to race and gender concordant mentoring and these benefits, particularly the emotional ones, cannot be minimized. However, while our numbers remain low, we cannot afford to be the only ones engaged in this effort.

Why don't we see ourselves at the top of the mountain? Or is it that those at the top do not see us as having the skills to belong there? As such, sponsorship of underrepresented in medicine faculty becomes even more important, recognizing talent, increasing our visibility and providing opportunities for leadership positions. All of these can have a positive impact, not only on career satisfaction and retention, but also on our sense of belonging and well-being.

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"I believe that no one should ever have to choose between a career we love and living our lives with authenticity and integrity."
Selisse Berry, *Out & Equal at Work: From Closet to Corner Office*, 2013

There, in the corner of my desk, sat the pin—mocking me, judging me for being a hypocrite. The decision to wear the rainbow pin on my white coat signified more than allyship. I remember my hands shaking as I pressed the clutch down on the back of the pin, securing it tightly. While I was proficient in "talking the talk," I now prepared to "walk the walk." I can't authentically wear the pin just "hinting" at my sexual orientation. I can't tell my students to feel safe if I don't contribute to the safety of the space.

It wasn't a secret. My colleagues knew I was gay, a surface understanding of my identity. They didn't know how to place me in a box and whether I matched the prevailing trope. Was I a doctor merely wearing a pride pin, or did I go out every night to gay bars and still make it to rounds on time? Was I able to keep my emotions in check, or would I have exaggerated responses to events? Would I provide fashion advice every morning for my peers? (no.) Would I give them a "you go, girl." (no) I didn't want to carry the weight of their assumptions about what it meant to be gay, or worse, be tasked with correcting their assumptions. But I needed to do this because I had privilege and some power, and I needed to yield it correctly.

Today being gay feels like being born with a coat fused to my skin—a beautiful, colorful coat. It took me a long time to like its feel on my body. Now more than ever, I wouldn't take it off, even if I could.

This coat flows behind me as I walk down the halls on rounds. It signals to my students that I am safe; they can confide in me. Despite prevailing assumptions that accompany the coat, I've learned to gently remind people that every coat is different. These coats come in different shapes, in different colors, and with different personalities—no two coats are the same.

Loving the coat also meant that I must reckon with my own internalized homophobia, judging my reactions to make sure they're not "too gay," worrying about doors closing because I'd be deemed too gay to be professional. You see, in certain rooms, the coat feels too warm. In these rooms, I am asked to be a token, to fluff up the coat, show it off, show off how diverse we are here. In other rooms, I'm asked to remove the coat, for the coat is too colorful and too loud. I can't get too worked up or emotional. People will think I'm too much.

I observe that leaders don't wear these gorgeous coats. Their coats don't flow behind them on their way into their office. So, I stay up nights wondering if I could have handled something differently. Will I risk my opportunities for promotion? But the coat stays. It's gorgeous. And I'm done hiding.

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<p style="text-align:center">**"I really want to live in a world where disability is not the exception, but the norm."**
Stella Young</p>

In part, people with disabilities are drawn to medicine because of their lived experiences as patients. This experience often results in greater empathy for their patients and a more holistic understanding of patients' daily lives, countering prevailing stereotypes. Unfortunately, physicians with disabilities enter a system where they will face increased mistreatment and deeply embedded ableist attitudes in the workplace.[15,16]

For those who enter medicine with multiple marginalized identities, that burden is greater. Educators with disabilities face challenges related to their identity, such as the burden of infallibility and feeling as if they have to perform better than their non-disabled peers just to train and work in the same space. Given the low percentage of faculty with disabilities, this group is also less likely to have access to mentors or affiliate groups.[17] Invisibility, hypervisibility and tokenism are frequently experienced. For example, it is not uncommon for someone with a visible disability to be asked to represent the entire spectrum of disability or for the inclusion of

a person with a physical disability to serve as "proof" of inclusion. Those with non-apparent disabilities are often excluded from inclusion efforts and events. Disability is highly heterogeneous. Even within the same category of disability, people can have highly varied experiences that are impacted by their history of disability and the support and privilege, or lack thereof. Being asked to represent an entire community, therefore, can place a significant burden on the faculty member with a disability, contributing to poorer well-being.

The deeply held ableist views that position educators with disabilities as less qualified or "lucky" to be part of the academy may also have long-term and damaging effects on the well-being of these educators. Indeed, research shows that physicians with disabilities are up to 17 times more likely to be mistreated than their non-disabled peers.[18] These educators are constantly battling ableism while simultaneously working to showcase their abilities and value in a system that continuously positions disabled people as "less qualified." For these physicians, every day is a battle against skewed perceptions and assumptions that threaten well-being and keep educators with disabilities from thriving.

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"There is a loneliness that can be rocked. Arms crossed, knees drawn up, holding, holding on, this motion, unlike a ship's, smooths and contains the rocker. It's an inside kind—wrapped tight like skin. Then there is the loneliness that roams. No rocking can hold it down. It is alive, on its own. A dry and spreading thing that makes the sound of one's own feet going seem to come from a far-off place."
Toni Morrison, *Beloved*, 1987

I was so grateful, intensely and endlessly so very grateful, to be here. To be chosen to join an American health care system is a privilege; to join a university that sponsored a visa is a loan awaiting repayment. My employer put up money to petition the United States government to sponsor me so I could leave circumstances that weren't so kind to me. I already feel the pressure to get them their "money's worth." I also feel the pressure to prove that my education lives up to the American standards I have looked up to my entire life. I am also the de facto representative of everyone who will follow me from my home country. I am the one who smiles and nods my head to every "I love your food!" response that follows questions about my origins. What was once a personal accomplishment in service of the greater good becomes a personal accomplishment in the name of everyone like me who will follow me down this path. This responsibility to not only keep the door open, but also to write the manual of how to navigate and succeed here is exhausting. My identity becomes fused with the success story everyone has decided I will have. Any stumble along the way is not only damaging to me but could also be damaging to the overall narrative about folks like me, those who escape intolerant conditions to find success in the land of the free.

Hand in hand with representation is often *the burden of infallibility*. I cannot fail; I cannot make mistakes. Aside from my duty to represent and live up to expectations, I also have a duty to myself not to squander this opportunity. You see, many like me, who identify with subcultures not welcome in the countries we are from, find academia to be a haven away from persecution. "If I can just make it out of here, I would surround myself with others who are educated and, as a result, accepting. I would be safe." Success then becomes intertwined with survival. Visas, sponsorships and funding for "aliens" and "non-residents" all hinge on job performance and

the continued success we bring to institutions. Every aspect of my existence could suffer if I'm not successful at work.

The problem is that failure can take many shapes and forms and sometimes be completely out of my control. Nevertheless, I make every effort to control every variable, however irrational that may be. I start to associate any deviation from a stellar perception of my work with catastrophe. In order to keep the status quo, to not rock the boat, I err on the side of accepting abuse if I have to because I have to keep my eyes on the prize. A biased patient telling me they want an American doctor? "No problem, just please don't raise your voice and make a scene." Someone from the administration showing clear signs of bias against me? Too bad, you can't go anywhere else when your sponsor is your employer. Green cards and visas also require an immaculate record. I won't risk a parking ticket, let alone a lawsuit from a patient who should be discharged from my practice.

The burden of infallibility takes over every decision I make every day. It's a constant effort to remind myself that I do not have to be flawless every time, to be just a little kinder to myself.

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> "I am an expression of the divine, just like a peach is, just like a fish is. I have a right to be this way...I can't apologize for that, nor can I change it, nor do I want to...We will never have to be other than who we are in order to be successful...We realize that we are as ourselves unlimited and our experiences valid. It is for the rest of the world to recognize this, if they choose."
> Alice Walker, *The Color Purple*, 1982

Proposed Solutions

The narratives above are shared to provide insight into the daily, pedestrian experience of educators from historically excluded and marginalized groups, the daily struggles and traumas that impact not only job satisfaction and performance, but also fundamentally well-being. Suggestions for changes to improve the experience of historically excluded and marginalized educators often focus on individual and interpersonal interactions. It is true that such changes can be helpful, but more is needed, as they do not address pervasive structural issues.

In *A Gardener's Tale* Dr. Camara Jones presents a tripartite construct of racism that divides it into three domains: structural, personally mediated and internalized.[19] This framework is also relevant to other forms of discrimination and inequity (e.g., sexism, ableism, homophobia and ageism). When we discuss issues related to equity, diversity and belonging, individual experience is often the focus, which results in dialogue centered on Dr. Jones' personally mediated and internalized domains. As an example, issues such as micro/macroaggressions and imposter syndrome are interrogated through the lens of personal and interpersonal experience. These perspectives are crucial to understanding the impact and consequences of inequitable environments, but such discussions leave an important part of the garden unexplored.

Imposter syndrome is most commonly viewed as a maladaptive response to identity and professional development challenges; however, such a perspective may stigmatize the very individuals needing support. It

has been rather convincingly argued, specifically with respect to women in the workplace, that the focus on individual experience stifles interrogation of the adverse environments that trigger imposter syndrome.[20] An educator (or learner) experiencing imposter syndrome needs support, but that does not remedy the fundamental problem. The problem in need of a solution is the environment that engenders the reaction. Imposter syndrome is not a problem for women or individuals from historically excluded and marginalized communities to overcome, but indicative of deeply embedded structural inequities in work and learning environments that reflect the dominant social culture. Therefore, meaningful change to support the well-being of historically excluded and marginalized educators must occur at a structural level.

Take-Home Points

Structural competencies for medical schools and academic health centers

To assist institutions in becoming more equity-minded and making changes that foster the well-being and professional development of everyone in the work and learning environment, presented here are a set of structural competencies for medical schools and academic health centers. The four institutional competencies are structural awareness, equity-based practices, structurally-informed engagement and continuous structural reform. Specifically, institutions should be able to demonstrate the capacity for:

- Structural awareness—Develop strategies to identify, articulate and examine the ways in which socially-derived institutional structure, as manifested in policies, procedures and practices, informs climate and environment in ways that may disproportionately negatively impact the well-being of historically excluded and marginalized educators.
- Equity-based practices—Develop strategies to dismantle adverse institutional structures to support the well-being and professional development of historically excluded and marginalized educators in academic medicine.
- Structurally-informed engagement—Engage communities and other external stakeholders in a manner that deconstructs hierarchies of power and promotes community-driven collaboration in pursuit of addressing the structural roots of inequity.
- Continuous structural reform—Develop strategies for ongoing continuous quality improvement to monitor climate and culture and pursue equity at all levels of internal and external engagement.

