

Clinician Retention in the Era of COVID: Uniting the Health Workforce to Optimize Well-Being March 15, 2022 12:00 – 4:30 PM ET

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American Academy of Physician Assistants

Participant: Noel Smith, Senior Director of PA and Industry Policy and Analysis

American Association of Critical-Care Nurses Participant: **Connie Barden**, Chief Clinical Officer

American Medical Women's Association Participant: **Kim Templeton**, Past President

American Public Health Association Participant: Georges C. Benjamin, Executive Director

Association of American Medical Colleges

Participant: NaShieka Knight, Director, Workforce Transformation

National Institute for Occupational Safety and Health, Centers for Disease Control and Prevention

Participant: Chia-Chia Chang, Coordinator for Total Worker Health Collaborations

ADDITIONAL READINGS

1. Why Health-Care Workers Are Quitting in Droves

Yong, 2021

About one in five health-care workers has left their job since the pandemic started. This is their story—and the story of those left behind.

2. <u>Professional Societies' Role in Addressing Member Burnout and Promoting Well-Being</u>

Rinne et al., 2020

The Critical Care Society Collaborative convened a task force to document professional society initiatives to address burnout, explore perspectives on the role of societies to address burnout, and develop recommendations that could guide critical care societies' efforts to promote well-being. Our findings highlight a clear role for professional societies to address burnout and promote members' well-being.

RESOURCE SHARED BY: American Academy of Physician Assistants

Clinician Retention in the Era of COVID: Uniting the Health Workforce to Optimize Well-Being (March 15, 2022 NAM convening) On May 23, 2022 join 150 other invited guests along with distinguished speakers at the *Symposium on Clinician and Clinical Student Well-Being within a Team-Based Environment* to learn about current research on burnout and well-being, and discuss best practices for reducing burnout and enhancing the well-being of clinicians working within a team-based healthcare setting as well as to support the development of PA student interventions.

Research has shown that burnout can lead to reduced patient outcomes, increased costs to patients and organizations, and poor mental health for clinicians. It is paramount to bring all the relevant stakeholders together to ensure that patients, providers, and healthcare organizations have optimal outcomes.



The goals of the Symposium are to

(1) **encourage research** on clinician well-being to include all clinician team members rather than just on individual professions;

(2) **disseminate and implement** clinician well-being research information and tools for changing team and organizational culture;

(3) understand the unique aspects of the PA profession in the context of burnout and well-being;

(4) **develop partnerships** with stakeholder organizations and build their capacity to participate in research activities and use the results of health services research;

(5) **enable clinicians and administrators** to work together to create a culture of well-being for all clinician team members; and

(6) improve the quality and safety of healthcare.

Symposium Details

Location	Indianapolis, Indiana
Date	Monday, May 23, 2022
Time	7:30 am to 5:00 pm
Registration	Invited Guests: Free AAPA 2022 attendees: Free with AAPA 2022 registration

Symposium Format

Each **morning session** will be held as a moderated panel presentation. The session will include time for the speakers as well as response to questions from the audience.

Each **afternoon session** will be held as small group discussions. Since the afternoon sessions are a continuation of the morning sessions, attendees will already be prepared to discover and capture information, pool skills and resources, and create deliverables to take back to their organizations.

Time	Symposium Session
7:30 am to 8:00 am	Welcome address & breakfast
8:00 am to 11:30 am	Morning Sessions: Research presentations
11:30 am to 1:00 pm	Networking break and lunch
1:00 pm to 5:00 pm	Afternoon Sessions: Working sessions



RESOURCE SHARED BY: American Academy of Physician Assistants

Clinician Retention in the Era of COVID: Uniting the Health Workforce to Optimize Well-Being (March 15, 2022 NAM convening)

AN OVERVIEW OF AAPA'S WORK WITH PA & PA STUDENT BURNOUT

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Disclosures

• Noël Smith has no conflicts to disclose.



Relevant AAPA Policy

HP-3900.1.4

AAPA supports and encourages awareness and recognition of professional burnout in all healthcare providers and education on the prevention of burnout. AAPA supports and encourages all healthcare providers to engage in a comprehensive multi-pronged strategy for prevention of professional burnout. [Adopted 2018]

Policy Paper on PA Impairment and Wellness

Executive Summary:

• AAPA defines PA impairment as any physical, mental or behavioral condition that interferes with the ability to safely engage in professional activities.

• AAPA encourages research in the area of PA impairment, particularly in the type and impact of external factors adversely affecting PAs, including workplace stress, litigation issues, and restructuring of the healthcare delivery systems.



AAPA Commitment Statement

National Academy of Medicine Action Collaboration on Clinician Resilience and Well-Being

"AAPA is concerned with the growing incidence of burnout among clinicians in the U.S. Burnout impacts not just clinicians but also their colleagues, families, and friends. Clinician burnout can lead to leaving the healthcare workforce, which decreases access to care, may increase the overall cost of care, and can impact patient outcomes and patient safety. The strain on the U.S. healthcare system will continue to grow as the population ages, access to healthcare and insurance increases under the Affordable Care Act, and electronic health records continue to place administrative burdens on clinicians.

The PA profession is aligned with the principles of the Triple Aim to improve and optimize the U.S. healthcare system. It is a profession created to increase access to care, reduce the total cost of care, and improve the health of the population. AAPA supports the fourth aim "joy in work," which intends to address the increasing incidence of burnout among all clinicians."

Source: https://nam.edu/wp-content/uploads/2019/03/American-Academy-of-PAs_Commitment-Statement.pdf



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Joint Task Force on Burnout





Joint Task Force on Burnout



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Career Central Burnout

https://www.aapa.org/career-central/pa-burnout/

COVID-19 RESOURCE CENTER										
Жаара	About	JAAPA	Events	Jobs	My Account	DONATE	Search aapa.org	Q	LOGIN	JOIN
CME CENTRAL		CAREER C	ENTRAL		MEMBER CENTRAL		ADVOCACY CENTRAL		NEWS CENTR	RAL

Home / Career Central / PA Burnout

PA Burnout

One of the ways to protect against burnout is to make sure you're focusing on your well-being. Well-being is defined as the state of being comfortable, healthy, or happy. The ability to manage stress and find meaning and purpose in work and life affects mental health, life satisfaction, and overall well-being. There are five main types of well-being: emotional, physical, social, workplace, and societal. Protect against burnout by ensuring your emotional, physical, social, workplace, and societal well-being. At AAPA, we're here to support your PA well-being and fight PA burnout with these resources.



Learn more about burnout and well-being and take part in wellness and fitness activities at AAPA 2021. Register for AAPA 2021 today!



Keep up to date with the latest news and research on burnout and well-being in healthcare professions. Read what PAs and other organizations are doing to ensure clinician well-being. Learn about risk factors that clinicians may face.

Career Articles

Feeling Unfulfilled? You Might Need a New Job





Current Collaborations

Student	PA		PA	
Burnout	Burnout	Toxicity	Mental Health	Measure
Collaborations	Collaborations	Collaborations	Collaborations	Collaborations
1	4 ongoing	1	1	1
Papers	Papers	Papers	Papers	Papers
1 under review	2 published	3 in	1 accepted	1 under review
	1 accepted	development	1 in	2 in development
	1 under review		development	
	? In development			
Student Survey	PA Practice Survey	2019 Salary Survey	External Survey	External Survey
	External Survey			



Publications

Published

Essary AC, Bernard KS, Coplan B, et al. 2018. Burnout and Job and Career Satisfaction in the Physician Assistant Profession: A Review of the Literature. Discussion Paper. National Academy of Medicine, Washington, DC. doi: 10.31478/201812b.

Coplan B, McCall TC, Smith N., Gellert VL, Essary AC. Burnout, job satisfaction, and stress levels of PAs. JAAPA. 2018;31(9):42-46. doi: 10.1097/01.JAA.0000544305.38577.84

Accepted

Blackstone SR, Johnson AK, Smith NE, McCall TC, Simmons W, Skelly A. (Forthcoming). Depression, Burnout, and Professional Outcomes among Physician Assistants. JAAPA.

Under Review

Sierra T, Brown H, Smith, NE. (In Review). Rethinking the Maslach Burnout Inventory: Measuring Cynicism as a Fourth Dimension of Burnout.

Sierra T, McCall TC, Brown H, Smith NE. (In Review). The Role of Interpersonal Toxicity on Healthcare Students' Well-Being.

Research in Development

Writing

Prevalance of suicidal ideations in PAs and PA students

Predictors of PA employer change

Predictors and impact of interpersonal toxicity in the workplace

Fielding

Moral Injury and burnout during COVID-19

Understanding predictors of burnout

Data Collected

Collaborator-fielded

Depression, anxiety, and suicidal ideations; Burnout; Well-being activities and self-care; Alcohol and drug use; Work environment/anticipated work environment [PAs and PA students] Moral injury and burnout [PAs]

Data Collected

AAPA-fielded

Burnout; Interpersonal toxicity; Morale [PAs and PA students]; Multi-year linked data set



Collaboration Process



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RESOURCE SHARED BY: American Academy of Physician Assistants *Clinician Retention in the Era of COVID: Uniting the Health Workforce to Optimize Well-Being (March 15, 2022 NAM convening)*

Blueprint for Addressing Physician Assistant Well-being and Burnout

REPORT OF THE AAPA TASK FORCE ON BURNOUT



TASK FORCE CHAIR:

Eric Tetzlaff, MHS, PA-C, DFAAPA

TASK FORCE MEMBERS:

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INTRODUCTION

Understanding of PA burnout and well-being is in the early stages but clearly the current healthcare environment threatens the delivery of quality care in the United States for all providers and patients.¹ Since the first PA class graduated from Duke University in 1967, the founding principle for the profession was to create a workforce of skillfully trained Physician Assistants to help meet the increasing demand for healthcare. Although that initial pillar for the profession remains, the practice of modern medicine has drastically changed and continues to evolve even for the recent graduates of PA programs. The current environment in healthcare exposes PAs to numerous challenges that involve multidirectional pressures from competing stakeholders. Although PAs may have been drawn to the profession for the opportunity to make a difference, pursue intellectual challenges, and help others, the demands of clinical practice have shifted the focus away from those priorities. The increased focus on billing, documentation, and productivity metrics, as well as the increased time spent interacting with the electronic health record all take away from the meaning a provider derives from the personal interactions in patient care. The cumulative effects of the mismatch between the ambitions of the provider and the increasing demands of the work environment can lead to decreased engagement at work, lack of satisfaction with one's career, and ultimately burnout. The unintended consequences of these work environment demands can significantly impact provider well-being and the ability to deliver high quality patient care.¹

To address this crisis, the American Academy of PAs (AAPA) in 2019 created a task force to raise awareness of burnout and strategies to mitigate its risk. In addition, the Task Force on Burnout was asked to evaluate the current research in the field, identify resources on burnout, and convene stakeholder organizations to help develop strategies to manage and prevent burnout in the profession. The goal of the current report is to provide a brief overview of what is currently known about PA burnout and well-being, and more importantly, provide an enduring framework for increasing PA engagement at work and improving the well-being of the profession.

