Supporting the Resilience and Mental Health of Missouri Healthcare Workers Through COVID-19 and Beyond: the Gateway2Wellness Program

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Abstract

The COVID-19 pandemic is over, but US healthcare workers (HCWs) continue to report high levels of work-related exhaustion and burnout but are unlikely to seek help. Digital tools offer a scalable solution. Between February and June 2022, we surveyed Missouri hospital administrators to assess HCW mental health and identify related evidence-based or evidence-informed resources. Simultaneously, we conducted a digital survey and focus groups with HCWs and leaders at Washington University School of Medicine (WUSOM) in St. Louis to evaluate HCW mental health needs, and preferences for digital support. Here, we describe the results and subsequent development of the Gateway to Wellness (G2W) program, a digital precision engagement platform that links HCWs to the most effective tailored resources for their mental health needs.

Introduction

In mid-2020, at the height of the COVID-19 pandemic in New York City, 60% of HCWs reported significant psychological distress, but 49% answered "no" when asked if they were interested in using wellness resources.[1] Numerous studies conducted over the course of the pandemic indicate that symptoms of DSM-5 (5th Edition Diagnostic and Statistical Manual) disorders like anxiety, depression, and post-traumatic stress among HCWs persist beyond acute infection surges.[2] Similarly, burnout—recognized by the International Classification of Diseases, 11th Revision (ICD-11) as a syndrome of work-related exhaustion, detachment, and reduced professional efficiency specifically related to chronic workplace stress[3]—is higher now than at previous points in the pandemic.[4-6] The crisis prompted the US Surgeon General to issue an impact report outlining the scope of the problem and detailing federal investment in HCW mental health in May of 2022.[7] The term 'resilience,' is often used interchangeably with terms like toughness or grit, which refer to fixed traits. Rather, resilience

refers to emotional self-awareness and the ability to adapt to difficult circumstances by seeking help when needed.[8] These qualities can be cultivated or learned,[9] to the benefit of HCWs and the systems in which they work. But resilience without self-awareness can lead to adversity tolerance and emotional detachment[10]—the very definition of burnout.

Despite persistently higher levels of reported mental distress in the HCW population for decades, their use of mental health services has consistently been low.[11] Systemically, time constraints, lack of access, and cost may prevent healthcare workers from getting the help they need.[12,13] More insidiously, many HCWs are reluctant to seek mental health care due to stigma,[14] or worry it will impact their professional reputation or license to practice.[15] Reluctance to use available services is also related to perceived differences between personal needs and the relevance or impersonal nature of available services.[16,17] HCWs tend to normalize symptoms, believing they can manage it on their own, or doubt their ability to accurately identify mental health issues.[18,19] Finally, healthcare executives may be particularly vulnerable to burnout; in a recent survey of American College of Health Executives, 33% met criteria for burnout.[20] We know from prior study that executives in general minimize their own burnout, which can result in their overestimation of employees' mental health.[21] And poor emotional health of HCWs affects the entire health system,[22, 23] leading to high staff turnover and related costs of recruiting, hiring and training new workers, reducing system capacity to care for patients, or both.[24] One study estimated that burnout costs $4.6 billion dollars a year in the US, and at the organizational level, this amounts to about $7,600 per employed physician per year.[25]

Dr. Lorna Breen's tragic death by suicide in April 2020 was a wakeup call for healthcare providers and the organizations that employ them. In collaboration with the National Academy of Medicine,[26] the Foundation named for Dr. Breene[27] developed a set of simple recommendations healthcare organizations could take to prevent suicide in HCWs that was the impetus for many institutions to quickly put in motion assessment and prevention measures. Also in April, 2020, WUSOM conducted the EMPlOyee Well-Being during Epidemic Response (EMPOWER) study to evaluate HCW distress in contrast to awareness and utilization of available resources.[28] Unsurprisingly, HCW use of employer-offered resources was low in contrast to reported levels of distress. Participants cited cost, work-related time constraints and concerns about confidentiality as reasons for not seeking help. They also indicated a preference for digital resources and digital support for navigating available resources, strongly suggesting that a digital solution would be accepted, and in fact might be necessary for addressing mental health needs remotely, privately and quickly. These results formed the basis of the WUSOM response to a request for applications from the Health Resources and Services Administration (HRSA) to develop and implement programs protecting the mental health of HCWs. This paper reports the results of the initial needs assessment, which informed development of the Gateway to Wellness (G2W) platform, a digital, measurement-based approach with live navigation support to link HCWs to the most effective resources for their mental health needs.