The four competencies were developed from the educational rubric of structural competency.[21] These four competencies are offered as a broad framework for action at an institutional level and action to dismantle elements of structural inequities and discrimination that are embedded in academic medical environments. They are offered as a starting point for discussions that should lead to the development of sub-competencies specific to individual institutional settings and result in direct positive action that is sustainable over time.

At the individual level, allyship offers a framework for collaborators to take responsibility intentionally and actively for change. Anne Bishop, *On Becoming an Ally*,[22] describes allies as "people who recognize the unearned privilege they receive from society's patterns of injustice and take responsibility for changing these patterns." An ally walks hand in hand with (and not for) historically excluded and marginalized educators and actively fights injustice to promote equity in the workplace through supportive personal relationships, sponsorship and advocacy. Before joining in that fight, an ally must prepare for it by self-reflecting on their privilege, educating themselves, and not expecting historically excluded and marginalized educators to carry the burden of educating them. In *Unlocking the Power of Allyship*,[23] the NEJM Catalyst presents an allyship toolbox, and it includes the following tools:

1. Read, research and educate yourself
2. Self-reflect
3. Confront your own biases
4. Speak up for others
5. Lift up others by advocating

6. Hold others accountable
7. Respond with empathy
8. Have open dialogues

The first three tools require self-work and preparation. This is not to say that allies should feel like they must master these before being able to join in the fight. This misconception can lead to allies getting stuck in this preparation phase and thus never moving forward with the active steps of change-making. As described in *Bound Together*,[24] by Ellis, the practice of medicine is much like the practice of allyship. It requires a lifetime of learning, humility, the expectation of imperfection and persistence in the pursuit of healing, and most importantly, being comfortable with being uncomfortable.

Isolation is a common theme in the narratives above. The 2019 Association of American Medical Colleges data reveals that 5.5% of medical educators identified as Hispanic, 3.6% as African American, and 0.2% as American Indian or Alaska Native.[25] Numeric assessments do not tell the entirety of any story, which is why narratives are included in this chapter. However, such low levels of representation do provide a quantitative perspective that aligns with the personal experience of isolation. Therefore, one major imperative for all institutions should be to increase the level of diversity among their educators, an imperative that should be pursued with all due haste.

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Chapter 5: Intergenerational Cultures within Medical Education

Catherine L. Coe, MD; Winston Li, MD; and Julie A. Kerry, PhD

Chapter Summary

Educator well-being is a concern across the entire spectrum of medical education.[1] Studies show that levels of educator burnout are highest among clinicians at the early stages of their careers and in women and individuals from groups historically excluded from medicine. While at slightly lower levels, burnout is also a significant factor for non-clinician educators. Increasingly rapid changes within the health care and education systems have led to increased educator workload and are key drivers of burnout. Differences in successive generations and the changing demographics of graduating learners lead to differing expectations from trainees, which can also contribute to the increase in educator workload.[2] In this chapter, we describe some of the key interpersonal differences that impact the well-being of medical educators. These factors include differences in the mental models between educators and learners, with particular focus on the differing perspectives regarding the influence educators have over the learning environment; the decline in professional autonomy with an increase in academic isolation; and insufficient resources for educators to manage changing expectations in the learning environment. We also provide potential solutions, including rewarding educational efforts, systemic transparency, mentorship and development of educator communities. Such efforts can provide educators with an enhanced sense of meaning in their roles which contribute positively to well-being.[3]

Differing Mental Models Between Educators and Learners

Throughout the medical education continuum—undergraduate (UME) and graduate medical education (GME)—trainees and educators naturally have different perspectives that can, at times, lead to frustration and misaligned expectations. Possibly fueled by intergenerational differences between the two groups and an incomplete understanding of the pressures impacting both, this misalignment, or lack of a shared mental model, contributes to a negative impact on well-being for all.[4]

First, educators and trainees differ in the way they view and understand the complicated, interwoven hierarchy of the academic medical centers in which they exist. To the entering medical student or resident physician, a course, clerkship or program director might appear to possess unlimited authority or influence over the curriculum and system pressures. In reality, educators with these roles report to higher leadership positions within the institution, such as department chairs, curriculum committees and medical school deans. Chairs and deans subsequently answer to governmental mandates, system rules, hospital policies and university boards of governors. Trainees who are unaware of the larger system of governance can easily place idealistic expectations (and develop subsequent disappointment) regarding how much change an individual educator can affect.

For example, program, clerkship and course directors are tasked with conveying prescribed educational material to medical students in an approachable, learner-centered way. Trainees often assume that medical educators have autonomous control of content, delivery and assessments, but educators in these roles may have limits on their ability to innovate within the curricular structure. There may be restrictions on the use of novel learning modalities such as gamification[5] and virtual reality[6] or exploring alternate forms of assessment like open-ended questions that can better measure conceptual understanding.[6] This can result in frustration among both medical educators and trainees.

Additionally, curricular requirements driven by national board examinations and credentialing bodies often feel at odds with an educator's goal to facilitate the development of well-rounded, patient-centered physicians. For instance, the major focus for students in the UME preclerkship phase is the United States Medical Licensing Examination® (USMLE®) and the Comprehensive Osteopathic Medical Licensing Examination of the United States (COMLEX-USA) benchmark exams, perceived as critical gateways to residency programs.[7] As discussed in Chapter 3, this exam-centric focus of students leads to pressure for educators to "teach to the test," and some trainees perceive material not tested on such assessments as superfluous to their learning, even though it might be critical knowledge in the clinic and for future physicians. The focus on these benchmark assessments also increases the financial burden on trainees as they turn increasingly to costly external resources such as test prep books and software. This debt burden is carried into residency and often beyond, which can lead to them to leave academic medicine for private practice, putting more pressure on those educators who remain.[8] This inherent tension can be exacerbated if trainees subsequently evaluate courses or clerkships lower because they perceive that educators include too much non-test content. Such negative evaluations may impact educators' promotion and tenure within an institution and exacerbate risk factors associated with leaving academic medicine.[9-11]

On the GME side, residents and program directors are responsible for logging specific clinical experiences and professional development milestones to meet the standards for accrediting bodies.[8,12,13] Residents work long hours and care for critically ill patients while balancing their personal lives. They become frustrated by administrative tasks such as logging duty hours and documenting patient cases and may resist completing them, creating friction between program and residents. The root of frustration among both educators and trainees is feeling powerless in the prescribed system to effect change.

Secondly, educators and learners are usually at different points in their professional identity development. The development and maintenance of a professional identity occurs on a continuum and is constantly molded throughout a career, training and practice. Learners grapple with the integration of personal life into their developing professional identity while experiencing the pressure of examinations, training applications and new financial burdens. Simultaneously, educators juggle curricular redesigns, clinical responsibilities, administrative responsibilities and their lives outside of work.[14,15] Educators also find themselves in the role of helping guide students as they manage stress and the integration of work and personal life, often without training about how to do so effectively without contributing to their own personal stress. At times, this comes at a cost to educators' well-being—educators with increased workload expectations and insufficient support are caught between generational differences on how personal lives intertwine with professional lives and the ever-changing expectations between the two.[16] Educators of an older generation, for instance, may see a sharper boundary between "work" and "personal" lives and maintain these as two separate spheres. In contrast, trainees of a younger generation may treat this distinction less rigidly, such as texting a professor after business hours or bringing up personal matters in an advising meeting. Improved alignment of learner and educator expectations regarding professional identity formation (i.e., developing a shared mental model through either mentoring experience or faculty development) may enhance educator well-being and decrease turnover within academic medicine.[17]

Finally, differing attitudes and skills regarding various educational modalities and the use of technology can heighten the disconnect between educators and learners and put an increased burden on educators accustomed to traditional educational modalities. Trainees entering medical school are increasingly of the Generation Z cohort, usually defined as those born between 1996 and 2010, while those entering residency and moving into educator positions are typically millennials, which is usually defined as those born between 1981 and 1996. While any generational differences are subject to broad generalizations, conventionally, millennials are defined as having high expectations for the use of technology, are accustomed to receiving feedback and are more empathetic than previous generations.[18] They tend to value more structured learning environments, so they may need more encouragement to develop critical thinking skills.[15] Generation Z individuals are also technologically savvy and seek out blended learning experiences while at the same time exhibiting heightened levels of psychological stress.[19] Educators may struggle to integrate more technology into their teaching, while creating a safe environment to facilitate learner development. How can educators adapt to this younger generation of learners? We propose that educators approach teaching as lifelong learners, constantly learning about new technologies and generational trends, and that leadership and the systems in which educators work provide explicit support for these efforts. Our case study in this chapter highlights the art of adapting to honor the learners' needs (and the evolving circumstances of a pandemic).

Decreased Professional Autonomy

The roles, responsibilities and expectations of educators have undergone enormous changes in recent decades. Many of these changes have led to a sense of loss of control and diminished professional autonomy for both clinical and non-clinical educators, despite research demonstrating that an enhanced sense of professional autonomy is one factor that can effectively ameliorate educator burnout.[3] Improving educators' sense of professional autonomy is increasingly difficult to achieve. Within the context of the current health care and medical education systems, there are limitations as to direct methods by which individual educators can enhance their sense of autonomy. In Table 5.1, we identify several external forces that impinge on the professional autonomy of educators.