BURNOUT AND PROVIDER WELL-BEING

It is important that we clearly define the impact that the work environment can have on PAs in order to shape the discussion on improving the practice environment. With regard to burnout, it is defined as a psychological syndrome that occurs in individuals in response to interpersonal stressors related to their workplace. It is often understood according to three key components: (1) emotional exhaustion, (2) cynicism and detachment from the job, and (3) reduced sense of personal accomplishment or effectiveness.²⁻⁴ Emotional exhaustion represents the individual level of burnout that includes feelings of being overextended and depleted of one's emotional and physical resources. Cynicism signifies the interpersonal level of burnout that includes responses to various aspects of work. Reduced sense of personal accomplishment characterizes the self-evaluation of burnout that

includes negatively evaluating oneself and feeling dissatisfied due to lack of achievement and productivity on the job.²⁻⁶

Provider well-being involves the overall physical, mental, and emotional health of individuals providing healthcare services to others.⁷⁻¹⁰ Provider well-being, in addition to burnout, encompasses multiple dimensions of provider distress such as depression, anxiety, stress, fatigue and quality of life. In addition, provider well-being often includes the meaning and satisfaction providers obtain from work.⁸ Instruments such as the Well-Being Index (WBI) and the Stanford Professional Fulfillment Index (PFI) help screen individuals for distress across a variety of domains, as well as identify providers with high well-being.⁷⁸ While these measures define wellness in relationship to the presence of absence of distress, experts have encouraged a definition of provider well-being that includes positive elements such as being challenged, thriving, and achieving success in different aspects of personal and professional life.^{10,11}

IMPACT OF BURNOUT

Efforts to promote provider well-being are certainly warranted, as burnout not only adversely affects clinicians but negatively impacts the healthcare system and patient care.¹² Studies show that physician burnout is correlated with depression and is independently associated with increased odds of alcohol use disorder and suicidal ideation.¹²⁻¹⁴ In addition, burnout is linked to lower clinician productivity, greater resource utilization, and higher turnover, which are consequences associated with reduced access to care and significantly increased healthcare costs.^{12,15-17} The potential for burnout to reduce the quality of patient care is perhaps of greatest concern. Among hospital nurses, mean burnout levels have been shown to predict healthcare-associated infections¹⁸, and studies involving physicians suggest that burnout is related to medical errors as well as lower patient satisfaction.^{12,15,19,20} Moreover, results of a longitudinal study involving 2,100 nurses and physicians in intensive care units suggest that burnout adversely impacts teamwork, which in turn may have a detrimental impact on patient safety.²¹ Although little research on the consequences of PA burnout in particular exists, considering the effects of burnout among healthcare professionals with whom PAs work closely, it is likely that the impact of PA burnout is also substantial.

WHAT IS KNOWN ABOUT BURNOUT AND PA WELL- BEING

The research that has been focused on PA burnout and well-being has varied in both methods and reporting, making comparisons of data challenging. Despite these limitations, it is clear PAs are at risk for developing professional burnout and a negative work-life experience.^{8,22-24} In the largest national study of PAs on the topic, low or moderate levels of enthusiasm for work, feelings of cynicism, and a low sense of personal accomplishment were reported in 37.9%, 21.4%, and 10.4% of respondents, respectively.²² In another large study of PAs and Nurse Practitioners, 38.5% of participants had at least one symptom of burnout and 14.4% reported a low quality of life.⁸ Other studies have focused on PA specialties with high rates of

emotional exhaustion, depersonalization, and a low sense of personal accomplishment in the fields of primary care, emergency medicine, palliative care, and oncology.^{23,24}

Of the risks factors associated with burnout, gender most notably may have significant implications for the PA workforce. In 2018, 73.9% of recently certified PAs identified as female and 68.8% of all certified PAs were female.²⁵ It is therefore alarming that female PAs appear more likely to quit their job due to stress and report symptoms of burnout compared to male PAs. Other factors associated with burnout in the PA profession have included increasing age, working in a primary care setting, time spent on indirect patient care, the PA relationship with the collaborating physician, number of hours worked per week, and being a member of a health system as compared to being part of a privately owned practice.^{22-24,26}

Several potential protective factors in the development of burnout have been identified. These include having a positive team culture, consistent and appropriate support staffing, positive relationships with the collaborating physician(s), and having educational or teaching elements as part of the job responsibilities.²⁶

An in-depth review of the literature on the PA profession and burnout is available in the National Academy of Medicine discussion paper, Burnout and Job and Career Satisfaction in the Physician Assistant Profession: A Review of the Literature.²⁶

CURRENT STRATEGIES TO ADDRESS BURNOUT AND WELL-BEING

Strategies to address burnout can be classified into system-level interventions, team-based interventions, and individual interventions. System-level interventions include large scale changes to the industry including interventions within the health professions, education systems, and changes to the healthcare system. Team-based interventions are changes that can be made within a healthcare team and involves an interprofessional approach. Individual strategies are focused on techniques an individual can implement into their lives to prevent or reduce burnout. As providers, we have the most control and greatest ability to implement individual techniques; however, the burnout epidemic has occurred in large part due to systematic practices. While system-level interventions are more difficult to implement, they can have the largest impact. System-level interventions and strategies include implementing burnout education and prevention strategies into PA education and the healthcare system.

SYSTEM-LEVEL INTERVENTIONS

Many system-level factors that lead to provider burnout are related to the demands of the job and the available resources and should be the focus of interventions and strategies to reduce burnout and improve provider well-being. The consensus study report published by the National Academy of Medicine suggested that systemwide actions should be focused on the goals of creating a positive work environment, creating positive learning environments, reducing administrative burdens, enabling technology solutions, providing

support to clinicians and learners, and investing in research.¹ To accomplish these goals a fundamental change for many organizations may be needed to focus on the systemwide factors as opposed to interventions that focus on the individual provider. The Mayo Clinic has shared their experience in addressing provider burnout, consisting of a deliberate nine-step strategy.²⁷ In their approach, they focus on leadership at all levels of the organization, working with teams and units at the local level, to engage in targeted work interventions to facilitate improvements in care delivery. This strategy allows members of the work unit to focus on drivers of burnout that they deem most important. Other steps included in their strategy focus on community, rewards and incentives, values and culture, flexibility in work-life integration, self-care, and research.

Noted below are a few select strategies that have been the focus of organizations to help mitigate burnout:

- Electronic Health Records: EHRs have been widely adopted by the healthcare system and significantly contributed to the burnout crisis.^{28,29} Administrative tasks are the highest-cited factor contributing to burnout, adding one to two hours of work per day.³⁰ Organizations providing additional EHR training, designating super-users, and creating established templates may help to mitigate some of the EHR stressors. Additionally, when a provider reaches a predetermined threshold of outstanding charts, they may be taken "off the line," or out of clinic, to allow for chart completion and provide those individuals with specific education on EHR efficiency. Additional research shows training and improved EHR efficiency improves provider satisfaction.³¹
- Team Communication Skills: Implementing burnout strategies within the healthcare team can impact the daily work environment and improve communication and efficiency within the team. Incorporating team huddles into the daily routine can prevent burnout and increase efficiency by ensuring that all necessary information is obtained prior to a patient's appointment and helps to prevent workflow disruptions by addressing potential challenges before they arise. They also provide an opportunity to build rapport within the team and allow for collaboration. This can be easily implemented twice daily, once in the morning and again in the afternoon. It allows all members of the healthcare team to provide input and updates regarding each patient's needs and improves continuity of care.³² These huddles may consist of obtaining and reviewing records such as discharge summaries, consult notes, and lab reports prior to the patient's appointment.
- Reconstruction of Team-Based Care: The University of Colorado in a pilot study redesigned their outpatient care model with a focus on high functioning teams.³³ In this model, they increased the ratio of medical assistants to providers to 2.5 to 1. In addition the medical assistants had expanded roles before, during, and after the visit. The new model decreased symptoms of burnout for providers, increased visit volume and access to care, and improved quality of care metric scores. Importantly, the cost of adding staff was offset by the improvement in clinical efficiency, increased patient

volume, and downstream revenue generated by the model. The increase in patient volume was acceptable for providers due to the improved efficiency of the model.

EDUCATIONAL SYSTEM INTERVENTIONS

The Accreditation Review Commission on Education for the Physician Assistant (ARC-PA) Standards of Accreditation 5th edition requires that PA programs need to include provider wellness in PA curriculum, including education on impairment and burnout. How this will be accomplished is not clear. Research in the area of student interventions is limited.³⁴ One approach with early success included the incorporation of mindfulness and decentering training into the curriculum of first year PA students. The curriculum included activities both in class as well as outside of the classroom. This approached demonstrated a sustained improvement in mindfulness of PA student four months following completion of the curriculum. Mindfulness was also associated with improvement in life satisfaction and perceived stress. As programs incorporate provider wellness activities into the curriculum, it will be important to methodically evaluate the success of initiatives to establish best practices for incorporating burnout education and interventions in PA programs.

PERSONAL INTERVENTIONS

Mindfulness-based stress reduction activities are an example of an intervention focused on the individual that has shown to decrease provider burnout.³⁵ Mindfulness and meditation can provide the power to observe feelings without being overwhelmed by them. The practice can also improve feelings of gratitude. Actively recognizing positive influences and being grateful for them helps to overcome negativity, a common manifestation of burnout.³⁶

As clinicians we must also be mindful of our limitations and be cautious to not over-extend ourselves. Efforts to keep our personal and work lives separate may help to protect personal time for family and activities of personal enjoyment. While it is often times necessary to perform work activities at home, whether it is charting or being on call, being able to do so without multiple interruptions may decrease stress and improve efficiency, returning you to your personal life quicker. In other words, be fully present in what you are doing. If you are working, even from home, create a time or space with minimal distractions in order to do so and refrain from work activities outside of designated work hours whenever possible to allow for personal activities and enjoyment.

KEY KNOWLEDGE GAPS FOR PA BURNOUT AND WELL-BEING

The body of empirical research examining PA burnout and well-being is constantly emerging. However, key knowledge gaps exist regarding prevalence, antecedents, and outcomes of PA and PA student well-being. Also lacking are longitudinal studies examining the effectiveness of well-being interventions among PAs and PA students.

INTERPLAY BETWEEN PA CAREER SATISFACTION AND BURNOUT

Studies examining the prevalence of PA burnout and well-being have uncovered simultaneously high levels of satisfaction and burnout.^{24,37} The reverse trend has been seen in physician burnout research – as burnout levels have increased, satisfaction with work-life balance has decreased.³⁸ Research aimed at identifying why PAs may report concomitant satisfaction and burnout, with explicit consideration for possible protective factors related to the occupational model, would make an important contribution to the body of healthcare professional well-being literature.

GENDER, RACIAL, AND ETHNIC FACTORS AND BURNOUT

Also important is an exploration of how demographic factors of PAs and PA students may contribute to professional well-being. Demographics of PA students currently reflect a higher proportion of Caucasian students and a lower proportion of African American and Hispanic students as compared to the general population.³⁹ Such disparities persist in the PA workforce, and may influence the well-being of both students and practicing PAs. Additionally, underrepresented minorities may disproportionately shoulder responsibility for diversity and inclusion activities in the workplace, which may serve as an increased job demand, possibly leading to greater burnout.⁴⁰ Finally, a majority of PA students and currently practicing PAs are female. In a 2002 study examining burnout factors among emergency medicine PAs, female respondents were more likely to report symptoms of burnout.⁴¹ In a more recent, population-level study, female PAs rated stressors at work as more important than males, though differences found among actual burnout responses were not meaningful.²² A deeper exploration of how subgroups of PAs may experience well-being at work is important.

PA APPLICANT CHARACTERISTICS AND BURNOUT

Additionally, all students who matriculate into PA programs after 2020 will graduate with a master's degree. This increase in the academic qualifications required to attend PA school may result in a loss from the applicant pool of the traditional PA student, who was older and more professionally experienced.⁴² Well-being may trend differently as the average PA student age and patient care experience level changes in response to the terminal master's degree transition.

PA TRAINING CHARACTERISTICS AND BURNOUT

There is a limited understanding of how aspects unique to the PA training model may interact to influence the job satisfaction of future members of the profession. The ARC-PA's endorsement of burnout as a worthy addition to the PA training curriculum comes in the absence of a complete understanding of how aspects of PA training itself may influence wellbeing. For example, PA training is characterized by an expedited timeline in which students learn the practice of medicine over an average of 27 months.⁴³ Studies comparing the mental health of PA students alongside that of medical students, whose training timeline is more protracted, may contribute to an understanding of how such differences may influence well-being.⁴⁴ PA training has also traditionally taken place within a brick and mortar facility, but online options are now available. Comparing the satisfaction and stress levels of online versus in-person students may be valuable.

PA OCCUPATIONAL MODEL AND BURNOUT

Aspects of the PA occupational model may also influence well-being. The scope of practice of working PAs depends not only on their experience, competency level, and state and facility regulations, but also on endorsement by a collaborative physician.⁴⁵ As such, the scope of practice of experienced and competent PAs living in states with lenient practice acts may still be limited by restrictive collaborative physicians, which may have implications for engagement and burnout.

Specialty mobility may also influence PA well-being. Unlike other healthcare providers, PAs may change specialties without additional training.⁴⁶ As the PA profession has matured, the number of times PAs changed specialties has increased, averaging 1.95 times per decade in a study by Warner, Maio, and Hudmon.⁴⁷ However, the influence on PA well-being of the ability to change specialties has not been examined. Finally, PA well-being may be positively or negatively influenced by task-shifting, in which both clinical and administrative tasks usually reserved for physicians and other healthcare leaders are shifted to PAs.^{46,48} Opportunities exist for an expanded understanding of how PA scope of practice determinants may interact and manifest as either burnout or engagement.