Methods

Study Design, Setting, and Populations

To better understand the mental health of Missouri HCWs, we conducted a two-phase needs assessment.

Phase 1: We conducted in collaboration with the Missouri Hospital Association (MHA), a digital survey of health system administrator perspectives on the mental health of HCWs in their organizations and detailed the evidence-based and evidence-informed programs in place to support HCW resilience.

Phase 2: This involved a redeployment of the EMPOWER survey, followed by an invitation to participate in a virtual focus group, interview, or a digital follow-up survey of open-ended questions to further detail HCW needs and preferences for mental health and mental health services.

The interconnected WUSOM and BJC HealthCare (BJC) system of hospitals and clinics, based in eastern Missouri, provides care in rural, urban, and suburban areas across the state. Washington University employs >19,000 faculty and staff and supports medical student (>1,300) and resident and fellow (>1,000) clinical training. WUSOM also has one of the largest faculty practices in the country with more than 55 clinical sites across the state. BJC is among the nation's largest health care organizations, with >30,000 employees, 14 hospitals, and numerous outpatient facilities across eastern Missouri and southern Illinois. This study was approved by the WUSOM Institutional Review Board.

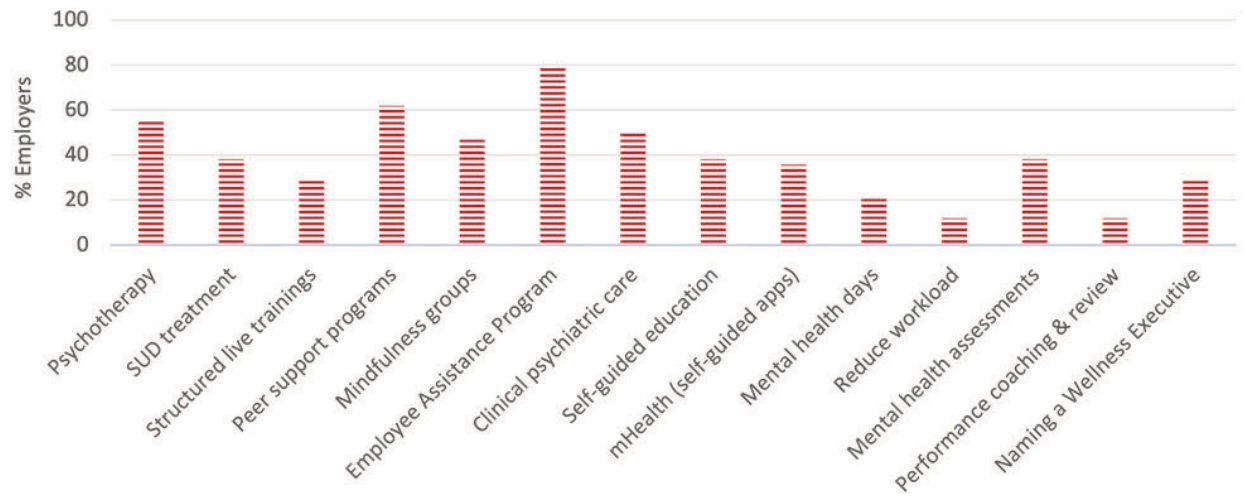

Figure 1. Mental Health Resources and Programs for Healthcare Workers in Missouri Health Systems

Needs Assessment Phase 1 Methods

In partnership with MHA, a digital survey was sent via email to 200 Missouri health system administrators in late February 2022 to assess their perceptions of HCW mental health and fatigue related to the pandemic, and to collect information on programs and resources in place to support HCW mental health. Participants were compensated for completing the survey.