Table 5.1: External forces that impinge the autonomy of educators

Systemic Pressures	Educational Pressures
Health care system consolidation	Duty hour restrictions
Revenue-based reimbursement models	Importance of USMLE® and COMLEX-USA assessments
Insurance demands	Pedagogy changes (active learning, online learning)
Electronic health records	
Accreditation requirements	Remediation
Increasing enrollment at medical schools	Formalized feedback for trainees
Increasing debt burden of trainees	Move to pass-fail assessments
Increased competitiveness for research funding	Competency-based education and assessment
24-7 culture of email and rapid response	Curricular reform

The combined outcome of these changes is increased workloads, with educators struggling to balance multiple roles including clinical activities, research, education and administration, in addition to their personal lives. The particular burden of balancing traditional gender roles with professional expectations may be one contributor to the higher levels of burnout reported in women.[1] In addition, the increased workload and decline in well-being may increase attrition of individuals who have been historically excluded from medicine.[10] As referenced in Chapter 1, too often education is deprioritized by institutions in favor of revenue producing activities on the part of departments, deans, medical groups and hospital systems. Electronic health records continue to be time-consuming, reducing the decision-making capacity of physicians and negatively impacting the quality of patient care.[12] Duty hour restrictions, initially established to promote the well-being of residents, have not achieved the desired results for residents and have correspondingly increased the workload for attending physicians.[8] Research funding continues to be difficult to obtain, leading to near equivalent burnout rates for non-clinician educators.[1] We feel that this factor is likely to be exacerbated in the near future due to changes in research priorities related to the pandemic, the increasing costs of research due to inflation and supply chain issues. Lastly, educators now receive emails and requests from leadership and students at all times of day and on weekends. While some institutions/leaders explicitly state that they do not expect a response in the "off-hours," there remains a temptation to constantly check and respond to work email.[20]

With regard to trainees, they generally expect a learner-centered education (as opposed to educator-centered learning) with active learning in the classroom and increased reliance on electronic curriculum delivery for didactic materials. While these changes provide an increase in student autonomy for learning, they conversely further impinge on educators' workload due to the need to acquire new teaching skills and master the software necessary to create high quality online educational materials and experiences. Specific training in how to teach and design curriculum and assessment is lacking for most clinical and non-clinical educators, exacerbating the workload impacts due to the time and cognitive load needed for development in these areas. The increasing pace of advancement in medical knowledge has led to the development of new models for medical education, including the Master Adaptive Learner model, which requires new approaches to teaching such as the Adaptive Educator.[21] One way to develop the master adaptive learner is to implement coaching programs, which require specific training and certification for educators. While coaching can lead to higher job satisfaction levels, educators also report higher levels of burnout, possibly due to the increased emotional investment in the trainees.[22] Finally, the move to competency-based medical education (CBME) requires modifications in the ways that the medical education system assesses individual trainees.[23] While this is certainly an opportunity for medical educators to innovate, it also requires additional time.

Insufficient Opportunities for Collaboration/Academic Isolation

An additional source of burnout for educators includes insufficient opportunities for collaboration and academic isolation. The current research funding climate for both clinical and non-clinical educators exacerbates burnout. Decreased funding paired with continued linkage of promotion decisions to traditional metrics such as peer-reviewed scholarship and acquisition of grant monies can add stress, particularly with continued expectations for outstanding clinical care and teaching responsibilities. This climate promotes isolation instead of collaboration. Discontent in work-life balance, teaching recognition, clinical demands, lack of educator development and lack of support from governance can be used to predict an educator's intent to leave academic medicine.[11] Educator turnover not only impacts the delivery of medical education, but is also costly to institutions, with estimates of

the cost to recruit and retain a replacement ranging from 32% to 114% of a medical educator's annual salary.[9] Attrition risk is highest among women, those from communities historically excluded from medicine and those with higher debt burden.[10]

Non-clinician educators have a unique role within medical education, and increasingly schools are recruiting specialist medical educators into basic science departments to replace roles previously occupied by those who were both researchers and educators. As medical education and health care delivery rapidly evolve, the role of non-clinician educators has shifted.[24] Basic scientists as educators have an increasing responsibility to underscore the clinical relevance of their educational materials, guide students in the critical analysis of scientific evidence and work with clinical educators to improve health care quality. This transition undoubtedly impacts the professional identity of basic science educators and their role in research and medical education. Despite the important roles that basic scientists play in medical education, however, there is a distinct lack of current research as to how these changes impact the well-being of these educators. Moreover, the fragmented culture of academia, which still emphasizes discipline-based development of scientific expertise and the divide between the basic and clinical sciences, further contributes to burnout and a reduced capacity to implement change to address academic isolation.

The SARS-CoV 2 (COVID-19) pandemic exacerbated not only academic isolation, but also isolation from other activities that typically promote collaboration. National conferences and meetings, where happenstance collaboration occurred, transitioned to virtual platforms. Although forward progress and collaboration still happened, the organic nature and development of new collaborative projects decreased. Simultaneously, educators responsible for the educational curriculum were called to action at the beginning of the pandemic. In a short period of time, they were asked to convert the entire curriculum to a virtual platform and think creatively in the delivery of the material, with some clinical educators also being called to service in the clinical space.[25] This double-edged sword both invigorated educators, working together against a common enemy, and contributed to fatigue, stress and burnout.

Insufficient Educator Training

As noted previously, educators have witnessed a transformation in the teaching environment, available technology and student expectations over the years. For veteran educators, the spread of high-speed internet access and online learning resources dramatically increased the ways in which learners could acquire information. Whereas learners of prior generations gained knowledge primarily in the lecture hall or by making in-person visits to the library, today's trainees have access to a wide body of knowledge at the click of a mouse or the tap of a phone screen. Both veteran and more junior educators have seen the trend of more active learning, technology and multimedia in the classroom.[26] There has been a shift toward more autonomous and independent learning for trainees, including the use of flipped-classroom models, team-based learning activities and discussion groups.[27]

With this transformation, educators are asked to utilize novel methods to teach that they themselves may not have experienced as learners. Some educators have honed their craft for years and decades in the traditional lecture format, only to find new directives from their medical schools to incorporate more active learning or to notice lecture attendance steadily dropping as students choose more self-directed methods of study. As

educators work to adapt to this new learning climate, they may find limited resources and formal programming to aid in this transition. While educators receive extensive training in fields of clinical care and research endeavors, there is relatively little requirement for formal training in education prior to becoming an educator.

Workable Solutions

In the previous sections, we outlined how interpersonal and intergenerational differences can impact educator-learner dynamics and the learning environment and our perception of professional autonomy leading to a decline in well-being. Concurrently, the increase in educators' sense of isolation and perceived lack of availability of training can exacerbate this issue. In this section, we propose some solutions to these concerns. Ultimately, for educators who are dedicated to teaching, finding value and meaning in that role can have a positive impact on well-being.[13]

Alignment

A possible approach to aligning the mental models of educators and learners within the learning environment is to foster transparency between the two groups. An in-depth understanding of what each is wrestling with, in other words a shared mental model, can promote understanding and identify common goals.[14] When appropriate, educators can share with trainees the department mandates, system pressures and institutional policies that guide, and at times, restrict, their behavior. The ability to explain the rationale behind decisions and rules (e.g., promoting patient care, helping the billing and operations of the hospital, respecting laws and legal customs, and honoring health care system priorities) can be meaningful in promoting understanding and buy-in. Some decisions and rules make sense at face value and do not need extended explanations; however, for more opaque policies, a word of explanation can go far in promoting adherence and garnering buy-in to processes. As we outline in our case study, clear communication through town halls and emails contributed to an alignment of expectations for both educators and learners through the challenge of adapting to the pandemic. A shared understanding of these "rules of the game" can diminish distress about why things are the way they are. When trainees gain insight into this larger picture, they have a greater opportunity to participate in effective problem solving. Intentional student engagement in curriculum development further promotes mutual respect and collaboration within the learning environment.[28]

Within the clinical setting, connections between learners and educators can be enhanced through strategies like huddling.[29] Additionally, continued pursuit of CBME will promote transparency, clarify expectations and may serve to align expectations between educators and trainees.[30] The presence of objective markers of accomplishment and goal behavior (i.e., the competencies) could help learners understand the intended outcome of their training and their progression in their development. For educators, the presence of competencies could add a more objective and consistent method for grading and evaluating learners and reduce the risk of bias in grading. Conversely, however, full integration of CBME does require additional educator and staff time to ensure the additional elements of directly observed encounters and increased feedback. Implementation also requires educator time for development around CBME and for students regarding expectations to ensure alignment between the two groups.[31] When implementing CBME, it is imperative to continue to be mindful of the possibility of incorporating bias into evaluation and to mitigate it.[32]

Promoting Autonomy

Addressing the lack of professional autonomy in medical education and its role in educators' well-being requires a multi-pronged approach. Educators must be integrated into key decision-making bodies within both the academic and health care systems. Administrative leadership can develop creative ways to reward innovative educational efforts such as awards, notes of appreciation, and recognition on department or school websites and newsletters. Educational excellence should be an integral component of promotion criteria for all educators, and institutions should utilize the advances in medical education pedagogy to design novel ways for educators to participate in development activities to enhance their skills in instruction and assessment. As noted in Chapter 1, a broader cultural change at the institutional level will be required to provide educators with sufficient time for their educational activities in the face of these barriers. For example, education value units (EVUs) can be used as a framework for measuring the value of educators' contributions toward education.[33] EVUs can be readily adapted to account for the time required for modern pedagogical approaches such as small group, team-based and other active learning strategies, mentoring, coaching, and competency assessment approaches and can be applied across basic and clinical departments.

Collaboration

To reduce academic isolation and promote collaboration, institutions should pay close attention to promotion and tenure policies to reward educators. Many institutions have updated promotion and tenure guidelines to support educators; however, these changes vary by institution. Further, while medical schools may have adopted the changes, at times the broader institution remains set in traditional promotion schema.[34] Institutions should continue to look for ways to harmonize promotion and tenure policies and ensure equity. Research into the impact of ongoing changes within medical education on the well-being and professional identity formation for basic science and other non-clinical educators is also a critical need. For example, such research will help to define the place of the basic science researcher and educator within the future of medical education, will help facilitate better integration between the basic and clinical sciences, and provide clear pathways for promotion and tenure for full-time educators.