INTERVENTIONS AND BURNOUT

Studies among samples of physicians indicate that organization-level interventions are more effective at improving well-being than individual-level interventions.⁴⁹ Considering differences seen in the prevalence of PA well-being compared to physicians, as well as unique occupational factors that may trigger or attenuate burnout, findings from physician well-being studies may not be generalizable to the PA population. Reproducing wellbeing intervention studies among PAs is necessary to understand what actions may be implemented at the practice level to better support the well-being of PAs.

BLUEPRINT FOR ADDRESSING PA WELL-BEING

AAPA's Task Force on Burnout created the following recommendations to provide a framework for the profession to improve PA well-being and mitigate the detrimental impact of burnout on providers and the patients for whom they provide care. The goal was to create a plan that starts to addresses the current needs of PAs practicing medicine while having the flexibility to anticipate and plan for the changes in healthcare. To that end, the task force

proposes the following recommendations to guide AAPA's support for PA well-being and fight against provider burnout.

RECOMMENDATION 1:

It is recommended that AAPA formalize its dedication to PA well-being through the formation of an AAPA commission so that an enduring effort is established to mitigate the risk of burnout and improve PA well-being.

Background/Rationale:

The current PA burnout task force was created through the resolution passed by the House of Delegates in 2018 in response to the unmet needs of the profession. Mirroring the broad scope of the burnout in medicine, the specific charges requested of the HOD for the PA profession are broad and expansive. From early discussions of the task force members it became evident that the tasks of the HOD would require an approach that addresses the current needs of the profession – of which there are many – but also an approach that would anticipate and adjust to the ever-changing landscape in medicine. As such, a task force alone to address what is and will likely remain an ongoing challenge would be insufficient.

Action Plan:

Step 1: Create a commission for PA well-being. The commission will be responsible for the ongoing effort of addressing PA burnout and well-being. Specific duties of the commission should include but not be limited to: increasing awareness of PA burnout and well-being; expanding the research opportunities to increase our understanding of PA burnout; and promoting solutions for PA burnout. Furthermore, the commission should be empowered to identify and advocate in arenas where PA representation should be included in the national discussion of burnout. The commission should have well defined parameters for the composition of the task force, to include eligibility and qualification requirements and terms of service for an organized and sustainable effort.

RECOMMENDATION 2:

It is recommended that AAPA should add an informational platform on the website for PA well-being and burnout.

Background/Rationale:

The AAPA website lacks a central location for addressing PA well-being. Given the scope and importance of PA burnout, having a dedicated platform with a focus on PA well-being is needed.

Action Plan:

Step 1: The primary goal of the platform should be to educate the PA community at large about PA well-being and burnout. This can be done through original and existing content dedicated to PA well-being in the form of a wellness blog, educational resources, and reports from the proposed commission on burnout. The initial educational focus could serve to raise awareness about burnout in the profession, reduce the stigma associated with seeking care for burnout, as well as provide resources and guidance for those in need of assistance.

Step 2: To further support AAPA online educational opportunities, the development of a continuing medical educational track dedicated to provider well-being will offer a value-added programmatic addition to the platform. The content of the program could include education about the impact of burnout on providers and patients, and provide strategies to reduce the risk of PA burnout and promote engagement at work.

Step 3: Over time, the platform could expand and develop in order to attract the attention of a larger audience such as administrators, policymakers, and medical boards. Additional content on the site could be developed to educate and influence other stakeholders that influence the PA profession.

RECOMMENDATION 3:

It is recommended that AAPA promote and expand the research opportunities on PA wellbeing and burnout through the development of an intentional research agenda that serves to expand the conduct and dissemination of research in the field.

Background/Rationale:

Compared to other healthcare professions, limited research has been conducted on PA well-being and burnout. Despite the apparent slow start, a solid foundation has been established regarding the incidence of PA burnout and some of the associated risk factors. However, as noted previously, there are significant gaps in the literature and the current research opportunities for PAs to expand the knowledge base are limited. Furthermore, almost all research in the field has been limited to survey methodology with no prospective interventional studies conducted. Fortunately, research on PA burnout would support the high priority topics of the four pillars of the PA research agenda (PA value and impact, PA workforce, PA role and practice, and PA education)⁵⁰ and would significantly impact the health and growth of the PA profession. It will be important for AAPA to be forward thinking and identify early trends in healthcare that may negatively impact the well-being of the profession. In doing so, AAPA will be better informed about options to mitigate the risk of burnout and opportunities to improve the well-being of the PA workforce.

Action Plan:

Step 1: Research on PA burnout and work engagement conducted by AAPA through the annual AAPA salary survey should continue to monitor trends and changes in the field. AAPA should meet these challenges through the use of validated survey instruments and methods to assess the well-being of the profession.

Step 2: To help ease the desperate underfunding of research on PA burnout, AAPA and the PA Foundation should establish independent research grants focused on advancements in knowledge of PA burnout and work engagement. The grants will have the potential to expand the methods available to researchers and support novel studies with direct and meaningful impact on the profession.

RECOMMENDATION 4:

It is recommended that AAPA advocate to include PAs on tasks forces and committees on burnout that are producing guidelines on provider burnout and well-being. It is also recommended when necessary, AAPA produce original guidelines to meet the specific needs and concerns of the profession.

Background / Rationale:

High rates of burnout are reported throughout U.S. healthcare professions. Studies indicate the effects of burnout are far reaching and a problem among all clinical disciplines and healthcare settings. These high rates of burnout correlate with not only the quality of healthcare but also patient safety. Additionally, clinician burnout may negatively impact the interaction amongst healthcare teams, leading to reduced professional effort, job dissatisfaction and turnover in staff. The environment in which clinicians provide care, throughout the U.S. healthcare system, affects a clinician's well-being and is just as important to address as the individual (personal) factors.

Action Plan:

Step 1. Inclusion of PAs on task forces and committees with other national organizations that are currently developing guidelines and strategies to mitigate burnout should be pursued. This can be accomplished through established contacts with organizations as well as investment in new relationships. It will be vital to explore opportunities with organizations such as the American medical Association and the National Academy of Medicine to include PAs in shaping the national dialogue on burnout and well-being. Working in collaboration with other organizations will help to establish uniform guidelines with a clear message.

Step 2. There will also be circumstance for which it will be of benefit for AAPA to create original guidelines. Such guidelines may encourage the redesign of current healthcare system environments specific to PA practice. These guidelines should be

based upon the current relevant burnout research and may include changes such as: creating an environment that cultivates collaboration, communication, teamwork, allows for reduced stress and encourages well-being for healthcare providers. Additionally, these guidelines should give consideration to reducing the administrative burden for clinicians, optimizing the efficiency of required technology and eliminating barriers to patient care; thereby allowing clinicians to feel more meaningful in their work. Finally, it is necessary to establish environments that are free of mental health stigma and empower healthcare professionals to obtain the necessary support to mitigate burnout.

RECOMMENDATION #5

It is recommended that AAPA support PAs in seeking teams to optimize roles within clinical care models as a means to improve the well-being of all team members. This includes working interdependently and ensuring each team member is performing at the functional level intended and that each patient's needs are met by the most qualified member of the team to deliver each service.

Background/Rationale:

To create high-functioning teams in healthcare requires thoughtful and intentional action. The Institute of Medicine publication, Core Principles & Values of Effective Team-Based Health Care, outlines 5 key principles for team-based care which are shared goals, clear roles, mutual trust, effective communication, and measurable processes and outcomes.⁵¹ Training healthcare teams to achieve these objectives can improve with well-being of each team member and the team as a whole.

Action Plan:

Step 1: Provide training/tools to PAs that are evidence-based and designed to improve team functionality and well-being.

Step 2: Encourage PAs to participate in collaborative learning opportunities that enhance the knowledge of the team as a whole.

Step 3: Encourage PAs to apply principles of team science to best leverage the expertise of each team member.

RECOMMENDATION 6

It is recommended that AAPA raise awareness about interventions focused on the individual PA that serve to improve PA well-being and reduce the stigma associated with burnout.

Background/Rationale:

It is clear that a focus on system-level interventions to improve provider well-being

will have a greater impact than solutions focused on individuals.¹ However, despite only having a modest benefit, interventions that focus on the individual should not be discounted. Recommended evidence-based interventions and approaches to improving provider well-being often face barriers to implementation and acceptance. One challenge is that interventions focused on an individual often have the negative consequence of misattribution of provider burnout being an individual responsibility.⁵² This may have the unintended consequence of decreasing provider engagement and feelings of isolation and lack of connection to the workplace.

Action Plan:

Step 1: Enhance awareness of available evidence-based individual-level practices that have been shown to improve resilience, well-being, or reduce burnout among members of a healthcare team. This could be accomplished through development of comprehensive educational offerings that are made available in diverse formats and settings.

Step 2: Develop strategies to reduce the stigma associated with burnout that encourage an open dialogue for PAs with well-being concerns. The strategies should also serve to educate those at risk or suffering with burnout about available options for seeking care.

RECOMMENDATION 7:

In support of the Accreditation Review Commission on Education for the Physician Assistant (ARC-PA) Standards of Accreditation (5th edition) that requires PA programs include provider personal wellness in the curriculum, including education on impairment, it is recommended that AAPA address burnout prior to PA graduation and provide resources to promote student well-being.

Background/Rationale:

Little is known about the rates of burnout, depression, and overall mental health of PA students during their education and training.⁵³ High levels of burnout and depression have been reported among U.S. medical students.⁵⁴ Given the similarities of the training, it would not be surprising that these findings would be mirrored in PA students. A role of PA education is to develop a new generation of PAs through medical training and instill tools for lifelong learning and professional development. As such, preparing the next generation of PAs with the needed awareness and knowledge to champion their own mental health, well-being, and resilience provides a valuable skill set to positively impact PAs throughout their careers.

Action Plan:

Step 1: Provide support to PA educators and PA students. The support should foster the importance of professional well-being as it relates to patient safety and quality of

patient care. Additionally, the support should be nonjudgmental and free from stigma, encouraging the use of wellness tools, coaching, mentorship, and mental health resources. The support could include well-being resources for students, resources and recommended trainings for PA educators, and models of innovative wellness programs. Additionally, AAPA, PAEA and other organizations should collaborate with PA programs to help meet the ARC-PA standards for well-being curricula while fostering an environment where the institutional culture promotes professional and personal support programs.

RECOMMENDATION 8:

PAs should be encouraged to participate in advocacy efforts related to burnout recognition and prevention and share information on this important issue with their practice leadership, health system leadership, and lawmakers and their staff.

Background/Rationale:

In 2014, the Triple Aim (improving population health, reducing costs, and enhancing patient experience) of Berwick and colleagues was expanded to the Quadruple Aim by Bodenheimer and Sinsky.⁵⁵ The fourth aim focuses on improving the work life of clinicians and non-clinical members of the healthcare team. Understandably, the potential to achieve the tenets of the Triple Aim hinges on the well-being of the healthcare team. In order to raise awareness about burnout recognition and prevention and address the issue of improving the work life of all members of the healthcare team, PAs should aspire to raise awareness of these issues with key decision and policy makers.

Action Plan:

Step 1: Provide tools for PAs to facilitate thoughtful discussions and advocacy with healthcare system and practice leaders, government officials and their staff, or others, related to the organizational drivers of burnout and encourage these entities to commit to action to address these issues.

Step 2: AAPA, as the representative organization of the PA profession, should join forces with other national professional healthcare organizations in policy-related efforts to reduce administrative burden.

Step 3: PAs should encourage local and national lawmakers to approve positive legislation that is aligned with the quadruple aim and encourage clinician wellbeing to be incorporated as a performance measure for healthcare organizations.

RECOMMENDATION 9

It is recommended that the proposed commission on PA well-being, in collaboration with AAPA leadership, convene a PA Burnout Research and Advocacy summit with a panel of external stakeholders to explore collaborative opportunities to improve the well-being of the healthcare system.

Background/Rationale:

To improve the health of the workforce, a collaborative approach is required in order to determine and achieve the desired changes. Importantly, medicine is practiced in teams of teams, and the inclusion of input from both clinical and non-clinical members is needed to improve the healthcare system. Furthermore, approaches to PA wellness that highlight and include other team members will further complement optimal team practice (OTP) initiatives.