Needs Assessment Phase 2 Methods

A final EMPOWER survey was sent to all Washington University employees (including HCWs and non-HCWs) in late February 2022. Psychological distress was measured by the 21-item Depression and Stress Scale (DASS-21).[29] Burnout symptom severity was measured with the 10-item burnout subscale of the Professional Fulfillment Inventory.[30] A series of questions about resilience and stigma were pulled from the six-item Brief Resilience Scale[31] and four questions related to mental health stigma were included.[32]

EMPOWER respondents who agreed to be contacted for additional assessments were invited via email to participate in a virtual focus group, 1:1 interview or to answer additional open-ended questions via a digital survey link. The goal of these focus groups and interviews was to identify mental health needs, openness to digital solutions for assessing and linking to personalized resources, and preferences for digital messaging and content.

The focus groups and interviews covered four different topics: 1) Medical trainee experience with seeking behavioral health support and recommended modes of program dissemination; 2) Experience with technology, preferred methods of contact, and recommended modes of program dissemination; 3) Reactions to the G2W dashboard, assessments, and program flow; 4) Behavioral health professionals' experience treating the HCW population and needs for supporting an influx of HCW patients from the G2W program. Participants were compensated for their participation.

Results

Phase 1 Results

We received responses from 45/200 (22.5%) Missouri hospital administrators, including from 16 hospital systems and three academic medical centers in Missouri. Thirteen respondents from Missouri organizations reported their work role was a function of their organization's Human Relations department. Five respondents reported a title associated with employee mental health (4) or organizational culture and development (1). One respondent was a Chief Medical Officer. Twenty-two respondents were departmental wellness leaders from within the WUSOM/BJC system.

Of the 19 organizations whose administrators responded to the survey, eight had employee populations <500; one had about 800 employees; six had 1,000-5,000 employees; two had 5,000-10,000 employees, and two had >30,000 employees. Eight organizations reported <10% of their employees

Table 1. Phase 1 and Phase 2 Needs Assessment Respondent Characteristics

Assessment Question & Response Options	n, (%) n=475
Depression and Stress Scale (DASS) responses of "moderate" "severe" or "extremely severe"	
Stress	59 (12.9)
Anxiety	78 (17.1)
Depression	79 (17.4)
Professional Fulfillment Inventory (PFI) score >1.33*	
Work exhaustion	261 (55.4)
Interpersonal disengagement	129 (27.6)
Burnout	205 (44.1)
Resilience (responses of "sometimes true" , "often true" or "always true"	
I'm able to adapt when changes occur	465 (99.1)
I tend to bounce back after illnesses, injury or other hardships	457 (97.9)
Mental Health Stigma responses of "agree" or "strongly agree"	
It is a sign of personal weakness or inadequacy to receive treatment for emotional or mental health problems	13 (2.8)
My supervisor would see me less favorably if they believed that I had an emotional or mental health problem	108 (23.0)
My co-workers would see me less favorably if they believed I had an emotional or mental health problem	119 (25.4)
Mental health care provided to faculty and staff at my institution is truly confidential	244 (52.0)
Reason for Nonuse of Available Resources	
Didn't feel I needed any mental health resources	221 (46.5)
Not aware of resources available	148 (31.2)
Too busy to access the resources	148 (31.2)
Privacy/confidentiality concerns	77 (16.2)
Using non-WU resources	58 (12.2)
Too many to choose from	12 (2.5)
Too difficult to access the resources	39 (8.2)
Lack of supervisor support	20 (4.2)
Resources are ineffective	10 (2.1)
*An overall score of >1.33 on the PFI is correlated with clinically significant symptoms of burnout.	

were from underrepresented racial, ethnic, or gender groups; six reported 10-20% of employees were from underrepresented groups; one organization reported 30-50% of employees were from underrepresented groups, and one organization reported 60-70% of employees were from underrepresented groups. Although 23.9% (11/45) of respondents observed general improvements in HCW mental health, 19.6% (9/45) continued to report HCW mental health as the worst it's been during the pandemic. Fatigue related to the pandemic was still significant, with 56.5% (25/45) of respondents reporting HCW fatigue as not good or the worst it's been during the pandemic. All organizations offered health insurance; five programs were self-insured.

Respondents were also asked to indicate whether their organizations offered any of 14 common evidence-based or evidence-informed programs to promote HCW resilience and mental health (Figure 1). These included: psychotherapy, Employee Assistance Programs (EAP), substance use treatment offered outside of EAP, clinical services offered outside of EAP, supervisor training, peer support, mindfulness programs, self-guided digital educational content, mobile health applications, encouraged use of mental health days, training to help HCWs reduce workload and redundancy, regular mental health assessments, incorporation of supervisor support of HCW mental health service use in performance metrics, and naming of a wellness executive.