A mentor can also help to abate academic isolation. Although many mentorship programs exist within research, few programs are available for educators, specifically medical education researchers.[35] Access to a mentor can provide guidance navigating a career in academic medicine and avoiding unintentional pitfalls that delay promotion and tenure.[36] Mentors can also help identify areas for administrative support, how to obtain dedicated time for teaching and how to convert educational projects into scholarly products. Encouraging faculty to participate in mentoring through recognition by awards, formal programs and as part of promotion and tenure policies would likely lead to an enhanced perception of the value of medical educators as noted above. Lastly, building intentional communities of collaboration can mitigate isolation and burnout.[37] Formal organization through avenues such as an academy of educators and the office of medical education can bring educators together. Informal communities also promote collaboration and resilience in medical education.

Targeted Training

We present several methods and resources toward addressing insufficient training to develop one's craft as an educator, including concrete skill learning and connecting with a larger educator community.

First, educators need not figure everything out on their own. There are often resources, programs and formal training opportunities already in existence at most medical schools. Many medical schools have an academy of educators, or some similarly named organization, that serves to honor excellence in teaching, build a sense of community among educators and host development lectures and workshops.[38] These sessions can be great forums to learn about the latest educational trends and developments as well as discover novel teaching methods and curricula. Naturally, these academies attract individuals who are passionate about undergraduate and/or graduate medical education, making them fertile grounds for building professional connections and finding like-minded peers. Such academies may also provide an inclusive environment and common purpose to help address the isolation of those from communities historically excluded from medicine.

This theme of building connection can be a meaningful tool to fight against burnout and to navigate professional challenges. Often, educators perceive that they work in silos, that the problems they face are unique and that any solution has been too newly invented and developed in isolation. When educators connect with peers in similar roles, they often find that problems are shared, or at least have common features, and that what worked in one department can often inspire change in another. Colleagues with disparate courses, departments and target trainee audiences can find common ground in challenges such as adapting active learning into the medical student classroom and engaging resident physicians on a busy inpatient service. Indeed, the use of peer support as a development tool has been associated with reduced sense of isolation, increased commitment to teaching and enhanced teaching skills.[39] Trainees themselves are often overlooked resources for curriculum development and integration of technology within curricular materials.[28]

Finally, in addition to school-wide programs like an academy of educators, one can often look close to home for mentors and coaches in education. In any given department or medical school curriculum, there are designated leaders, course directors, residency program directors and clerkship directors who would be reasonable contacts for a new educator. As detailed in the case study, an academy of educators can serve as a go-to resource during increased time of need and can mobilize educators to accelerate/upskill as needed. Traditional mentoring relationships can result from these contacts, where the mentor provides the mentee with knowledge and directs them to opportunities. More recently, a more novel paradigm of coaching has been discussed, where the coach takes on a less directive role (compared to mentoring), but instead helps the coachee gain insight into their own goals, needs and priorities and assists them in reaching certain performance targets.[40] Coaching honors the idea that educators are autonomous adult learners who have a wealth of prior experience and focuses on problems directly relevant to the coachee's daily life.[41] Coaching promotes each coachee's independence and self-motivated desire to improve as a teacher.

In summary, systems and individuals can promote educator well-being by finding connection, seeking coaching and mentorship, promoting good communication and transparency, and fostering autonomy.

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Case Study

Situation

The COVID-19 pandemic struck suddenly in the spring of 2020 impacting medical education and a large residency program, which had heretofore utilized traditional, in-person lectures, recognized that significant changes were necessary and desired in response to the changing world situation. Hospital and school of medicine policies limited in-person gatherings. Physical distancing became widely adopted to diminish the spread of infection.

This new reality compelled a radical transformation of the educational environment. Educators had to learn new virtual platforms to teach, adapt to engaging learners on the computer and keep abreast of all the latest and best practices on using technology to teach. Matters of procedure like when and how to speak in the virtual classroom, turning on one's video camera, utilizing the chat function and creating breakout rooms were all novel experiences. In addition, educators had the challenge to keep their department and school leadership, as well as their learners, updated and coordinated on every change.

Educators had to honor different pressures and needs among learners, administrators and other educators. Each party had their own perspectives, preferences and needs, whether that was honoring department rules (administrators), finding the most convenient avenues to teach (educators) and balancing teaching with new clinical demands (educators and learners).

Approach

In response to the COVID-19 pandemic, this residency program took several steps to analyze its intergenerational culture and climate and to create an action plan that honored the needs of multiple parties. First, consistent, clear communication in the form of virtual town hall meetings and regular emails helped keep educators and learners updated on the latest rules and changes in the department.

Educators sprung to action to learn novel, innovative teaching methods to engage learners in a virtual world, learned the intricacies of virtual platforms and helped to foster proper etiquette and effective ways to communicate online. The school of medicine at large, including the institution's academy of educators, created a free, online depository of resources for teaching in a pandemic. These materials included advice on teaching in various settings (inpatient, outpatient), giving large group presentations and utilizing educational theory in instruction.

As the pandemic waxed and waned, the residency program remained flexible and adaptive. As COVID-19 cases declined and vaccinations increased, there was a gradual return to some in-person teaching. Due to the convenience and the lack of additional cost of the virtual platform, new opportunities to bring in outside, physically remote lecturers to the classroom became available. Some learners found that the virtual platform allowed them to attend sessions that would have been previously unavailable to them—for example, when they were doing an off-site rotation.

Through collaboration, effective communication and innovation, educators in this system were able to maintain the educational enterprise while also promoting their own well-being.

Lessons learned

- Communicating and sharing goals, policies and pressures among different stakeholders in an academic medical center can promote understanding and decrease misperceptions among groups.
- Using the local educational community and system resources can reduce the burden on individual educators and departments in managing education challenges.

Take-Home Points

- The interplay between educators and trainees and the systems in which they work impact well-being.
- Changes in the health care system, increasing use of electronic health records and the implementation of duty hour restrictions are just some of the key systemic changes that lead to frustrations between educators and learners.
- These systemic changes lead to misaligned expectations and the blurring of boundaries between personal lives and work and service obligations.
- Striving for connection and transparency, when appropriate, can mitigate the impact of differing perspectives on well-being.
- Rewarding educators for educational effort through educational value units and promotion and tenure can ameliorate frustrations regarding professional autonomy and academic isolation.
- Mentors and organizations, such as an academy of educators, provide opportunities for both a sense of belonging and professional development, all of which can contribute positively to educators' well-being.

Solutions

Alignment of Mental Models

- Align goals through transparency, communication and collaboration.

Promoting Autonomy

- Integrate medical educators into decision-making bodies.
- Reward educational efforts through awards, promotion, tenure and education value units.

Collaboration

- Create and implement policies to support educators and collaboration.
- Research into well-being and the professional identity of basic science and non-clinical educators.
- Create and support educator communities.

Targeted Training or Educator Support

- Create and implement faculty development and academy of educators.
- Facilitate collaboration with peers and trainees.
- Improve access to mentors and coaches.

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Chapter 6: Measuring educator well-being

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Chapter Summary

Medical educators play an important role within health care organizations and are critical to recruiting, training and retaining the future health care workforce. Measuring the well-being of educators signals the importance of these professionals to the mission of a school or organization and enables system improvements informed by their experiences and perspectives. In this chapter, we discuss why measuring educator well-being is important, if and when to measure, who should lead the measurement effort and who will be invited to participate. We then review some of the most widely used assessment tools and discuss how to choose an instrument considering an institutions' needs. We conclude with a brief overview of what to do with the results and common pitfalls to avoid.

Why Measure?

Educators have high rates of burnout and work-related distress, as noted in earlier chapters. Burnout not only threatens educator well-being, but also risks adverse downstream consequences for the people, organizations and communities educators serve. Factors contributing to burnout vary based on role and work area, and educators have unique challenges and needs that may not be recognized without dedicated assessment. When done well, measurement can illuminate these challenges and help organizations direct and prioritize their improvement efforts.[1]

Measuring educator well-being enables continuous improvement by revealing how a system is currently performing, uncovering variation across groups or sites and exploring how these variations relate to barriers and facilitators in the work environment. Each work unit has its own culture and needs, and organizations can use well-being data to understand these differences, identify best practices, provide feedback to local leaders and shed light on equity and fairness. Measurement also helps organizations steward limited resources by directing interventions where they are most needed or most likely to lead to improvement (at both local and institutional levels). Tracking educator well-being over time provides accountability and enables evaluation of well-being interventions to determine if they are making a difference.

Measuring and working to improve educator well-being can also help organizations recruit and retain a diverse workforce and promote equitable and inclusive work environments. Achieving these goals requires organizations to recognize that educators from groups that have historically been excluded from the health professions are underrepresented in academic medicine (particularly at higher academic ranks)[2] and face disproportionate challenges in the work environment, such as bias and discrimination, limited access to mentors and sponsors, expectations for administrative and diversity work (the "diversity tax") and inequitable system policies.[3] Supporting others (or being asked to support others) while simultaneously processing one's own lived experience also takes a physical and emotional toll. Understanding and addressing these factors, as explored in detail in Chapter 4, is essential to building a diverse health care workforce and cocreating organizational systems and cultures where all medical educators can thrive.

Finally, measuring educator well-being can help organizations ensure that they are meeting accreditation requirements. The Accreditation Council for Graduate Medical Education (ACGME), for example, specifies common core requirements related to well-being that residency programs must meet, including faculty education on mental health, fatigue and burnout.[4] Other accrediting bodies such as the Liaison Committee on Medical Education (LCME)[5] and the Commission on Osteopathic College Accreditation (COCA)[6] mention the need for students to have access to well-being education and ready access to mental health providers, but do not spell out specific requirements for educators.

If to Measure?

When considering if the time is right to measure educator well-being, organizational leaders should consider contextual factors. Chaotic situations, such as the early weeks of the COVID-19 pandemic, require leadership to take immediate action to address ever-changing situations. Acting in the face of high uncertainty and urgency requires leaders to look for "what works" with clear communication directed toward people's needs to feel heard, protected, prepared, supported and cared for.[7] Formal measurement can be revisited once the situation has stabilized, even if it remains complicated or complex.