Action Plan:

Step 1: Identify key external stakeholders that interact with and influence the PA profession and could influence PA wellness initiatives.

Step 2: Convene a PA burnout, research, and advocacy summit. Primary goals of the summit would be to further refine the AAPA research agenda related to PA burnout and identify opportunities to collaborate with other organizations and researchers in the field. In addition, the summit will help organizations review the current evidence on provider wellness and use that information to improve the well-being of PAs and other members of the medical team through advocacy and strategic planning.

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American Association of Critical-Care Nurses

RESOURCES LIST

1. <u>American Association of Critical-Care Nurses Standards for Establishing and Sustaining</u> <u>Healthy Work Environments</u>

Learn more about the six healthy work environment (HWE) standards, conduct a free assessment of your unit and find the evidence-based resources needed to build and sustain an HWE.

2. American Association of Critical-Care Nurses Hear Us Out Campaign

We launched the nationwide effort, <u>Hear Us Out</u>, to mobilize nurse voices to report the reality from the front lines and urge those who have yet to be vaccinated to reconsider

3. <u>American Association of Critical-Care Nurses, one of 5 partner organizations on the</u> <u>National Nurse Staffing Task Force and Think Tank</u>

The Nurse Staffing Think Tank will meet every two weeks to discuss topics including the root causes of the nurse staffing shortage, workforce trends and challenges, and actionable short-term strategies to address the current crisis.

4. <u>American Association of Critical-Care Nurses Wellbeing Resources</u>

Compilation of resources that includes These include online peer support for acute/critical care nurses and the Wellbeing Initiative in partnership with the American Nurses Foundation.

5. American Association of Critical-Care Nurses Moral Distress

This tool is intended to help nurses recognize and mitigate moral distress, a painful problem that occurs all too often in ethically complex environments such as acute and critical care units, and is distinct from burnout and compassion fatigue.

Gender-Based Differences in Burnout: Issues Faced by Women Physicians

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ABSTRACT | Individual, institutional, and societal risk factors for the development of burnout can differ for women and men physicians. While some studies on physician burnout report an increased prevalence among women, this finding may be due to actual differences in prevalence, the assessment tools used, or differences between/among the genders in how burnout manifests. In the following discussion paper, we review the prevalence of burnout in women physicians and contributing factors to burnout that are specific for women physicians. Understanding, preventing, and mitigating burnout among all physicians is critical, but such actions are particularly important for the retention of women physicians, given the increasing numbers of women in medicine and in light of the predicted exacerbation of physician shortages.

Introduction

Burnout is commonly defined as Maslach's triad of emotional exhaustion, depersonalization or cynicism, and feelings of diminished personal efficacy or accomplishment in the context of the work environment [1]. Clinician burnout constitutes a national public health problem. Understanding its epidemiology, causes, effects, and solutions is essential for safe, high-quality patient care. Although burnout has been best studied among physicians and nurses, practitioners and trainees in other health care professions also have been noted to exhibit high burnout rates [2]. The risk factors associated with burnout may be similar among all health care professionals [3]; however, there are enough differences among professionals to warrant discussions of burnout within individual professions, and among demographic subgroups. This paper will focus on the issues faced by women physicians, but similar investigations should be done for nurses, pharmacists, physical therapists, and others in the health care field.

While women now account for half of new medical school students and an increasingly larger number of practicing physicians [4], there is a paucity of information about gender-related differences in physician burnout. Women physicians differ from their male counterparts: They may lack role models, face challenges of dual-career couples, have to reconcile having only a finite number of years for childbearing, face lack of parity in salaries, receive a lower number of promotions to leadership positions, confront both conscious and unconscious biases, and experience higher rates of sexual harassment [5]. Retention of women physicians is crucial in light of predicted physician shortages. Women physicians who face more work-related stressors and have less control of their work environments report that they are less satisfied with their careers and that, given a choice, they would not have



become physicians [6].

This manuscript reviews the available data regarding the prevalence, causes, clinical manifestations, and associated consequences of burnout among women physicians and men physicians, highlighting the features more commonly present among women. Recognizing gender-related differences can help design successful strategies to improve physician well-being and to identify, treat, and prevent burnout.

Understanding the role of gender in burnout is complicated by the inconsistent use of terms such as sex, gender, male/man, and female/woman in publications on this topic. The World Health Organization defines sex as a biological variable and proposes that the term be used when the biological distinction is predominant [7]. It defines gender as the socially constructed characteristics of women and men, including relational, hierarchical, historical, contextual, and institutional elements [8]. This paper uses the term gender in relation to burnout, as the social constructs of woman and man play a more prominent role in burnout than the biological constructs. For example, gendered expectationspersonal and professional, internal and external—may contribute to burnout. Such expectations are more relevant to the topic of physician burnout than are the physician's sex or physiology.

Gender-related differences are not consistently addressed in studies of physician burnout, career satisfaction, well-being, and professional fulfillment. When gender is considered, it is usually included as a binary variable. In addition, most studies do not address the gender identity or sexual orientation of the physician. These limitations do not recognize unique challenges that may be faced by physicians who are sexual or gender minorities, such as those in the LGBTQ+ and transgender communities. Such challenges include discrimination and harassment in the workplace, which can lead to feelings of isolation [9]. This area requires investigation among health care providers—as does the intersection of burnout and age, gender or sexual orientation minority status, race, and ethnicity.

Prevalence

Estimates of the prevalence of physician burnout vary—in part because of differences in definitions, the tools used to assess burnout, and scoring methods [10,11]. The most widely used measures of burnout include the Maslach Burnout Inventory (MBI), the Old-enburg Burnout Inventory, the Copenhagen Burnout Inventory, and the Physician Work-Life Study's single-

item measure [12]. Efforts to assess the prevalence of burnout, including differences between/among genders, are also limited by survey size, response rate [11], and underreporting.

Burnout has been identified among medical students, residents, and practicing physicians at all career stages. The burnout rate is estimated to be approximately 50 percent among US physicians and medical students [13,14]. Unfortunately, many studies of burnout do not report data by gender. Those that have, found that burnout is experienced by and manifests in men and women differently: as measured by the MBI, women physicians are more likely to suffer from emotional exhaustion, whereas men are more likely to describe depersonalization [15].

It is currently not clear if burnout is actually more common among women, or if gender-based differences in its expression-such as emotional exhaustion-make it easier to identify among women. Regardless, surveys (reflected in Table 1) have found that the prevalence of burnout may be as much as 20 to 60 percent higher among women physicians than among men physicians [16]. A 2017 survey of 15,000 physicians from 29 specialties found that burnout was self-reported by 48 percent of women physicians and 38 percent of men physicians [17]. Smaller specialtyspecific studies have also found that women are more likely to exhibit burnout symptoms than are men [18,19]. Regarding trainees, a large national sample of internal medicine residents found that women physicians were more likely than men physicians to report being burned out and dissatisfied with work-life integration [20].

Whether physician gender plays an independent role in the development or identification of burnout or acts in combination with other factors is also not yet clear. For example, age is an independent variable associated with the risk of burnout, with younger physicians at a higher risk of burnout than older physicians [21]. It is also worth noting that age may influence burnout more than gender does [21]. While the overall burnout rates are higher among women than among men, the rates may be the same when the analyses are adjusted for age [21]. As the number of older women physicians increases, what appear to be gender-related differences in burnout rates among some groups of physicians may decrease or disappear. However, additional research is needed to identify or confirm the relationships among gender, age, and risk of burnout.

		Age			Response Rate %	Analyzed (Total; W/M)	% Reported Burnout			
Reference	Population	[mean or median]	Methods	Invited			Women	Men	P Value	Total
Fields et al., Crit Care Med 1995 [a]	Pediatric intensivists	W 38 M 40	Pines and Aronson Burnout Scale	838	56	474 75/312	NR	NR	NS	14
Guntupalli & Fromm, Intensive Care Med 1996 [b]	Intensive care unit in- ternists with subspecial- ties	42	MBI	1,000	25	253 28/220	NR	NR	NR	EE 29 DP 20 LPA 59
McMurray et al., J Gen Intern Med 2000 [c]	Internal medicine, pediatri- cians, sub- specialties	W 43 M 49	Likert- type scale, 1 to 5 for burnout	5,704	52	2,326 735/1,585	26	21	<0.05	NR
Campbell et al., Surg 2001 [d]	Surgeons from Mid- west	50	MBI	1,706	44	582 >92% M	NR	NR	NR	EE 32 DP 13 LPA 4
Linzer et al., JAMWA 2002 [e]	Internal medicine, pediatri- cians, subspecial- ties, family medicine excluded	W 43 M 49	5-choice single item	5,700	52	1,446 405/1,041	28	21	<0.01	NR
Bertges Yost et al., Transpl Proc 2005 [f]	Transplant surgeons	49	MBI, Surgeon Coping Inven- tory	734	35	209 12/197	NR	NR	NR	EE 38 DP 27 LPA 16
Shanafelt et al., Ann Surg 2009 [g]	Surgeons	51	MBI	24,922	32	7,905 1,043/6,815	NR	NR	NR	40
Dyrbye et al., Arch Surg 2011 [h]	Surgeons	W 43 M 52	MBI	24,922	32	7,905 1,043/6,815	43	39	0.01	40
Shanafelt et al., Arch Int Med 2012 [i]	All special- ties	55	MBI	27,276	27	7,288 2,046/5,241	NR	NR	NR	45
Shanafelt et al., J Clin Oncol 2014 [j]	Oncologists	52	MBI	2,998	50	1,490 545/554	50	40	<0.001	45
Shanafelt et al., Mayo Clin Proc 2015 [k]	All special- ties	56	MBI	35,922	19	6,880 2,162/4,497	NR	NR	<0.001	54
Rabatin et al., Prim Care Comm Health 2016 [l]	Primary care	NR	Self- defined burnout	NR	56	422 187/235	36	19	<0.001	NR

Table 1 | Studies of Burnout Among US Physicians That Include Data Reported by Gender

		Age [mean or median]	Methods	Invited	Posponso	Analyzed (Total; W/M)	% Reported Burnout			
Reference	Population				Rate %		Women	Men	P Value	Total
Jager et al., Mayo Clin Proc 2017 [m]	All special- ties	53	Validated single item	4,000	63	2,263 735/1,528	NR	NR	NR	29
Peckham, Medscape 2018 [n]	All special- ties	NR	Self- defined burnout	NR	NR	15,543 NR	48	38	NR	42
Shenoi et al., Crit Care Med 2018 [o]	Pediatric critical care	NR	MBI	686	40	275 100/153	60	42	0.005	49
LaFaver et al., Neurol- ogy 2018 [p]	Neurolo- gists	W 47 M 54	MBI	4,127	40.5	1,671 580/1,091	65	58	0.007	60

SOURCE: Templeton et al. "Gender-based differences in burnout: Issues faced by women physicians," National Academy of Medicine.