Phase 2 Results

The February 2022 EMPOWER survey was sent to 11,790 Washington University employees; 2,646 responded (15.3%), 475 of whom were providing direct clinical care (Table 1). Responses to questions about depression, stress and anxiety, burnout, interpersonal disengagement, and work exhaustion, and resilience and mental health stigma are shown in Table 2. Notably, over half of respondents reported clinically significant work exhaustion, with just under half reporting significant burnout symptoms despite relatively low COVID infection rates at the time of the survey. And while more than half of respondents felt that mental health care provided by their employer was confidential, nearly a quarter of respondents reported that their supervisor and/or coworkers would think poorly of them for seeking help. Interestingly, the top three reasons for not using mental health resources included lack of need, lack of awareness, and lack of time over confidentiality concerns.

We also conducted 14 follow-up focus groups with 42 participants, including faculty members (n=13), clinical trainees (n=6) and staff members (n=23), and conducted interviews with WUSOM/BJC departmental and institutional leaders (n=37). Themes arising from focus groups included: 1) Personalized content and messaging that acknowledges contextual factors contributing to burnout and distress; 2) Mechanism for giving anonymous feedback about the program; 3) Resources and services need to be relevant

Table 2: Mental Health, Burnout, Stigma and Resource Utilization among WUSM Healthcare Workers

Assessment Question & Response Options	n, (%) n=475
Depression and Stress Scale (DASS) responses of "moderate" "severe" or "extremely severe"	
Stress	59 (12.9)
Anxiety	78 (17.1)
Depression	79 (17.4)
Professional Fulfillment Inventory (PFI) score >1.33*	
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I'm able to adapt when changes occur	465 (99.1)
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*An overall score of >1.33 on the PFI is correlated with clinically significant symptoms of burnout.	

and accessible; 4) Need treatment options outside of WUSOM for confidentiality; and 5) Options for completing assessments and accessing Navigator assistance via email as well as by text. Themes arising from interviews included: 1) Institutional support/ naming a Chief Wellness Officer; 2) Health insurance benefits and mental health services should be provided to employees of all types, not just those who are benefits-eligible; 3) Alignment of priorities between medical school and health system where applicable; 4) Institutionally-supported programs to reduce stigma of seeking mental health assistance; and 5) Digital tools that protect confidentiality and can reach HCWs providing care in rural settings.

Gateway to Wellness Digital Platform Concept & Development

An existing digital platform employed in delivering lifestyle change interventions to hospital workers,[33,34] and to individuals with serious mental illnesses receiving care in community mental health clinics[35] was identified as the framework for the G2W intervention (Figure 2). Features of G2W include electronic informed consent, a participant-facing dashboard that allows users to deploy digital assessments, track monthly scores, save, or swap preferred resources, and provide text feedback about the program.

The G2W program consists of scheduled monthly digital assessments and optional brief weekly check-ins sent to participants' cell phones via a link in a short message service (SMS) text message, and/or to their email, depending on user preference. The monthly assessment consists of 35 brief questions tracking five domains of mental wellbeing, including stress, mood, sleep, burnout, and emotional support. Participants receive their monthly assessment score along with a descriptive interpretation, and a personalized link to employer-offered resources across four tiers of symptom severity ranging from none or mild to critical. None to mild symptom resources include mindfulness groups, digital self-guided educational content, mobile health applications, and counseling. Clinical care provided by a medical professional is offered for moderate to severe symptoms.

In addition to the digital platform, a live mental health Navigator monitors assessments and can connect with participants by text, email, or phone call when behavioral assessments reveal crisis/extreme symptom severity. All participants will have access to secure, two-way SMS messaging with a Navigator for personalized problem-solving. Navigators can also contact participants if they haven't responded to weekly mental health checks for two weeks in a row (e.g., selecting "skip" counts as a response). G2W Navigators are certified in Adult Mental Health First Aid from the National Council for Mental Wellbeing[36] and knowledgeable about institutional and regional mental health resources available to HCW participants.