When to Measure?

Having decided to proceed, the timing of measurement requires careful consideration. Even brief surveys can be problematic if they coincide with other pressing "asks" of educator time and attention. Engaging institutional stakeholders associated with each participating educator group can help identify optimal time windows for measurement. Efforts to measure educator well-being should also avoid competing with other surveys requiring educator participation (e.g., ACGME faculty surveys, which are currently conducted between January and April of each academic year and require a minimum 70% completion rate to avoid being flagged as noncompliant with accreditation requirements). Frequency of measurement is important to consider as well, as frequent surveys without time to review and respond to survey results with meaningful improvement efforts can leave educators feeling that nothing is being done with their survey responses and disincentivize future participation.

Who to Measure?

The "who to measure" question has two facets. The first relates to who leads the measurement effort, and the second relates to who is invited to participate.

Who will lead the measurement effort?

Any number of institutional leaders could initiate and administer a survey or other strategy for assessing educator well-being, including those working in human resources or faculty affairs, department chairs, or deans. If an institution has an office for educator well-being or has a designated wellness leader such as a dean for well-being or a chief wellness officer, that office or leader can lead the measurement effort. A local leader is needed even if an outside vendor conducts the survey.

An institution can signal how highly leadership values educator well-being by whom they choose to lead the survey effort. Ideally, this choice would be a highly respected person with seniority in the institution who has access to the necessary resources. Finally, the designated leader should be someone who can motivate high

rates of survey participation and inspire trust that the data will be collected, analyzed and used in ways that honor and protect the identity of participants.

Who will be invited to participate?

Faculty can be defined in relatively narrow or more expansive ways. Academic health centers often classify educators as clinical or non-clinical, clinical or research, core or non-core, or full-time or part-time. Decisions about the target population for educator well-being assessment should be guided by the purpose of measurement, available resources and attention to equity and inclusion. For example, if the purpose of measurement relates to only a subset of educators (e.g., based on role, full- or part-time status, location, sociodemographic factors), then the target population can be limited accordingly. More targeted assessments can also be used to test and refine questions before pursuing a large-scale survey. If resources are constrained, limiting the study population can help ensure there are adequate resources to not only conduct the survey, but also communicate and act on the results.

While limiting the survey population may be justifiable and necessary in some circumstances, it can also pose challenges. First, including only certain groups of educators limits internal benchmarking and can create a perception of differential importance or preferential concern. Second, it risks excluding or obscuring the experiences of educators from groups historically excluded in medicine. Finally, when the measured sample is small, educators may be reluctant to respond (or respond honestly) out of concern that their responses could be identified.

Another question that arises is whether educators should be surveyed at the same time as staff clinicians, fellows, residents, students and administrative staff. This decision depends on whether the instrument being used to measure well-being has validity evidence supporting its use in all the populations mentioned. In some cases, these populations can be surveyed at the same cadence, while in other situations certain groups may need to be surveyed more or less often than others. If an organization has an existing all-employee survey, it may be most feasible to measure educator well-being as part of this survey, provided educator responses can be identified and analyzed separately. It is important to ensure that survey questions are relevant to the educator experience to avoid disenfranchising this group of respondents.

What to Measure?

Educator well-being can be assessed directly using instruments designed for this purpose. When used alone, however, results offer little guidance regarding how to respond or where to direct improvement efforts. Measuring potential drivers of educator well-being (or lack thereof) in the work environment as well can provide actionable insights.

Well-being

Well-being can be conceptualized and measured in different ways. To date, most measures of well-being among health professionals have conceptualized well-being in terms of positive or negative affective states with a disproportionate emphasis on negative states (e.g., emotional exhaustion, depersonalization, depression, anxiety) over positive ones.[8] Burnout is a construct many organizations choose to measure, for example, because of its relationship to work experiences, prevalence and serious consequences.[9] Positive states have

received greater attention recently, however, as health care organizations and professional societies have rallied around efforts to promote work engagement, professional fulfillment and joy in work.[10,11]

Drivers of well-being

Existing studies offer guidance regarding categories of work-related factors relevant to well-being among health professionals that could be explored as part of a measurement effort. Examples include workload (e.g., work demands and support, work efficiency), leadership behaviors, autonomy and flexibility, social support, work-life integration and meaning in work.[12] Workplace accessibility, fairness and exposure to mistreatment or discrimination have also been linked to well-being among health professionals.[13] Such factors contribute to the diversity, inclusion and equity climate within an organization, which can be measured using survey items or other assessment methods.[14,15]

Recent research highlights the potential for identity-related tensions associated with evolving expectations of educators and new educator roles.[16] Alignment between individual and organizational values is another important consideration, which may be particularly relevant to educators given tensions between practice, research and education missions within many organizations.[17]

How to Measure?

Efforts to assess educator well-being benefit from both local and system-level measures. Local measures occur frequently and can be initiated and tracked by particular teams, courses, programs, schools, clinics/units or departments/divisions that use results to inform ongoing improvement efforts. Examples recommended by the Institute for Healthcare Improvement include monthly or quarterly pulse surveys and visual measures such as a glass jar placed near an elevator where staff drop in one marble each day—a blue marble for a good day or a tan marble for a bad day.[11] Touchpoints, check-ins, interviews, focus groups and listening sessions/tours can also be effective ways to monitor educator well-being. These sorts of approaches are often most feasible for local measurement.

Systems-level measures occur at less frequent intervals (e.g., annually) to identify improvement opportunities, identify groups that are struggling or thriving, and track progress over time. Most conceptions of well-being can (or must) be measured via self-report and hence lend themselves to survey items.[18] Table 6.1 provides examples of select well-being measures, organized according to whether the measure assesses a specific construct (e.g., burnout, work engagement), combines multiple constructs into a single instrument (composite measures), assesses well-being across multiple dimensions or uses holistic measurements that avoid imposing a particular conception of well-being and instead allow educators to respond based on their personal interpretations, values and beliefs.

While this chapter focuses primarily on survey-based measures, other system-level indicators could potentially serve as useful (though indirect) indicators of educator well-being. Examples include engagement with well-being programming, use of institutional support resources, leave time utilization, absenteeism, turnover and retention, "soft attrition" (decreasing work effort) and exit interviews (among others).

Selecting an approach to well-being measurement involves numerous practical considerations, including the burden of measurement, applicability to educators and across educator groups, trustworthiness of results, degree to which results will be actionable and sensitivity to change. Attention to diversity, equity and inclusion is also critical throughout the measurement process. The following sections address each of these considerations.

Burden of measurement

Those leading an educator well-being assessment should consider the burden of measurement from the perspective of both educators and the organization.

For educators, time is a leading concern, and multiple, lengthy or frequent surveys can lead to poor response rates. Strategies to address this concern include carefully considering the timing of measurement (as previously discussed), leveraging existing data (if available), limiting the number of survey items and adding measures to existing surveys (e.g., an organizational all-staff survey). Educators consider return on investment and will be more motivated to respond when there is a commitment to act on survey results. Importantly, educators must be aware of this commitment and believe it is sincere. Creating a communication strategy to accompany the launch of the survey and articulating when and how results will be shared and used can increase survey participation. The potential for survey items to trigger distressing thoughts and emotions should also be considered, with careful attention to the wording of questions and inclusion of information about how to access support.

For the organization, the burden of measurement includes costs associated with the use of an instrument and analysis of results. Strategies to reduce these costs include using existing well-being data (e.g., ACGME faculty well-being surveys, other direct or indirect indicators of educator well-being as mentioned previously), incorporating well-being measures into existing data streams (e.g., school faculty surveys, institutional well-being surveys) and choosing inexpensive or cost-free instruments that are relatively simple to analyze. External organizations (survey vendors) are available to administer and analyze surveys if a school or health system does not have the resources to do so internally. Use of a vendor may also bolster confidence in the anonymity of the survey and signal to educators that the institution is willing to invest in well-being. The burden of measurement for organizations also includes costs associated with advertising and socializing the survey, analyzing quantitative and qualitative data if the survey is conducted "in house," disseminating survey results and responding to survey findings.

Applicability

Medical educators have diverse roles, backgrounds, credentials and activities. Some may engage learners directly, while others serve learners more indirectly. Educators also interact with learners in different settings (e.g., physical classrooms, virtual platforms, clinical environments) and can simultaneously be learners themselves (e.g., residents as teachers). Selection of survey items requires careful attention to these factors to ensure the content and wording is relevant to all intended participants. Failure to do so risks sending an implicit message that the experiences of some educator groups matter more than others.

The wording of common well-being measures can also affect their applicability to educators at academic health institutions. Some surveys use the term "client" or "recipient" instead of "patient," while others use the term

"students" instead of the broader term "learners." Table 6.1 provides references to commonly used surveys as well as links for more information on these surveys.

Reliability and validity of results

Using well-being measures with validity evidence supporting the use of resulting scores helps ensure the trustworthiness of results, which is critical to avoid missed or misunderstood problems and misdirected resources. Table 6.1 includes select examples of validity evidence for scores generated by various well-being measures. Interested readers are encouraged to review these resources for more information, along with other articles that provide helpful overviews of validity evidence supporting the use of scores derived from common well-being measures.[1,18,19]

Actionability

A common goal of measurement is to not only identify improvement opportunities, but also motivate improvement efforts. If measurement is undertaken in a context where there is already high commitment to educator well-being, this may be sufficient to motivate action based on survey results. Improvement efforts, however, often involve contending for limited resources, and those responsible for leading the survey effort must convince education and system leaders that such investments are justified.

Survey results are more likely to lead to action if they are easy to interpret, meaningful and important to leaders, and reflect input from key stakeholders. Strategies to increase the actionability of survey results include measuring potential work-related drivers of educator well-being, linking well-being data to other valued outcomes, conducting subgroup analyses, providing benchmarking to help contextualize results and offering respondents with opportunities to complete free-text comment boxes.