NOTES: NR = not reported, NS = not statistically significant, W = woman/women, M = man/men, EE = emotional exhaustion, DP = depersonalization, LPA = low personal accomplishment. Numbers of women and men appear as reported in the publication. Studies included involved US physicians (excluding residents) with burnout as an outcome and had data on either the number of women in the survey or the percentage of women with burnout. [a] Fields, A. I., T. T. Cuerdon, C. O. Brasseux, P. R. Getson, A. E. Thompson, J. P. Orlowski, and S. J. Youngner. 1995. Physician burnout in pediatric critical care medicine. Critical Care Medicine 23(8):1425-1429. [b] Guntupalli, K. K., and R. E. Fromm. 1996. Burnout in the internist-intensivist. Intensive Care Medicine 22(7):625-630. [c] McMurray, J. E., M. Linzer, T. R. Konrad, J. Douglas, R. Shugerman, and K. Nelson. 2000. The work lives of women physicians: Results from the physician work-life study. Journal of General Internal Medicine (6):372-380. [d] Campbell, D. A. Jr., S. S. Sonnad, F. E. Eckhauser, K. K. Campbell, and L. J. Greenfield. 2001. Burnout among American surgeons. Surgery 130(4):696-702. [e] Linzer, M., J. E. McMurray, M. R. Visser, F. J. Oort, E. Smets, and H. C. de Haes. 2002. Sex differences in physician burnout in the United States and The Netherlands. JAMWA 57(4):191-193. [f] Bertges Yost, W., A. Eshelman, M. Raoufi, and M. S. Aboulgoud. 2005. A national study of burnout among American transplant surgeons. Transplantation Proceedings 37(2):1399-1401. [g] Shanafelt, T. D., C. M. Balch, G. Bechamps, T. Russell, L. Dyrbye, D. Satele, P. Collicott, P. J. Novotny, J. Sloan, and J. Freischlag. 2009. Burnout and career satisfaction among American surgeons. Annals of Surgery 250(3):463-471. [h] Dyrbye, L. N., T. D. Shanafelt, C. M. Balch, D. Satele, J. Sloan, and J. Freischlag. 2011. Relationship between work-home conflicts and burnout among American surgeons: A comparison by sex. Archives of Surgery 146(2):211-217. [i] Shanafelt, T. D., S. Boone, L. Tan, L. N. Dyrbye, W. Sotile, D. Satele, C. P. West, J. Sloan, and M. R. Oreskovich. 2012. Burnout and satisfaction with work-life balance among US physicians relative to the general US population. Archives of Internal Medicine 172(18):1377-1385. [i] Shanafelt, T. D., W. I. Gradishar, M. Kosty, D. Satele, H. Chew, L. Horn, B. Clark, A. E. Hanley, Q. Chu, J. Pippen, J. Sloan, and M. Raymond. 2014. Burnout and career satisfaction among US oncologists. Journal of Clinical Oncology 32(7):678-686. [k] Shanafelt, T. D., O. Hasan, L. N. Dyrbye, C. Sinsky, D. Satele, J. Sloan, and C. P. West. 2015. Changes in burnout and satisfaction with work-life balance in physicians and the general US working population between 2011 and 2014. Mayo Clinic Proceedings 90(12):1600-1613. [I] Rabatin, J., E. Williams, L. Baier Manwell, M. D. Schwartz, R. L. Brown, and M. Linzer. 2016. Predictors and outcomes of burnout in primary care physicians. Journal of Primary Care & Community Health 7(1):41-43. [m] Jager, A. J., M. A. Tutty, and A. C. Kao. 2017. Association between physician burnout and identification with medicine as a calling. Mayo Clinical Proceedings 92(3):415-422. [n] Peckham, C. 2018. Medscape national physician burnout and depression report 2018. https://www.medscape.com/slideshow/2018-lifestyle-burnout-depression-6009235 (accessed January 24, 2019). [0] Shenoi, A. N., M. Kalyanaraman, A. Pillai, P. S. Raghava, and S. Day. 2018. Burnout and psychological distress among pediatric critical care physicians in the United States. Critical Care Medicine 46(1):116-122. [p] LaFaver, K., J. M. Miyasaki, C. M. Keran, C. Rheaume, L. Gulya, K. H. Levin, E. C. Jones, H. B. Schwarz, J. R. Molano, A. Hessler, D. Singhal, T. D. Shanafelt, J. A. Sloan, P. J. Novotny, T. L. Cascino, and N. A. Busis. 2018. Age and sex differences in burnout, career satisfaction, and well-being in US neurologists. *Neurology* 91(20):e1928-e1941.

Even if women and men report the same scores on quantitative survey instruments, their qualitative experiences of burnout may differ. For example, in comparison with men neurologists, women neurologists more often reported less job satisfaction, a lower likelihood that they would again choose medicine as their life's work, and a higher likelihood of thoughts about leaving the profession. Women expressed more concerns than men about declining professionalism in medicine. Women, but not men, commented about the loss of the academic mission in the current health care environment [22].

Given the current evidence base, it is difficult to know whether there are real and persistent differences in the rates of burnout between women and men physicians. However, even if there are no significant differences between/among the genders in the prevalence of burnout, risk factors and related prevention and intervention initiatives may vary. While there are common interventions to address burnout among both women and men, some additional steps might be necessary for the former.

Contributing Factors

Burnout is associated with many work-related stressors, which vary in their impact on individual physicians. The following factors have been identified: type of specialty, workload, work hours, administrative tasks, increased responsibilities, lack of autonomy or control, financial stress, career stage, loss of meaning and joy in work (23), having children at home, work-life integration, decreased support, real or perceived lack of fairness in promotion and compensation, and other manifestations of gender bias/discrimination, and sexual harassment. While many of these impact both men and women physicians, this section will focus on those that have a greater or different impact on women.

External Factors

Work-Life Integration

Responsibilities at work and home interact. If the experiences in one domain make it easier to perform in the other, then the work-home interaction can have a positive effect. However, there may be adverse consequences if the roles conflict [24]. Both men and women report that challenges in work-life integration contribute to burnout. However, men and women define work-life integration differently [25,26]. The consequences of work-home conflict and their impact on

depression have been reported as early as six months into the first postgraduate year and are more common among women than among men [27]. Women are more likely to perform most of the work within the home, and this leads to increased time pressures and fewer opportunities for self-care. Women are more likely than men to have partners who are employed full time. Women employed full time spend 8.5 additional hours per week on child care and other domestic activities, including care for elderly parents [28]. On average, women who are employed and whose partners also work perform an additional two hours of work at home per day, an increase three times higher than that reported by men whose partners work-men in these circumstances note that their domestic work only increases by an average of 40 minutes [29].

Gender Bias and Discrimination

Women physicians are often victims of bias and discrimination. Discrimination includes disparaging or disrespectful treatment or comments; lack of career promotion; and disparities in resources (including financial and administrative support), rewards, and reimbursement. More than 70 percent of women physicians report experiencing gender discrimination [30]. Women who belong to racial or ethnic minority groups may face additional discrimination at all levels of their careers, impacting their sense of well-being and their perception of work stress [31]. Sources of bias and discrimination include more senior physicians, administrators, peers, allied health professionals, and patients. Gender bias and discrimination, which may be unconscious, can leave victims feeling marginalized and disenfranchised, adversely affecting their self-confidence and career advancement [30].

Bias, often unconscious, can result in differing dayto-day experiences for men and women. Men and women academic physicians frequently receive different levels of financial support at the beginning of their careers and also experience disparities in mentoring and sponsorship throughout their careers [32,33,34]. Women physicians consistently earn less than their male colleagues across multiple specialties [35], despite similar levels of clinical or academic productivity. Women are less likely than men to be speakers at grand rounds in some academic medical centers, losing the benefits that these opportunities provide for career advancement [36]. A review of introductions of grand rounds speakers at two internal medicine departments found that men who introduced speakers were more likely to use professional titles if the speaker was a man but more likely to use informal address, typically first name only, if the speaker was a woman [37]. Despite similar work and levels of academic productivity, women are less likely to be promoted [38] and compose a small minority of leaders in medicine, especially compared to their representation among practicing physicians. A survey of faculty members at 14 academic health centers found that women are less likely than men to feel a sense of common purpose and belonging and to report fair access to opportunity and rewards within organizations [39].

Gender-related bias seems to be even more prevalent among women physicians who are mothers. In a survey of an online group of physician mothers, onethird of respondents noted experiencing discrimination related to their role as a mother. Among those who experienced discrimination, almost 90 percent reported that this was related to pregnancy or maternity leave; almost half were subjected to disrespectful comments from support staff about breastfeeding. Exposure to maternal discrimination was associated with an increased incidence of self-reported burnout [40]. In addition, women who are mothers have reported being held to higher standards, experiencing lack of support during pregnancy and the postpartum period, and having even more limited opportunities for career advancement, as though they were being "punished" for becoming mothers [41]. The reported incidence of burnout rises even higher if women physicians are caring for someone with a serious health problem or disability (e.g., child, partner, parent, other relative), in addition to a child [42].

Although the origin of burnout is multifactorial, a significant association has been identified between the perception of gender bias and discrimination and the manifestation of burnout [43]. Increased rates of burnout have also been found among medical students who have been mistreated (including being subjected to racial or gender discrimination or harassment) [44]. Unfortunately, studies in this area do not consistently evaluate results on the basis of gender. Despite decreased career satisfaction and burnout, victims of bias or discrimination may not speak up because they may assume that the behavior reflects the culture of medicine or the culture of the workplace [45] and that nothing will be done to correct the problem.

Sexual Harassment

Being the victim of or working in an environment in which other women have been victims of sexual ha-

rassment can also cause women to feel a sense of alienation from the workplace and can highlight the discrepancies between the values of the women physicians and those physicians or administrators with or for whom they work. Women physicians are much more likely than men physicians to be victims of workplace sexual harassment, which can range from sexist comments to sexual coercion and assault [46]. In addition, women who belong to a sexual minority group are at risk of experiencing harassment based on their sexual orientation [47]. Workplace sexual harassment and bullying have been linked to mental health issues, such as depression and anxiety, and may contribute to the development of burnout among victims of both direct and indirect harassment [48,49,50]. Women physicians who have been victims of sexual harassment note that the experiences negatively affected their self-confidence and career advancement. Some victims even changed jobs or careers [30,51]. Women physicians (like many other victims) may not acknowledge or report instances of sexual assault because of concerns about confidentiality, reprisal, and negative career consequences.

Autonomy and Workload

Lack of autonomy or control can also contribute to burnout. A large survey of primary care physicians revealed that women are less likely to believe that they have sufficient time to see patients during office visits and that women report having less control over their workload and their schedules than men physicians do [17]. Institutional pressures to perform administrative tasks and support patients' emotional needs may disproportionately affect women, because women are more frequently identified culturally as caretakers and nurturers. Women physicians spend, on average, two minutes more on each patient visit than men physicians and are more likely to explore socioemotional and psychosocial issues during the visit [52]. The gendered approach to patient care, called "the motherly approach," has been described as personally draining for women surgeons over time and has also been described as leading to compassion fatigue [25,53]. Gendered expectations from patients may also contribute to differential stresses experienced by women and men physicians [54].

Individual Factors

Some physicians may be more susceptible to burnout because of their life experiences. For example, the presence of impostor syndrome—which leads to distortion of the way sufferers see the world and themselves-may be exacerbated by life experiences that occur before and while in the medical profession and can contribute to burnout. Also referred to as the impostor experience, this syndrome is a pattern of thinking and behavior exhibited by individuals who cannot internalize their own successes and instead have a persistent fear that they do not deserve what they have achieved, despite objective evidence to the contrary [55]. Although first described among high-achieving women, impostor syndrome is found among men and women and across professions. The syndrome has been observed in nurses and physician assistants, as well as physicians [55,56,57,58]. An exploratory study of impostor syndrome among medical students at one US institution found it to be present in 49.4 percent of women and 23.7 percent of men [59]. Impostor syndrome can persist among some physicians throughout their careers [60]. Some researchers have found a relationship between the presence of impostor syndrome and conditions such as anxiety, depression, and lower self-esteem among women [59,61].

There is less evidence exploring the role of other internal factors, such as stereotype perception. *Stereotype perception* refers to the fear of confirming a negative stereotype about a subgroup to which one belongs. A study evaluating the impact of stereotype perception among surgical residents found that women residents who held a negative perception of women's ability to be capable surgeons had poorer psychological health than women without that perception or men, regardless of their perception [62].

Burnout, Depression, and Suicide

Burnout, depression, and suicidal ideation are separate but related entities. It is critically important to distinguish between these conditions, because their remedies are different. Burnout is situationally specific and is related to the workplace. Depression and suicidal ideation can occur in some physicians suffering from burnout but typically reflect the presence of additional issues.

Burnout, like other stressors, may contribute to the development of depression in susceptible individuals. Women physicians are more likely than men physicians to experience depression, sometimes as early as their internship year [27]. However, not all physicians experiencing depression also experience burnout and vice versa. Depression is characterized by a series of symptoms, including changes in appetite and sleep, difficulty concentrating, inability to feel pleasure, and thoughts of suicide that persist for at least two weeks. In addition, people with depression may also experience feelings of anger, fatigue, exhaustion, anxiety, and loneliness, and a low sense of personal accomplishment—symptoms that often make it difficult to distinguish depression from burnout. Both burnout and depression may lead to regular use of alcohol or other drugs for self-medication. Women experiencing burnout are at a higher risk of increased alcohol consumption than are men [63,64].