Discussion

Despite a relative reduction in COVID cases and illness severity across Missouri, health system leaders

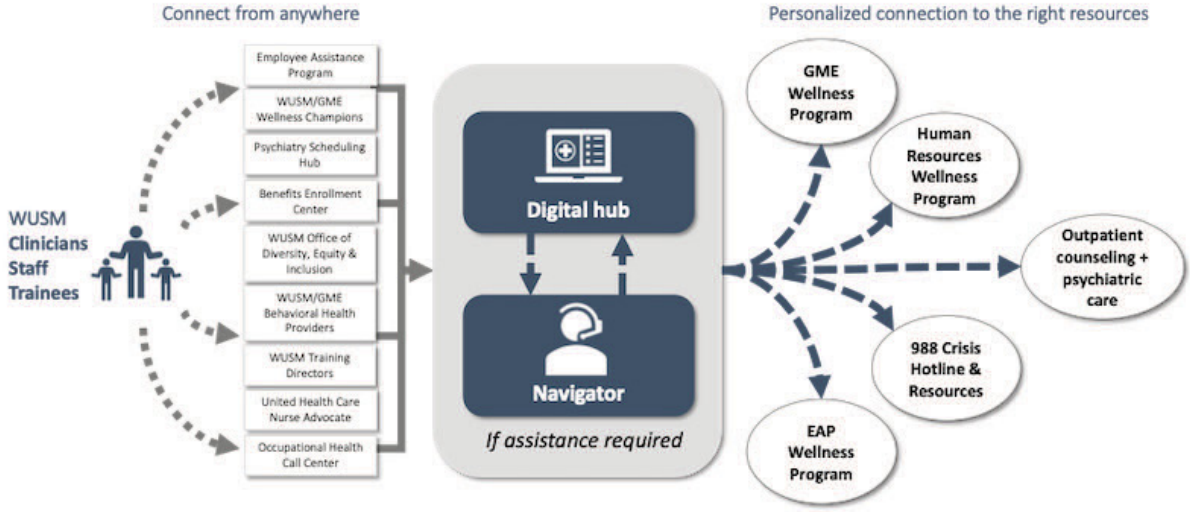

Figure 2. Gateway2Wellness Digital Platform and Program Overview

and HCWs both report high levels of psychological distress, burnout, and work-related exhaustion. At the beginning of the pandemic, 14.5% HCWs in the WUSOM system reported moderate to severe stress, 17.2% reported moderate to severe anxiety, and 16.4% reported moderate to severe depression.[28] In contrast, our recent assessment indicates a modest improvement in self-reported stress (12.9%), while anxiety symptoms remained unchanged (17.1%) and symptoms of depression worsened (17.4%). Most notably, the number of clinical workers endorsing clinically significant symptoms of burnout and exhaustion increased from 32% to 44% and 51% to 55%, respectively.

This report highlights four additional important findings: 1) HCW concerns are shifting away from mental and emotional distress to exhaustion and burnout; 2) Resource utilization remains low compared to the level of reported distress; 3) Reasons for non-use of available resources continue to reflect low awareness and limited time to access them; and 4) Perceived stigma against seeking mental health treatment remains prevalent.

These results extend observations in other health systems,[37] and suggest that contextual factors—such as shifting societal needs and a disintegrated health system—are now impacting HCW mental health more so than are infection rates. There is good news here too, though, in that there is now established guidance for changing contextual factors impacting HCW mental health, like workplace culture. A list of evidence-based strategies health systems and HCWs can use now to promote resilience can be found in Figure 3.

Limitations

This work is subject to important limitations; namely that it is specific to Missouri organizations and workers and may not be generalizable to the rest of the US health care system. Secondly, the small sample size in the Phase 1 needs assessment, combined with the low response rates in both phases of the needs assessment, may not fully represent the needs of all HCWs. In particular, HCWs in rural areas and underrepresented communities likely have significantly different mental health needs, with different barriers to accessing care. However, these data provide a starting point from which to develop, implement and test the effectiveness of a digital solution for reducing barriers to HCWs seeking psychological support.