- **Measuring potential work-related drivers of educator well-being** can yield valuable information regarding how to direct and prioritize subsequent improvement efforts. This can be done by adding survey items or merging survey results with work environment data from other sources.
- **Linking well-being data to other valued outcomes** such as educator retention or learner experience can also help motivate investments in improvement efforts. While local data are most compelling, referencing prior research (e.g., showing costs and consequences of burnout)[9] can sometimes serve a similar purpose.
- **Conducting subgroup analyses of survey results** can increase the actionability of data by revealing disparities (i.e., groups of educators who face disparate challenges in the work environment), identifying groups that may benefit from targeted interventions and uncovering best practices that can be shared with others or implemented in other contexts.
- **Providing benchmarking data** also helps leaders interpret and act upon survey results. Benchmarking data can be internal (comparing to other staff within the organization), external (comparing to faculty at other schools[20] or national surveys of health professionals[21]) or longitudinal (comparing to historical institutional data to assess the impact of interventions and direct ongoing improvement efforts). When benchmarking, it is important to consider the populations from which norms or benchmarks are derived, as they may not reflect the diversity of participating educators.

- **Including free-text survey comments** is another powerful way to motivate action based on survey results. While potentially time-consuming to analyze, comments add emotion, energy and humanity to otherwise numeric survey results and can include helpful suggestions for improvement.

Sensitivity to change

Ideally, well-being measures would be capable of accurately detecting meaningful effect sizes from interventions. As shown in Table 6.1, some well-being measures specify a time frame (e.g., past two weeks, past month) while others do not, which may reflect their ability to detect change over short time intervals. Because well-being strategies often take time to develop and implement, sensitivity to change over longer time frames (i.e., one year or more) is often adequate.[1] Data supporting sensitivity to change (also known as responsiveness) is most robust for the Maslach Burnout Inventory, which appears capable of detecting moderate effect sizes from various interventions intended to improve physician burnout.[22]

Attention to equity

Measuring educator well-being is often motivated by efforts to ensure the needs of educators receive equitable attention, consideration and support within a school, program or organization. Organizations should, therefore, avoid inadvertent exclusion of relevant educators or educator groups, select survey items that are applicable to all participating educators and ensure mechanisms are in place to make survey results accessible and meaningful to various stakeholders.

Attention to equity within and among educators is also critical throughout the measurement process. Equity among educators (with respect to well-being, ratings of the work climate or experiences in the work environment) can be explored via subgroup analyses based on sociodemographic factors such as age, gender, race/ethnicity, academic rank, faculty role, school/program, site, etc. Such efforts often require balancing the desire to collect demographic information with the need to protect the identity of respondents. Strategies to address this concern include using an external organization to administer the survey and analyze results, using broader demographic categories with a "choose not to disclose" option and redacting data unless a prespecified minimum threshold of respondents is achieved.

The selection and wording of demographics items requires careful consideration. The use of broad categories (such as "Asian," "disability," or "lesbian-gay-bisexual-transgender-queer+ identification") can help protect anonymity but can also obscure or conflate identities that are relevant to the educator experience. A potential way to mitigate this concern is to provide space for respondents to enter more granular information if desired. Demographic questions also typically address only certain aspects of identity. It may thus be helpful to include an open-ended question inviting educators to share other identities that are relevant to their work experience.

Importantly, while subgroup analyses based on demographic factors can help uncover inequities, this approach also risks promoting a deficit framework that blames individuals or groups for disparities rather than recognizing the role of systems and structures in advantaging certain groups and disadvantaging others. Subgroup analyses can also promote eugenic thinking and reinforce implicit or explicit assumptions that certain groups (e.g., white, male, cisgender, heterosexual, able-bodied, wealthy) are innately superior rather than highlighting systemic and structural factors that underlie and perpetuate group-level differences. Those leading the measurement effort

should weigh the potential for unintended consequences of this sort when considering whether to do subgroup analyses and when communicating results.

Finally, subgroup analyses based on a single aspect of identity (e.g., gender or race/ethnicity) neglect the complex interdependence of social identity structures within broader power hierarchies (i.e., intersectionality).[23] Combining responses to demographic items can illuminate disproportionate burdens affecting individuals with combinations of identities. This approach requires large sample sizes to avoid compromising anonymity, however, and increases the complexity of analysis. It also neglects the potential for privilege and oppression to expand and contract over time and across settings.[23] Qualitative approaches are often better suited to understanding how these dynamic complexities manifest within a particular organizational context. These issues are explored in greater depth in Chapter 4.

What To Do With the Results?

Measuring educator well-being is a significant undertaking and accomplishment and may directly promote well-being by giving educators a voice and demonstrating that the institution cares about their experiences and perspectives. Measurement is nevertheless only the first step. Once survey results are in, a communication plan and process can help ensure that key findings are summarized in ways that facilitate effective and efficient communication with various stakeholder groups (e.g., one-page of key findings, slide presentations with additional details, dashboards for internal benchmarking, video recording of a local well-being champion verbally summarizing survey results).

Potential pitfalls to avoid in this process include:
- **Asking without acting:** Asking about problems that the organization is unwilling or unable to address can foster resentment and ill will among educators. A genuine commitment to educator well-being involves responsiveness and a sense of responsibility to act on the results. This requires clarifying who will be responsible for implementing improvement efforts and accountable for resulting outcomes. Importantly, the team that collects and distributes survey data may differ from those responsible for improvements and accountable for outcomes.[24]
- **Action without communication**: Improving work environments takes time, and educators can become frustrated by the lack of progress, especially if they are not involved in or informed of improvement efforts. Repeated communications via multiple modalities are often needed given the numerous issues and challenges vying for educator attention.
- **Analysis paralysis**: Because data often begets new questions, a common pitfall is to succumb to "analysis paralysis," channeling energy and resources into additional analyses or repeated measurements rather than improvement efforts.
- **Predetermined solutions**: Organizational leaders often have ideas for school- or system-wide improvements, but local leaders must own their survey results considering context-specific challenges and opportunities. Improvement efforts should also engage educators by using a Listen-Act-Develop model,[25] conducting follow-up surveys or collecting qualitative input, all while taking care to ensure educators are both empowered and supported in the process.
- **Blame game**: Existing data suggest systems factors are the primary driver of burnout and root cause of inequities. Blaming individuals or groups for systems problems can foster resentment and ill will among

educators, perpetuate harmful stereotypes or assumptions or lead educators to pursue solutions that are personally beneficial but harmful to the organization and society. Blaming the system without willingness to improve the system is also problematic, as improvement efforts are more likely to be successful when organizations and educators are mutually accountable for system outcomes.

- **Deficit thinking:** Improvement efforts often focus on fixing problems (i.e., deficit thinking) by identifying risk factors for a problem (e.g., educator burnout, disparate outcomes among social groups) and developing prevention and intervention strategies directed toward these factors—often using prescribed resources, assumed solutions and negative labels. Strengths-based approaches, in contrast, focus on affirmation, appreciation and positive dialogue by locating problems outside of individuals and empowering groups to work together to discover what inspires them and bring about their goals. Appreciative inquiry exemplifies this approach.[26]

- **Disregarded distress**: Including information about local employee assistance programs, mental health resources and other sources of support can ensure educator respondents know how to seek help if they are experiencing distress. Awareness of emotions is also important when sharing survey results. For example, unfavorable results could be particularly discouraging to faculty affairs leaders who have worked hard to advocate for and support educators or elicit defensive reactions from education or system leaders. Careful listening, empathic responses and acknowledgement of uncertainty are critical for navigating the communication of survey results.

Conclusion

Medical educators are a unique population with unique experiences. They play a pivotal role in training the next generation of scientists and physicians and in advancing human understanding in the sciences and medicine. Measurement can illuminate the unique and overlapping factors relevant to the well-being of educators and help organizations understand what is working well for educators and what pressures and challenges are keeping them from being their best professional selves. Measurement of well-being, if done well, can ideally inspire and inform improvement initiatives that strengthen an organization's ability to provide the highest-quality teaching, patient care and scientific innovation.

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Case Study

Situation

The chair of the family medicine department at a medium sized academic health center oversees 70 faculty members. Her faculty members are mostly physician educators who have clinical duties but also, to a lesser degree, are basic scientists and psychologists. She has been concerned about recent reports of low morale among the faculty and has seen many faculty either leave or retire early in the last year. She has also talked to other faculty, many of whom are her contemporaries, who seem to be thriving. She was trained in an era where well-being was not a priority and is aware of a cultural shift in medicine where many of the newly trained health care professionals are prioritizing self-care and work-life integration. She is fully invested in improving the well-being of her colleagues as she has seen the devastating effects of burnout in her long career.

Approach

This person knows that to better understand the well-being of her faculty, she must conduct a survey. She has only a small budget to support this effort but does have a well-being champion with dedicated salary support in her department to head this survey. Her well-being champion is a junior faculty member who is looking to take on more quality improvement projects, so she has approved this survey as part of a quality improvement initiative. The department chair and her team selected a brief, composite survey that included questions relevant to all roles to measure educator well-being. This department chair decided to administer the survey during an all-faculty meeting where there was 75% participation. A total of 67% of faculty fully completed the survey. Results were collated by the well-being champion and her quality improvement team and shared with each division and their constituents via PowerPoint presentations. During these presentations, questions were often raised about how other divisions were performing and what should be done about the results.

Lessons learned

- The department chair chose a survey instrument that was free for use by nonprofit organizations for quality improvement purposes (and therefore low-cost) and short in length (and therefore easy to administer and complete). Other surveys may have been more expansive in well-being domains, however also, more time-consuming and/or more expensive. Non-survey options such as focus groups could have been an alternative but would have required skilled facilitators and more time.
- The department chair picked a time when faculty were already gathering to administer this short survey to maximize participation.
- A dedicated well-being champion with chair support was able to lead the survey effort and ensure that the survey results were quickly and accurately relayed back to the faculty.
- Divisions struggled to interpret and act on the survey results, however, due to lack of benchmarking and lack of information about potential causes of faculty distress.