Women physicians are 2.27 times more likely to die by suicide compared to woman nonphysicians, and male physicians are 1.41 times more likely to die by suicide compared to male nonphysicians [65]. Suicidal ideation has been reported by physicians who also reported symptoms of burnout and depression, although gender-based differences have not been consistently found [66]. A recent study of burnout revealed that, in response to the open ended question, "Is there anything else you would like to share with AAN (American Academy of Neurology) regarding burnout and wellbeing?" women neurologists more commonly wrote about depression and suicidal ideation than did men neurologists [22].

Burnout and depression manifest similarly and may even coexist among some physicians [67]. However, since they are separate and distinct conditions, they require different interventions. Mitigation of burnout requires culture and system changes, whereas depression requires medical treatment. One important challenge of all physicians is a reluctance to seek help for burnout or depression because of stigma, concerns about licensure and credentialing, and a tendency to self-treat [61,66]. The complex relationship between burnout and depression and the differences in how men and women may report these symptoms requires more investigation.

Strategies to Mitigate Burnout and Promote Well-Being

Overview

Many of the factors contributing to burnout among men and women physicians are similar. Prevention and intervention strategies aimed at mitigating these factors should equally benefit women and men. However, some external factors differentially affect women and men. Thus, recognition of and attention to these differences is important for the development of successful prevention and intervention strategies. Such initiatives will benefit both patients and practicing clinicians.

Although external factors are the primary contributors to physician burnout and require systems-level interventions to address, individual interventions may play a role in reducing burnout as well. A few studies evaluating the efficacy of interventions for the reduction of burnout among physicians examined the relationship between gender and burnout [68,69,70]. Most studies found no significant relationship between gender and the impact of the intervention on burnout [68,70]. Two recent systematic reviews and meta-analyses evaluated the effectiveness of interventions in reducing physician burnout [71,72]. These interventions did not affect women and men differently. However, the number of studies was small, and only a few examined addressing systemic factors. Notwithstanding, one study found that a higher proportion of women than men met the criteria for burnout, and after the analysis was adjusted for age, protected time, and relationship status, the effect of the intervention on burnout was stronger for men than for women [69].

Addressing the Differential Causes and Effects of Physician Burnout by Gender: What Organizations Can Do

Leadership

Enlightened leadership is essential in effecting change and addressing burnout at the organizational level [73]. Leadership qualities of supervisors are associated with individual physicians' burnout and satisfaction scores [74]. Leaders can play an important role in leveling the playing field for women at every stage of their careers by addressing disparities in opportunities, pay, and support staff and by working to eliminate gender discrimination and harassment [75,76]. Clear and credible reporting structures, as well as accountability metrics for managers and supervisors, may help to reduce or, ideally, eliminate workplace harassment and bullying [77,78]. Organizations can also foster improvements in culture by addressing issues related to harassment and by working with administration to regularly survey and assess the quality of the clinical environment.

Work Environment, Stigma, and Access to Resources

Workplace culture has a strong influence on career advancement and development for women in health professions, and resources that can assist women physicians in being successful at work should be available [79,80]. A supportive work culture may mitigate some of the challenges of achieving optimal work-life integration [81]. Because many women clinicians experience unique pressures related to balancing personal and professional demands, organizations can foster balance by promoting gender-specific mentorship programs and implementing policies and practices intended to improve work-life integration [82,83,84,85]. These policies should include availability of child care-especially for parents of sick children who are unexpectedly unable to attend school or day care—lactation facilities and time to use them, and family leave that allows both women and men adequate time to care for children and other family members throughout their careers. Such policies would be more consistent with those that have been adopted for physicians in Europe [86] and those that are currently available in other industries in the United States.

In addition, workplace sexual harassment and gender biases must be addressed more effectively. Effective organizational training programs designed to educate participants about unconscious bias, workplace norms, effective communication, and reporting mechanisms should be implemented. The efficacy of current sexual harassment reporting mechanisms can be compromised by victims' fear and reluctance to report perpetrators—some of whom perform these acts frequently—and by institutions' need to mitigate legal risk. The impact of current sexual harassment training programs needs to be clarified. Organizations need to take steps to promote authentic conversations to truly address these challenges. Reporting mechanisms must be clear, and complainants must feel secure that reporting such behavior will not negatively affect their lives or careers and that their complaints will be properly investigated. Victims should also have ready access to support services during and after this process [46]. Additional information about implementation of programs can be found in the National Academies of Sciences, Engineering, and Medicine report, Sexual Harassment of Women: Climate, Culture, and Consequences in Academic Sciences, Engineering, and Medicine [46].

Concrete strategies aimed at reducing gender bias include education and organizational change. Providing education about gender bias through brief educational interventions can change physicians' perceptions of bias, including changing their implicit biases [83]. Strategies to provide support for women physicians and to address bias also need to consider the impact of the interaction of age, race and ethnicity minority status, and gender or sexual orientation minority status on the development of burnout. Organizational interventions aimed at reducing the effects of gender bias and discrimination range from improving awareness to providing structured opportunities for women faculty members to share their experiences, as well as explicit discussions about the influence of gender bias on processes such as feedback and promotion [84,85]. When feedback about gender bias is provided, defensive reactions that could be provoked by such feedback should be anticipated [87].

Those physicians who exhibit symptoms of burnout or depression must be able to obtain appropriate care. Thus, the stigma associated with these problems must be eradicated, and mental health resources must be readily available to busy physicians. Seeking help for burnout and mental health issues should be encouraged and should not place one's hospital privileges, licensure, or certification status in jeopardy. State medical boards should adopt the recommendations of the Federation of State Medical Boards in their Report and Recommendations of the Workgroup on Physician Wellness and Burnout published in 2018 [88], including reviewing current procedures to determine if obtaining information regarding a physician's mental health status is necessary to ensure patient safety, making clear differentiation between past mental health issues and current impairments, and clearly stating that obtaining additional information regarding physician physical or mental health does not constitute an investigation. These can help to reduce the stigma of mental health issues among physicians and the public and encourage physicians to seek help when needed.

Career Development

Organizations can positively address the needs of women clinicians through hiring decisions, career advancement, leadership development, negotiation skills training, and mentorship programs. Intentional efforts to ensure that qualified women are placed on appropriate committees, are given the necessary administrative staff, and are supported and compensated for their work (clinical, education, and research based) are needed to ensure that women are promoted at rates equal to those of men.

Women physicians have difficulty accessing mentors [89]. This problem can be addressed by formal mentoring programs within institutions or larger medical associations. Mentoring by more senior physicians can help both women and men identify career development strategies. Mentorship can address common feelings of guilt and stress related to antiquated gendered expectations within and outside the workplace [90]. Mentoring can foster an emotionally supportive environment for personal and professional development [91]. Men leaders can serve as allies by sponsoring and promoting the advancement of women leaders within health care organizations [92].

Peer communities can provide opportunities for women to work together to address institutional policies that are detrimental toward women and to discuss common issues such as work-home conflict. A program for women academics in psychiatry improved job-related well-being, self-esteem, and self-efficacy [93]. Another program improved research productivity and scholarly output and increased satisfaction with academic achievement and confidence in research skills [94]. Programs that allow women physicians at similar stages of their careers to discuss common issues have been identified as useful interventions through which women can share resources, provide support, and normalize their experiences [95].

Learning Environments

Several organizations have programs designed to improve the well-being of medical students, residents, and other trainees. Unfortunately, limited evidence exists regarding gender-directed interventions in the learning environment. One recent study of medical students at a single school found gender differences in how the students experienced burnout. The authors noted that the differences, although statistically significant, were small, and they recommended that interventions be broadly available to all students and targeted, as appropriate, to the specific needs of men and women students [96]. At Stanford University's medical school, an intervention aimed at reducing gender insensitivity improved perceptions of the medical school's learning environment [97]. Other interventions, such as facilitating wellness behaviors, although not focused on gender, may differentially impact men and women.

Addressing the Differential Causes and Effects of Physician Burnout: What Individuals Can Do

Although individual approaches to preventing burnout can have some impact, they will not be successful in isolation: organizational support of strategies used by individual physicians to prevent burnout, increase wellbeing, and improve resilience is necessary to ensure that burnout is effectively mitigated. Organizations can support physicians by providing protected time to participate in self-care activities, such as yoga, mindfulness training, and exercise. Importantly, affordable, timely, and convenient access to physical and mental health services should be prioritized. To be effective, these interventions require the availability of sufficient time away from work and home responsibilities, but obtaining such time may be especially challenging for women.

Strategies for Moving Forward

Current understanding of gender-based differences in burnout that focus on women physician challenges leads to four high-level strategies on how to best address these issues (*Box 1*). The research community should develop a consensus definition of *burnout* and promote the use of standardized measures. Researchers and healthcare organizations should consistently include physician demographics in their assessments of physician wellness. Consistent use of standardized terms and assessments, including those used to identify the population being evaluated, will promote optimal research outcomes. The risk of developing burnout is multifactorial and is affected by the physician's gender, as well as their age, race, ethnicity, or sexual minor-

Box 1 | Strategies to Mitigate Gender-Based Differences of Burnout in Physicians

- The research community should develop a consensus definition of *burnout* and promote the use of standardized measures. Researchers and health care organizations should consistently include physician demographics in their assessments of physician wellness.
- To mitigate gender-based differences in burnout, organizations should develop interventions targeted at personal and institutional factors, with an emphasis on the latter.
- The culture of medicine must change to eliminate conscious and unconscious biases, gender discrimination, and sexual harassment.
- Health care institutions should prioritize the physical and mental health of all physicians, with specific tactics employed for women physicians.

SOURCE: Templeton et al. "Gender-based differences in burnout: Issues faced by women physicians," *NAM Perspectives*.

ity status. Additional research is needed to investigate the intersection of these factors in the development of burnout. Studies of the impact of interventions should likewise consider these factors, with results reported based on each factor. In addition, the impact of interventions designed to improve well-being, increase resilience, and reduce burnout should be assessed in terms of gender-based physician satisfaction and retention, as well as other demographic areas, and should be incorporated into the performance measures and metrics used to assess the quality of the health care system. Appropriately designed studies, including longitudinal ones, will provide a better understanding of the relationship between these demographic factors and burnout, and will also assist in the development of strategies to reduce the effects of burnout on physicians, their team members, and their patients.

To mitigate gender-based differences in burnout, organizations should develop interventions targeted at personal and institutional factors, with an emphasis on the latter. Institutions should explore which organizational factors are most important in their learning and practice environments. Societal expectations that women be primarily responsible for caregiver roles at home remain a barrier to fully equalizing the roles and responsibilities of men and women within and outside the workplace. Until these expectations change, health care organizations must acknowledge these societal demands and provide resources and flexibility in the work environment that can enable women's success. Interventions in this area can include flexible works hours and options for family leave that facilitate care for dependent children, parents, and other family members without negative career consequences. In addition, health care institutions should allocate resources that can help women be successful at work, including career development, mentoring, and peer support programs.

The culture of medicine must change to eliminate conscious and unconscious biases, gender discrimination, and sexual harassment. Eliminating biases and harassment can help to level the playing field, promote women's careers, eliminate a substantial source of stress for women, and emphasize to women that their goals as physicians are aligned with those of their workplaces.

Health care institutions should prioritize the physical and mental health of all physicians, with specific tactics employed for women clinicians. Organizational approaches to improve well-being and reduce burnout should include broad-based programs championed and supported by organizational leadership. Such programs can include mindfulness training, stress management, and exercise. Where appropriate, gender-targeted interventions should be a component of these well-being programs. Institutional practices designed to ensure that physicians, especially women who have multiple responsibilities outside work, have time to participate in these programs should be employed where possible. In addition, healthcare and society, in general, must work to eliminate the stigma frequently associated with mental health issues, including burnout and depression. Steps toward this goal include the ready availability of resources such as confidential counseling and psychiatric services, as well as the provision of the time necessary for physicians to address their physical and mental health without negative repercussions. We must also continue to raise awareness of the increasing incidence of physician suicide.

Conclusion

Additional work is needed to identify optimal initiatives to address burnout. Some of these interventions may be similar between/among the genders, such as improving functionality of electronic health records or increasing the control that a physician has over their work schedule. However, some interventions may be more gender-specific, such as improving family leave policies and addressing the gender bias and sexual harassment faced by women in medicine. It will be important to engage women in the development and implementation of programs designed to improve satisfaction with their careers, to assure that these programs are practical and meaningful. Support for women in medicine needs to be career-long, as the issues they face exist for the entirety of their careers.