Conclusion

The COVID pandemic exacerbated the already high prevalence of burnout, mental health disorders and emotional distress among HCW, spurring national action to improve the mental health of HCW. Digital care coordination, as conceptualized in the G2W project, offers a viable solution for promoting HCW use of mental health resources, especially for HCWs in rural areas where there may be few mental health providers. Digital assessment and linkage to existing

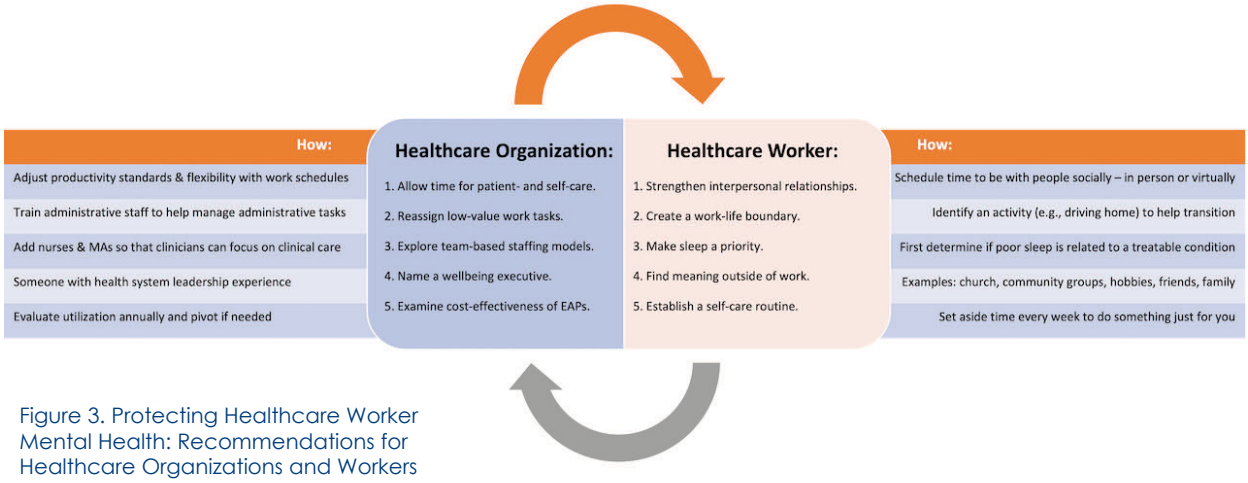

Figure 3. Protecting Healthcare Worker Mental Health: Recommendations for Healthcare Organizations and Workers

resources via an automated algorithm, with connection to a live mental health Navigator for more personalized self-care planning and problem-solving is one evidence-based approach to increasing prevention and leveraging early treatment opportunities.[38] Moreover, digital tools offer a degree of autonomy and privacy, allowing HCWs to learn about and access resources on their own terms.

Following the development of the G2W platform in 2022, this personalized digital intervention is being evaluated in WUSOM HCWs in 2023, with plans to expand its use in other Missouri health systems in subsequent years if initial testing shows improvement in HCW mental health outcomes. Supporting the mental health of HCWs is a long-term goal of existential importance to health care systems. Increasing access to appropriate and effective mental health treatment and support services is a critical element for achieving this goal; health care leaders must also take action to address modifiable sources of stress among HCW, to reduce stigma around mental health, and to create a culture of care and respect for our colleagues.

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Funding Sources

The content of this manuscript is funded by the Promoting Resilience and Mental Health Among Health Professional Workforce (PRMHW), Health Resources & Services Administration (HRSA) Award Number: U3 MHP45389). This work was also supported by NIMH (R34 MH118395), NIDDK (R01 DK103670), NCATS (UL1TR002345) and a cooperative agreement between the CDC and NIOSH (U19OH008868).

Acknowledgments

This work would not have been possible without support from the Washington University Community Support Team, the Wellness Connection Team in the Office of Human Relations, the WUSOM Faculty Practice Plan, the Mobile Health Research Core (mHRC), part of the WUSOM Institute for Clinical Translational Sciences, the Center for Healthy Work in the Department of Medicine, and the Healthy Mind Lab and the Center for Employee & Family Mental Health & Wellness in the Department of Psychiatry.This work would not have been possible without support from the Washington University Community Support Team, the Wellness Connection Team in the Office of Human Relations, the WUSM Faculty Practice Plan, the Mobile Health Research Core (mHRC), part of the WUSM Institute for Clinical Translational Sciences, the Center for Healthy Work in the Department of Medicine, and the Healthy Mind Lab and the Center for Employee & Family Mental Health & Wellness in the Department of Psychiatry. **MM**