Take-Home Points

- Surveying the well-being of educators is important to inform institutional policies and initiatives and to identify and address diversity and equity issues.
- Choosing a survey leader or leadership team that conveys the importance of the survey to educators, engenders trust and inspires participation is critical.
- Engaging stakeholders and other institutional leadership in the survey planning and implementation process and ensuring there is a plan for communicating, and acting upon, results contributes to success in measurement.
- There is no one-size-fits-all survey instrument or survey plan. Both the survey itself and its implementation need to be tailored to the institution. Asking why, when, who, what, how and what is next can help develop the most effective survey plan.

Solutions

Why survey?

- Understand the experience and well-being of an institution's educator workforce
- Uncover variation across groups or sites, and explore how these variations relate to barriers and facilitators in the work environment
- Assess the impact of well-being initiatives
- Recruit and retain a diverse body of educators
- Meet accreditation requirements
- Identify areas of success and areas of opportunity
- Help organizations direct and prioritize their improvement efforts

If?

- Assess overall climate/context

When?

- Avoid competition with other surveys, major initiatives or pressing asks
- Allow time between surveys for institutions to review and respond to survey results with meaningful improvement efforts

Who?

- Choose a survey leader who is highly respected person with seniority in the institution, who has access to the necessary resources and who can inspire trust and motivate high rates of survey participation
- Consider educator type (clinical or non-clinical), schedule (part-time or full-time), location, role, and rank

What?

- Consider conceptions of well-being
- Consider drivers of well-being

How?

- Take into account:
  - Burden of measurement (for educators and the organization)
  - Applicability (to target populations of educators)

- o   Reliability and validity of results
- o   Actionability of results
- o   Sensitivity to change
- o   Attention to equity

What happens next?

- Analyze results (or use outside consultants)
- Share with institutional leadership
- Share at the level at which initiative can be developed and implemented (department, unit, program, specific location)
- Determine who is accountable for improvement efforts and tracking outcomes
- Resurvey to assess impact of initiatives—may use limited survey with limited population at this time, depending on initiative being evaluated

Pitfalls to avoid

- Asking without acting
- Action without communication
- Analysis paralysis
- Predetermined solutions
- Blame game
- Deficit thinking
- Disregarding distress

Table 6.1: Well-Being Measures (Select Examples)

Instrument	Select Reference(s)	Length	Constructs/Domains	Time Frame Assessed	Other Considerations[b]
Burnout					
Maslach Burnout Inventory: Human Services Survey for Medical Personnel (MBI-HSS[MP])	Maslach C, Jackson SE, Leiter MP. *Maslach Burnout Inventory Manual*. 4th Edition. 1996-2018. https://www.mindgarden.com/maslach-burnout-inventory-mbi/685-mbi-manual.html. Accessed December 9, 2022. National Academy of Medicine Action Collaborative on Clinician Well-Being and Resilience. Validated instruments to assess work-related dimensions of well-being. 2018. https://nam.edu/valid-reliable-survey-instruments-measure-burnout-well-work-related-dimensions/. Accessed November 22, 2022. Dyrbye LN, Meyers D, Ripp J, Dalal N, Bird SB, Sen S. A pragmatic approach for organizations to measure health care professional well-being. *NAM Perspectives* Discussion Paper. 2018 National	22 items	Exhaustion (emotional) Depersonalization Personal accomplishment	Rating scale ranges from 'never' to 'every day'	Work-specific Refers to 'patients' Cost

	Academy of Medicine, Washington, DC.				
Maslach Burnout Inventory: Educators Survey (MBI-ES)	Maslach C, Jackson SE, Leiter MP. *Maslach Burnout Inventory Manual*. 4th Edition. 1996-2018. https://www.mindgarden.com/maslach-burnout-inventory-mbi/685-mbi-manual.html. Accessed December 9, 2022.	22 items	Exhaustion (emotional) Depersonalization Personal accomplishment	Rating scale ranges from 'never' to 'every day'	Work-specific Refers to 'students' Cost
Maslach Burnout Inventory (MBI) single item measures	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(12):1318. West CP, Dyrbye LN, Satele DV, Sloan JA, Shanafelt TD. Concurrent validity of single-item measures of emotional exhaustion and depersonalization in burnout assessment. *J Gen Intern Med*. 2012;27(11):1445-1452. Waddimba AC, Scribani M, Nieves MA, Krupa N, May JJ, Jenkins P. Validation of single-item screening measures for provider burnout in a rural health care	1-2 items	Exhaustion (emotional) Depersonalization	Rating scale ranges from 'never' to 'every day'	Work-specific Cost

	network. *Eval Health Prof*. 2016;39(2):215-225.				
Oldenburg Burnout Inventory (OBI)	Halbesleben JRB, Demerouti E. The construct validity of an alternative measure of burnout: investigating the English translation of the Oldenburg burnout inventory. *Work Stress*. 2005;19(3):208–220. Demerouti E, Mostert K, Bakker AB. Burnout and work engagement: a thorough investigation of the independency of both constructs. *J Occup Health Psychol*. 2010;15(3):209. Demerouti E, Bakker AB. The Oldenburg Burnout Inventory: A good alternative to measure burnout and engagement. 2007. https://www.researchgate.net/publication/46704152_The_Oldenburg_Burnout_Inventory_A_good_alternative_to_measure_burnout_and_engagement. Accessed December 9, 2022.	16 items	Exhaustion (physical, emotional, mental) Disengagement	None specified	Work-specific
Copenhagen Burnout Inventory (CBI)	Kristensen TS, Borritz M, Villadsen E, Christensen KB. The Copenhagen Burnout Inventory: A new tool for the assessment of burnout.	19 items	Exhaustion (physical and psychological) ● Personal ● Work-related ● Client-related	None specified	Work-specific and non-work specific Refers to 'clients'

	Work Stress. 2005;19(3):192-207.				
Mini Z 1.0, Mini Z 2.0	Mini Z Survey | Institute for Professional Worklife. [https://www.professional worklife.com/mini-z-survey](https://www.professionalworklife.com/mini-z-survey). Accessed December 9, 2022. Rohland BM, Kruse GR, Rohrer JE. Validation of a single-item measure of burnout against the Maslach Burnout Inventory among physicians. *Stress Health*. 2004;20(2):75–79. Dolan ED, Mohr D, Lempa M, et al. Using a single item to measure burnout in primary care staff: A psychometric evaluation. *J Gen Intern Med*. 2015;30(5):582-587. Waddimba AC, Scribani M, Nieves MA, Krupa N, May JJ, Jenkins P. Validation of single-item screening measures for provider burnout in a rural health care network. *Eval Health Prof*. 2016;39(2):215-225.	1 item	Burnout as defined by survey respondent	None specified	Work-specific
Work engagement					
Utrecht Work Engagement Scale (UWES) – short version	Schaufeli WB, Bakker AB, Salanova M. The measurement of work engagement with a short questionnaire: a cross-	9 items	Vigor Dedication Absorption	Rating scale ranges from 'never'	Work-specific

	national study. *Educational and Psychological Measurement*. 2006;66(4):701–716. Rosenthal J. Critical Synthesis Package: Utrecht Work Engagement Scale (UWES). MedEdPORTAL. Published online August 1, 2014:9862. Kulikowski K. Do we all agree on how to measure work engagement? Factorial validity of Utrecht Work Engagement Scale as a standard measurement tool - a literature review. *Int J Occup Med Environ Health*. 2017;30(2):161-175.			to 'every day'	
Utrecht Work Engagement Scale (UWES) – ultrashort version	Schaufeli WB, Shimazu A, Hakanen J, Salanova M, De Witte H. An ultra-short measure for work engagement: the UWES-3 validation across five countries. *Eur J Psychol Assess*. 2019;35(4):577-591. Merino-Soto C, Lozano-Huamán M, Lima-Mendoza S, Calderón de la Cruz G, Juárez-García A, Toledano-Toledano F. Ultrashort version of the Utrecht Work	3 items	Same as above	Rating scale ranges from 'never' to 'every day'	Work-specific

	Engagement Scale (UWES-3): a psychometric assessment. *Int J Environ Res Public Health*. 2022;19(2):890.				
Composite measures					
Well-Being Index (WBI)	Dyrbye LN, Satele D, Sloan J, Shanafelt TD. Utility of a brief screening tool to identify physicians in distress. *J Gen Intern Med*. 2013;28(3):421-427.	7 items	Fatigue Depression Burnout Anxiety/stress Mental/physical quality of life	Past 1 month	Work-specific and non-work specific Cost
Expanded Well-Being Index (eWBI)	Dyrbye LN, Satele D, Shanafelt T. Ability of a 9-Item well-being index to identify distress and stratify quality of life in US workers. *J Occup Environ Med*. 2016;58(8):810-817.	9 items	Same as above + Meaning in work Satisfaction with work-life integration	Past 1 month	Same as above
Professional Fulfillment Index (PFI)	Trockel M, Bohman B, Lesure E, et al. A brief instrument to assess both burnout and professional fulfillment in physicians: reliability and validity, including correlation with self-reported medical errors, in a sample of resident and practicing physicians. *Acad Psychiatry*. 2018;42(1):11-24. Vetter M, Vetter M, Cohn D, Yeager K, Fowler J. Utility of the Stanford Professional Fulfillment Index as a single survey	16 items	Professional fulfillment Work exhaustion Interpersonal disengagement	Past 2 weeks	Work-specific Refers to 'patients' and 'colleagues'

	instrument to assess holistic physician wellbeing. *Gynecol Oncol.* 2021;162:S327-S328.				
Brief Inventory of Thriving (BIT)	Su R, Tay L, Diener E. The development and validation of the Comprehensive Inventory of Thriving (CIT) and the Brief Inventory of Thriving (BIT). *Appl Psychol Health Well Being*. 2014;6(3):251-279.	10 items	Life satisfaction Positive emotions Support Belonging Meaning Engagement Self-worth Self-efficacy Accomplishment Optimism	None specified	Not work-specific
Psychological General Well-Being Index – Short Version (PBWB-S)	Grossi E, Groth N, Mosconi P, Cerutti R, Pace F, Compare A, Apolone G. Development and validation of the short version of the Psychological General Well-Being Index (PGWB-S). *Health Qual Life Outcomes*. 2006;4:88.	6 items	Anxiety Vitality Depressed mood Self-control Positive well-being	Past 1 month	Not work-specific
Multidimensional measures					
Secure Flourish Index (SFI)	VanderWeele TJ. On the promotion of human flourishing. *Proc Natl Acad Sci U S A*. 2017;114(31):8148-8156. VanderWeele TJ, McNeely E, Koh HK. Reimagining health—flourishing. *JAMA*. 2019;321(17):1667. Węziak-Białowolska D, McNeely E, VanderWeele TJ. Flourish index and	12 items	Happiness and life satisfaction Physical and mental health Meaning and purpose Character and virtue Close social relationships Financial stability	None specified	Not work-specific