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American Public Health Association

RESOURCES LIST

- 1. Why is Mental Health a Public Health Issue? Episode 3 of "That's Public Health" Learn why mental health is a public health issue in this third episode of the "That's Public Health" web series from APHA and Complexly.
- 2. <u>Public Health Legal Authorities Townhall APHA/Alliance for Disease Prevention &</u> <u>Response/Covid Collaborative</u>

Hosted by APHA, the Alliance for Disease Prevention and Response, and the COVID Collaborative, this online event will feature speakers sharing the value of public health as a safety net to protect people against widespread illness, harm, and death where they live, work, worship, learn and play.

3. <u>APHA Racism and Health Resources</u>

A compilation of resources discussing racism and health equity.

RESOURCE SHARED BY: American Public Health Association

Clinician Retention in the Era of COVID: Uniting the Health Workforce to Optimize Well-Being (March 15, 2022 NAM convening)

Morbidity and Mortality Weekly Report

Symptoms of Depression, Anxiety, Post-Traumatic Stress Disorder, and Suicidal Ideation Among State, Tribal, Local, and Territorial Public Health Workers During the COVID-19 Pandemic — United States, March–April 2021

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On July 2, 2021, this report was posted as an MMWR Early Release on the MMWR website (https://www.cdc.gov/mmwr).

Increases in mental health conditions have been documented among the general population and health care workers since the start of the COVID-19 pandemic (1-3). Public health workers might be at similar risk for negative mental health consequences because of the prolonged demand for responding to the pandemic and for implementing an unprecedented vaccination campaign. The extent of mental health conditions among public health workers during the COVID-19 pandemic, however, is uncertain. A 2014 survey estimated that there were nearly 250,000 state and local public health workers in the United States (4). To evaluate mental health conditions among these workers, a nonprobability-based online survey was conducted during March 29-April 16, 2021, to assess symptoms of depression, anxiety, post-traumatic stress disorder (PTSD), and suicidal ideation among public health workers in state, tribal, local, and territorial public health departments. Among 26,174 respondents, 52.8% reported symptoms of at least one mental health condition in the preceding 2 weeks, including depression (30.8%), anxiety (30.3%), PTSD (36.8%), or suicidal ideation (8.4%). The highest prevalence of symptoms of a mental health condition was among respondents aged ≤ 29 years (range = 13.6%-47.4%) and transgender or nonbinary persons (i.e., those who identified as neither male nor female) of all ages (range = 30.4%–65.5%). Public health workers who reported being unable to take time off from work were more likely to report adverse mental health symptoms. Severity of symptoms increased with increasing weekly work hours and percentage of work time dedicated to COVID-19 response activities. Implementing prevention and control practices that eliminate, reduce, and manage factors that cause or contribute to public health workers' poor mental health might improve mental health outcomes during emergencies.

A nonprobability-based convenience sample of public health workers was invited to complete a self-administered, online, anonymous survey during March 29–April 16, 2021. All persons who worked at a state, tribal, local, or territorial health department for any length of time in 2020 were eligible to participate.* National public health membership associations[†] emailed a link to the survey to all members (approximately 24,000), and supervisors were asked to cascade the survey to all workers within their organization; 26,174 public health workers responded to the survey. The survey included questions on traumatic events or stressors experienced since March 2020,§ demographics, workplace factors, and self-reported mental health symptoms, including depression, anxiety, PTSD, or suicidal ideation, in the past 2 weeks. Mental health symptoms were evaluated using the 9-item Patient Health Questionnaire (PHQ-9) for depression (5), the 2-item General Anxiety Disorder (GAD-2) for anxiety (6), the 6-item Impact of Event Scale (IES-6) for PTSD (7),⁹ and one item of the PHQ-9 for suicidal ideation.** Prevalence of symptoms of mental health conditions and suicidal ideation were assessed by demographic characteristics and workplace factors.^{††} Univariate prevalence ratios were calculated using Poisson regression with 95% confidence intervals estimated using a robust standard error. Analyses were completed using RStudio software (version 1.2.1335; RStudio). This activity was reviewed by CDC and was conducted consistent with applicable federal law and CDC policy.^{§§}

Overall, 52.8% of respondents reported symptoms of at least one adverse mental health condition in the preceding 2 weeks. Prevalences of symptoms of depression, anxiety, PTSD, and suicidal ideation were 30.8%, 30.3%, 36.8%, and 8.4%,

^{*} Respondents who did not report working at a state, tribal, local, or territorial public health agency or department in 2020 were excluded from the analysis.

[†] Membership associations that participated were the Association of Public Health Laboratories (APHL), the Association of State and Territorial Health Officials (ASTHO), the Council of State and Territorial Epidemiologists (CSTE), and the National Association of County and City Health Officials (NACCHO).

[§] Respondents were asked if they had experienced specific traumatic events or stressors since March 2020, when COVID-19 was declared a pandemic; choices were yes/no/skip question.

Symptoms of depression, anxiety, and post-traumatic stress disorder were scored and categorized by severity according to thresholds established by these validated tools. Those who scored ≥10.0 out of 27 on the PHQ-9 for depression, ≥3.0 out of 6 on the GAD-2 for anxiety, or ≥1.75 out of 4 on the IES-6 for PTSD were considered symptomatic for the respective conditions.

^{**} Respondents who indicated that they would be better off dead or thought of hurting themselves at any time in the past 2 weeks were categorized as experiencing suicidal ideation.

^{††} Mental health outcome counts might not sum to total number of respondents because of missing data; counts for each category are those who answered all validated survey questions for that outcome.

^{§§ 45} C.F.R. part 46.102(l)(2), 21 C.F.R. part 56; 42 U.S.C. Sect. 241(d); 5 U.S.C. Sect. 552a; 44 U.S.C. Sect. 3501 et seq.

Summary

What is already known about this topic?

Increases in mental health conditions have been documented among the general population and health care workers during the COVID-19 pandemic; however, data on public health workers are limited.

What is added by this report?

Among 26,174 surveyed state, tribal, local, and territorial public health workers, 52.8% reported symptoms of at least one mental health condition in the past 2 weeks. Symptoms were more prevalent among those who were unable to take time off or worked \geq 41 hours per week.

What are the implications for public health practice?

Implementing prevention and control practices that eliminate, reduce, and manage factors that cause or contribute to public health workers' poor mental health might improve mental health outcomes during emergencies.

respectively (Table 1). The highest prevalences of symptoms of a mental health condition or suicidal ideation were among respondents aged ≤ 29 years (range = 13.6%-47.4%), transgender or nonbinary persons of all ages (range = 30.4%-65.5%), and those who identified as multiple races (range = 12.1%-43.4%); prevalence of symptoms of PTSD was higher among respondents who had a postbaccalaureate graduate education (40.7%).

Most (92.6%) respondents reported working directly on COVID-19 response activities; the majority (59.2%) worked ≥41 hours in a typical week since March 2020. The prevalences of all four mental health outcomes and the severity of symptoms of depression or PTSD increased as the percentage of work time spent directly on COVID-19 response activities and number of work hours in a typical week increased (Table 1) (Figure). Public health workers who were unable to take time off from work when they needed were nearly twice as likely to report symptoms of an adverse mental health condition (prevalence ratio range = 1.84-1.95) as were those who could take time off. Among those not able to take time off from work (8,586), the most common reasons were concern about falling behind on work (64.4%), no work coverage (60.6%), and feeling guilty (59.0%); 18.2% reported that their employer did not allow time off from work. Needing mental health counseling/services in the last 4 weeks, but not receiving these services, was reported by nearly one in five (19.6%) respondents. Employee assistance programs were available to nearly two thirds (66.1%) of respondents but were accessed by only 11.7% of those respondents; 27.3% of all respondents did not know whether their employer offered an employee assistance program.

Respondents reported experiencing traumatic events or stressors since March 2020, including feeling overwhelmed

by workload or family/work balance (72.0%), receiving job-related threats because of work (11.8%), and feeling bullied, threatened or harassed because of work (23.4%); 12.6% of respondents reported having received a diagnosis of COVID-19 (Table 2). Respondents who reported traumatic events or stressors, either personal or work-related, were more likely to report symptoms of PTSD than respondents who did not experience these events or stressors.

Discussion

Among a convenience sample of 26,174 state, tribal, local, and territorial public health workers, approximately one half experienced symptoms of a mental health condition in the 2 weeks preceding the survey, with highest prevalences reported among younger respondents, and transgender or nonbinary respondents. Public health workers who reported certain workplace practices, such as long work hours and the inability to take time off, were more likely to have experienced symptoms of a mental health condition. Implementing prevention and control practices that eliminate, reduce, and manage workplace factors^{¶¶} that cause or contribute to public health workers' adverse mental health status^{***} might improve mental health outcomes during this and other public health emergencies.

The overall prevalence of symptoms of mental health conditions among public health workers was higher than previously reported in the general population (approximately 40.9%) (1). Prevalences of symptoms of depression and anxiety among public health workers were similar to those in previous reports among health care workers (3); however, prevalence of PTSD symptoms among public health workers was 10%–20% higher than that previously reported among health care workers (2), frontline personnel (3), and the general public (1). Symptoms of PTSD disproportionately affected public health workers who experienced work-related traumatic stressors (e.g., felt inadequately compensated or felt unappreciated at work), particularly those factors that affect workers' personal lives (e.g., felt disconnected from family and friends because of workload). Traumatic and stressful work experiences related to the COVID-19 pandemic might have played a role in elevating the risk for experiencing symptoms of PTSD among public health workers.

Increases in adverse mental health symptoms among workers have been linked to increased absenteeism, high turnover, lower productivity, and lower morale, which could influence the effectiveness of public health organizations during emergencies (8,9). Among public health worker respondents, nearly 20% reported that their employer did not allow them to take time off; the inability to take time off had the largest impact on reporting