	secure flourish index – validation in workplace settings. *Cogent Psychology*. 2019;6 (1598926):1-10.				
Holistic measures					
Single item measure of job satisfaction[a]	Wanous JP, Reichers AE, Hudy MJ. Overall job satisfaction: how good are single-item measures? *J Appl Psychol*. 1997;82(2):247-252. Dolbier CL, Webster JA, McCalister KT, Mallon MW, Steinhardt MA. Reliability and validity of a single-item measure of job satisfaction. *Am J Health Promot*. 2005;19(3):194-198.	1 item	Job satisfaction	None specified (typically)	Work-specific
Single item measure of life satisfaction	Cheung F, Lucas RE. Assessing the validity of single-item life satisfaction measures: results from three large samples. *Qual Life Res*. 2014;23(10):2809-2818.	1 item	Life satisfaction	None specified (typically)	Not work specific
Linear analog scale assessment quality of life measures[a]	Norman GR, Sloan JA, Wyrwich KW. Interpretation of changes in health-related quality of life: the remarkable universality of half a standard deviation. *Med Care*. 2003;41(5):582-92. Singh JA, Satele D, Pattabasavaiah S, Buckner JC, Sloan JA. Normative data and	1+ items	Quality of life overall or across multiple dimensions (e.g., physical, mental, emotional, social, financial, spiritual,)		Not work specific[a] 0-10 or 0-100 linear analog scale

	clinically significant effect sizes for single-item numerical linear analogue self-assessment (LASA) scales. *Health Qual Life Outcomes*. 2014;12:187. Dyrbye LN, Satele D, Shanafelt T. Ability of a 9-Item Well-Being Index to identify distress and stratify quality of life in us workers. *J Occup Environ Med*. 2016;58(8):810-817.				

[a] These approaches could be adapted to assess satisfaction or quality of (work) life across multiple work-related roles or activities by repeating single-item, holistic ratings across each role/activity.

[b] For all instruments, it is important to determine if permissions/approvals are needed to reproduce survey items.

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Appendix

At the end of 2021/beginning of 2022 as the COVID-19 pandemic entered its third year the AMA Accelerating Change in Medical Education Consortium and the AMA Council on Medical Education collaborated to make recommendations that would support educators and help medical education institutions continue their education mission in the face of sustained disruption. This preliminary guide was published on the AMA website in February 2022 and forms the basis for this book. It is reprinted here.

Organizational steps to support medical educators

Longstanding threats to the education mission in medicine continue to undermine educators, organizations and systems. The global COVID-19 pandemic has highlighted these threats and amplified pre-existing strains on the medical educator workforce. The disruptions caused by the pandemic will continue to impact educational systems even as pandemic conditions improve. In addition, the attrition of medical educators has far-reaching implications for health care systems nationwide.

Since educational efforts have traditionally been undervalued by health care organizations, there is risk that individuals under stress will abandon educational roles.

Such response is doubly unfortunate since well-being is highly associated with a sense of purpose in one's work and many derive tremendous satisfaction from educational activities. Concurrently, the disruption of the pandemic propelled important educational innovations—ones that we should consider sustaining or developing further.

It is imperative to preserve the capacity for creativity among educators and avoid reversion to historical practices out of sheer exhaustion and change fatigue. This is not an issue of individual resilience. Health care organizations and educational institutions must take action to avoid mass abandonment of educational duties and loss of educational leaders.

The following list of challenges and associated recommendations emerged from the vision and collaborative work among members of the **AMA Accelerating Change in Medical Education Consortium** and the **AMA Council on Medical Education**:

Key threats to the education mission during sustained disruption

Disruption of the clinical learning environment
- Operating in strained clinical systems impairs educators' ability to engage in teaching, direct observation and provision of feedback to learners.
- Physicians who are over-extended and under-supported cannot serve as inspiring role models to students, resident physicians and fellows.
- Resident physicians have experienced clinical service demands that altered their own education and training and impact their pathway to specialty certification and independent practice. Such disruption makes it difficult for residents to fulfill their critical role in educating and serving as role models for medical students.

Repeated redesign of the educational program

- Educators have been called upon to urgently redesign educational programs while simultaneously dealing with constant changes in workflows.

- Conversion to virtual and hybrid settings has required educators to learn new skills and evaluate tools while addressing competing organizational and personal demands.

- Administrative burdens related to educational programming have not been adjusted to offset competing demands, and in some cases administrative support has been reduced due to staffing limitations.

Cognitive and emotional load on educators

- Educators have faced greater cognitive load in all daily routines (disruptions to clinical, classroom and home activities), making it difficult to continue to juggle multiple roles.

- Educators bear responsibility for learner well-being and have experienced an added empathic burden as learner well-being has been compromised.

- Learner anxiety and frustration with alterations to training and career progression have compromised relationships between learners and educators; yet such relationships are important motivation for engaging in educational duties.

- Increased awareness of chronic health inequities highlighted the imperative to combat structural racism in educational programs. Educators need time and resources for personal reflection, developing individual and organizational competency, and redesigning educational systems. This challenge places an even greater burden on educators who themselves identify with historically marginalized groups.

Organizational gaps

- Historically, key activities to support medical education are not sufficiently valued or protected by organizations.

- The medical education system lacks educational surge capacity.

- Medical educators function at the intersections of systems. Each educational program interacts with associated health system(s), accreditors and licensure systems that are also in flux. This places constraints on the educator's influence and creates tension.

- Career development among educators is languishing as they strive to meet the many challenges presented by recent disruptions.

- Well-being efforts appropriately focus on learners and on health care providers; however specific programming to support the unique needs of educators—and the diversity of needs among educators—is commonly neglected.

Identifying organizational strategies

In developing organizational responses to the many challenges, it is important to recognize that education is not limited to delivery of content. Critical educator roles also include direct observation and assessment of learner progress, coaching and mentoring. The broad continuum of educator roles ranges from informal to more structured duties—from "frontline" clinical supervisors in the workplace (including resident physicians); to educators who contribute with intermittent small group facilitation, lectures or mentoring; to those with formally appointed roles in teaching, assessment and advising. Finally, administrators charged with oversight of curricular and assessment programs require support from the leadership of both the educational institution and their associated health system(s) to implement necessary changes.

Given this breadth of educator roles, the potential actions to support them are equally broad.

Recommendations:

1. Monitor and support well-being of educators as well as learners

- Explicitly assess and monitor educator well-being.
- Establish organizational well-being efforts that specifically consider the context of educators. Read AMA STEPS Forward: Creating a Resilient Organization.

2. Refine workflows to support educational interactions

- Design clinical workflows and spaces that support inclusion of the education mission.
- Identify systems issues that create constraints on individual educators' efforts.
- Empower educators, administrators and learners to propose adjustments to workflows.
- Solicit input from resident physicians—who are simultaneously learners, educators and role models.
- Foster an environment of shared learning, facilitate positive communications and promote co-production of solutions between educators and learners.

3. Protect time for educational activities

- Provide appropriate protected time and remuneration for educational roles.
- Alleviate administrative burdens on educators and eliminate non-essential tasks.
- Provide adequate educational administrative staffing.
- Leverage shared online or commercial resources as appropriate rather than generating new institutionally based materials or solutions.

4. Provide ongoing training

- Provide frontline clinical supervisors tips for efficiency in workplace-based education practices:
  - Reduce focus on delivery of content and encourage more direct observation of encounters with patients, discussion of clinical reasoning and provision of feedback.
  - Encourage educational huddles to set priorities with learners.

- Provide faculty development in efficient workplace-based tools, such as one minute preceptor. View the AMEE Guide no. 34: Teaching in the clinical environment.
- Reduce educator burden related to evaluations of learner performance by soliciting focused feedback in a timely manner and monitoring total requests on the individual educator.

- Provide training for educators in tools for remote education, simulation and for engaging learners in remote care settings. Read the AMA Telehealth Clinical Education Playbook.

- Support educator involvement in professional development programs.

5. Nurture educator career advancement

- Remunerate for educational roles (e.g., protected time, merit pay, inclusion in annual evaluations)

- Provide reports of educators' activities to department chairs or other relevant supervisors

- Provide regular reviews of each educator's progress regarding promotion and tenure and provide appropriate mentoring.

- Create mechanisms to acknowledge the work of educational design (and redesign) in promotions and tenure evaluations as scholarly teaching and/or institutional service.

- Provide centralized support for scholarly work in education, such as amplifying opportunities to submit for presentations and grants, hosting writing huddles, and supporting travel to educational conferences.

- Amplify a view of the education mission as a critical factor in organizational success and showcase educational contributions across the organizational community.

6. Build educational surge capacity

- Inventory individual educator's tasks to create flexibility and consider re-distribution as indicated.

- Engage more educators across the program.

- Create a deliberate succession plan for key educational roles.

- Consider opportunities for near-peer teaching and assessment and for multi-media approaches that support self-directed learning and assessment.

- Offset the burden of developing educational materials and tools by using open source or vendor solutions as appropriate.

- Actively leverage technologic solutions to administrative and educational tasks.

7. Advocate for systems change, locally and nationally

- Encourage all stakeholders to apply systems thinking to the educational process and engage learners in co-production of educational redesign.

- Strengthen relationships between the educational institution and associated health system(s) to facilitate shared problem solving and align communications.

- Implement value-added roles for learners.

- Advocate for appropriate adjustments in accreditation processes and assist leaders of educational programs to follow evolving recommendations and requirements.