[¶] https://www.cdc.gov/niosh/twh/guidelines.html

^{***} https://unhealthywork.org/category/mental-health-outcomes/

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		Depression	n* (n = 22,692†)	Anxiety*	(n = 23,610 [†])	PTSD* (n = 22,248†)	Suicidal ideation (n = 23,317 [†])		
Characteristic	No.	Prevalence, %	PR (95% CI)	Prevalence, %	PR (95% CI)	Prevalence, %	PR (95% CI)	Prevalence, %	PR (95% CI)	
Overall	26,174*	30.8	_	30.3	_	36.8	_	8.4	_	
Age group, yrs										
≤29	3,525	40.3	2.11 (1.93–2.30)	44.7	2.81 (2.56-3.09)	47.4	2.03 (1.88-2.19)	13.6	2.98 (2.46-3.60)	
30–39	5,461	34.3	1.80 (1.65–1.96)	37.1	2.33 (2.12-2.56)	42.3	1.81 (1.68–1.95)	10.3	2.26 (1.87–2.73)	
40–49	5,102	31.4	1.64 (1.50–1.80)	29.1	1.83 (1.66–2.01)	37.3	1.60 (1.48–1.73)	7.5	1.65 (1.36–2.01)	
50–59	4,925	27.6	1.45 (1.32–1.58)	23.5	1.47 (1.33–1.63)	32.0	1.37 (1.26-1.48)	6.0	1.32 (1.08–1.62)	
≥60	2,830	19.1	Ref	15.9	Ref	23.4	Ref	4.6	Ref	
Sex										
Male	3,904	27.1	Ref	24.4	Ref	33.2	Ref	9.9	Ref	
Female	19,873	31.2	1.15 (1.09–1.22)	31.2	1.28 (1.20–1.36)	37.2	1.12 (1.07–1.18)	7.9	0.81 (0.72–0.90)	
Transgender or nonbinary	147	61.9	2.29 (1.98–2.64)	61.1	2.21 (1.88–2.59)	65.5	1.97 (1.74–2.24)	30.4	3.10 (2.37–4.06)	
Race/Ethnicity										
Hispanic	1,974	30.0	0.95 (0.89–1.03)	29.9	0.95 (0.89–1.02)	37.5	1.01 (0.95–1.07)	9.9	1.20 (1.03–1.39)	
AI/AN, NH	156	35.8	1.14 (0.92–1.41)	32.7	1.04 (0.83–1.31)	41.6	1.12 (0.92-1.35)	7.3	0.89 (0.50-1.57)	
Asian, NH	1,009	28.3	0.90 (0.81-1.00)	27.6	0.88 (0.79–0.98)	38.3	1.03 (0.94–1.12)	10.1	1.22 (1.00–1.49)	
Black, NH	2,177	24.4	0.77 (0.71–0.84)	21.7	0.69 (0.64–0.75)	29.8	0.80 (0.75-0.86)	6.5	0.79 (0.67–0.94)	
NH/PI, NH	96	26.5	0.84 (0.59–1.21)	22.2	0.71 (0.48–1.04)	25.3	0.68 (0.47-0.98)	11.1	1.34 (0.75–2.42)	
White, NH	17,218	31.5	Ref	31.4	Ref	37.2	Ref	8.3	Ref	
Multiple races, NH	614	39.6	1.26 (1.14–1.39)	37.2	1.19 (1.07–1.32)	43.4	1.17 (1.06–1.28)	12.1	1.46 (1.17–1.83)	
Highest educational	degree att	ained								
Less than bachelor's	5,386	31.0	Ref	27.1	Ref	30.1	Ref	6.5	Ref	
Bachelor's	9,180	31.4	1.01 (0.96–1.07)	30.6	1.13 (1.07–1.20)	36.8	1.22 (1.16–1.29)	9.1	1.40 (1.24–1.59)	
Graduate	9,375	30.4	0.98 (0.93–1.04)	32.0	1.18 (1.12–1.25)	40.7	1.35 (1.29–1.42)	8.9	1.37 (1.22–1.56)	
Hrs worked per wk										
≤40	9,993	23.5	Ref	24.4	Ref	27.3	Ref	7.6	Ref	
41–60	11,466	33.3	1.42 (1.35–1.48)	32.3	1.32 (1.26–1.38)	40.4	1.48 (1.42–1.54)	8.4	1.10 (1.00–1.21)	
>60	3,018	45.6	1.94 (1.84–2.05)	41.6	1.70 (1.61–1.80)	54.2	1.99 (1.89–2.08)	11.0	1.44 (1.27–1.63)	
% of time spent on C	OVID-19 re	esponse activi	ties							
None	1,787	22.5	Ref	23.0	Ref	22.3	Ref	7.6	Ref	
1–25	5,151	23.6	1.05 (0.95–1.17)	23.5	1.02 (0.92–1.13)	24.3	1.09 (0.98–1.21)	7.5	0.99 (0.82–1.21)	
26–50	3,432	27.6	1.23 (1.11–1.37)	26.7	1.16 (1.05–1.29)	31.6	1.42 (1.28–1.57)	8.4	1.12 (0.91–1.37)	
51–75	3,283	30.6	1.36 (1.23–1.51)	30.6	1.33 (1.20–1.47)	37.0	1.66 (1.50–1.84)	8.6	1.14 (0.93–1.40)	
≥76	10,620	36.9	1.64 (1.50–1.81)	35.9	1.56 (1.42–1.71)	47.0	2.11 (1.92–2.32)	8.9	1.18 (0.99–1.41)	
Can take time off fro	m work									
Yes	13,507	22.6	Ref	23.0	Ref	27.9	Ref	6.2	Ref	
No	8,586	44.1	1.95 (1.87–2.03)	42.4	1.85 (1.77–1.92)	51.5	1.84 (1.78–1.91)	12.0	1.92 (1.76–2.10)	

TABLE 1. Mental health symptoms among 26,174 state, tribal, local, and territorial public health workers during the past 2 weeks, by demographic characteristics and work factors — United States, March–April 2021

Abbreviations: AI/AN = American Indian or Alaska Native; CI = confidence interval; IES-6 = 6-item Impact of Event Scale; GAD-2 = General Anxiety Disorder; NH = non-Hispanic; NH/PI = Native Hawaiian or Pacific Islander; PHQ-9 = 9-item Patient Health Questionnaire; PR = prevalence ratio; PTSD = post-traumatic stress disorder; Ref = referent group.

* Symptoms of mental health conditions were scored and categorized by severity. Respondents who scored ≥10.0 out of 27 on the PHQ-9 for depression, ≥3.0 out of 6 on the GAD-2 for anxiety, or ≥1.75 out of 4 on the IES-6 for PTSD were considered symptomatic for the respective conditions. Respondents who indicated that they would be better off dead or thought of hurting themselves at any time in the past 2 weeks were categorized as experiencing suicidal ideation.

⁺ Some categories might not sum to 26,174 because of missing data. Denominators for categories are respondents who answered the questions to be scored.

symptoms of mental health. Approximately one quarter of public health workers did not know whether their workplace offered an employee assistance program. Even where available, employee assistance programs were not commonly accessed. Several strategies could reduce adverse mental health symptoms among public health workers during public health emergencies. For example, expanding staffing size (e.g., recruiting surge personnel to backfill positions) and implementing flexible schedules might reduce the need for long work hours; encouraging workers to take regular breaks and time off could help avoid overwork and reduce the risk for adverse mental health outcomes. In addition, implementing, evaluating, and promoting use of employee assistance programs could improve employee resiliency and coping.

The findings in this report are subject to at least four limitations. First, the study used a nonprobability-based convenience sample of public health worker respondents, and a completion rate could not be determined. Although the participating national public health membership associations reach many public health workers, the findings might not be representative of all state, tribal, local, and territorial public health workers in

FIGURE. Distribution* of 9-item Patient Health Questionnaire scores for depression and 6-item Impact of Event Scale scores for post-traumatic stress disorder[†] among state, tribal, local, and territorial public health worker respondents, [§] by percentage of work time spent directly on COVID-19 response activities for the majority of 2020 (panels A, C), and hours worked in a typical week since March 2020 (panels B, D) — United States, March–April 2021



Abbreviations: IES-6 = 6-item Impact of Event Scale; PHQ-9 = 9-item Patient Health Questionnaire; PTSD = post-traumatic stress disorder.

* Upper and lower levels of boxes indicate 75th and 25th percentiles, respectively; horizontal line indicates median; whiskers indicate observation nearest to 1.5 × interquartile range.

⁺ Self-reported symptoms of depression or PTSD were evaluated; respondents who scored ≥10.0 out of 27 on the PHQ-9 for depression or ≥1.75 out of 4 on the IES-6 for PTSD were considered symptomatic for the respective conditions.

[§] Only public health worker respondents who completed all PHQ-9 items (n = 22,692) or all IES-6 items (n = 22,248) are included.

the United States. Second, self-reported mental health symptoms were assessed using screening instruments, which does not constitute clinical diagnosis of a mental health disorder; however, the screening instruments have been clinically validated (5-7). Third, participants were surveyed about symptoms experienced in the 2 weeks preceding the survey, which might not reflect all symptoms experienced during the pandemic. Finally, not all traumatic stressors or events experienced by public health workers were assessed by the survey, such as non–COVID-19 illnesses or financial insecurity.

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Traumatic event or stressor/Response	No. [§]	PTSD prevalence, %	PTSD PR (95% CI)
Personal-related			
Had COVID-19			
Yes [¶]	2,834	36.7	1.03 (0.98–1.09)
Maybe**	3,310	42.4	1.19 (1.14–1.25)
No	16,266	35.6	Ref
Got divorced or separated			
Yes	747	49.6	1.36 (1.27–1.47)
No	22,084	36.3	Ref
Experienced death of a loved one			
Yes	7,580	42.3	1.24 (1.20–1.29)
No	15,403	34.0	Ref
Worried about the health of family and loved ones			
Yes	20,857	39.4	3.11 (2.77–3.48)
No	2,203	12.7	Ref
Felt isolated and alone			
Yes	12,944	49.8	2,49 (2,38-2,60)
No	10,080	20.0	Ref
Work-related	.,		
Felt overwhelmed by workload or family/work balance			
Yes	16,563	45.4	3.10 (2.91–3.30)
No	6,451	14.7	Ref
Felt disconnected from family and friends because of workload			
Yes	14,051	49.0	2.77 (2.64–2.91)
No	8,964	17.7	Ref
Felt inadequately compensated for work			
Yes	13,703	45.2	1.85 (1.78–1.93)
No	9,101	24.4	Ref
Felt unappreciated at work			
Yes	12,362	46.5	1.82 (1.76–1.90)
No	10,551	25.5	Ref
Experienced stigma or discrimination because of work			
Yes	5.962	56.2	1.88 (1.82–1.94)
No	16,944	29.9	Ref
Received iob-related threats because of work			
Yes	2,699	61.8	1.85 (1.78–1.92)
No	20,262	33.4	Ref
Felt bullied, threatened, or harassed because of work			
Yes	5.376	59.0	1.97 (1.91–2.03)
No	17,594	30.0	Ref
Interacted often with the public	,		
Yes	11 143	41 1	1.23 (1.19–1.28)
No	13.318	33.3	Ref
Worried about workplace exposure to COVID-19			
Yes	11 197	42.6	1 36 (1 31–1 41)
No	11.805	31.3	Ref
	· · /		

TABLE 2. Traumatic events or stressors reported by 26,174 state, tribal, local, and territorial public health workers and comparisons* of symptoms of post-traumatic stress disorder[†] — United States, March–April 2021

Abbreviations: IES-6 = 6-item Impact of Event Scale; PR = prevalence ratio; PTSD = post-traumatic stress disorder; Ref = referent group.

* Referent group for all prevalence ratio calculations was not experiencing the traumatic event/stressor (i.e., "No" category).

⁺ Experienced symptoms of post-traumatic stress disorder in the 2 weeks preceding survey, defined as having an IES-6 score ≥1.75 out of 4.

⁵ Some categories might not sum to 26,174; only those respondents who completed IES-6 questions (N = 22,248) are included in analysis.

[¶] Positive COVID-19 test or diagnosis by medical professional.

** Had symptoms compatible with COVID-19 but not tested or test inconclusive.

During the COVID-19 pandemic, public health workers have experienced symptoms of depression, anxiety, PTSD, and suicidal ideation. Addressing work practices that contribute to stress and trauma is critical to managing workers' adverse mental health status during emergency responses. Furthermore, strengthening work systems to encourage behavior changes that promote mental health, such as building awareness of symptoms of mental health conditions and developing sustainable coping strategies, might improve mental health conditions, particularly for public health workers who are at increased risk, including those who are younger (10) or transgender or nonbinary persons. In addition, employee assistance programs could be evaluated and adjusted to be more accessible and acceptable to workers and focus more on building workplace cultures that promote wellness and destigmatize requests for mental health assistance.

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¹Epidemic Intelligence Service, CDC; ²CDC COVID-19 Response Team; ³Minnesota Department of Health; ⁴Council of State and Territorial Epidemiologists, Atlanta, Georgia; ⁵National Association of County and City Health Officials, Washington, DC; ⁶Association of Public Health Laboratories, Silver Spring, Maryland; ⁷Association of State and Territorial Health Officials, Arlington, Virginia.



AAMC Resources for Clinician Retention in the Era of COVID

Resources to Support Medical Student Mental Health and Wellbeing

- 1. UME Wellness Programming and Strategies for Evaluating Wellness Programs: A National Review https://www.aamc.org/media/56246/download
- 2. Webinar: Supporting Minority Medical Student Mental Health <u>https://www.aamc.org/professional-</u> <u>development/affinity-groups/group-student-affairs/webinar-supporting-minority-medical-student-</u> <u>mental-health</u>

COVID Related Resources

- 1. Recommended Approaches for Student Well-being: A Response to the COVID-19 Pandemic (PDF) https://www.aamc.org/media/44656/download?attachment
- 2. COVID-19 Statement on Student Mental Health https://www.aamc.org/media/44661/download?attachment
- 3. Podcast: Preserving Well-being in a Pandemic <u>https://www.aamc.org/news-insights/podcast-preserving-well-being-pandemic</u>
- 4. Medical Student Blog Post: Prioritizing Wellness in the Whirlwind of COVID-19 <u>https://students-residents.aamc.org/attending-medical-school/prioritizing-wellness-whirlwind-covid-19</u>
- 5. Medical Student Blog Post: Rediscovering my Wellness in the Midst of COVID-19 <u>https://students-</u> residents.aamc.org/medical-student-well-being/rediscovering-my-wellness-midst-covid-19

Resources for Medical Students and Trainees

- 1. Medical Student Well-being Website <u>https://students-residents.aamc.org/medical-student-well-being/medical-student-well-being?edit=</u>
- 2. AAMC Financial Wellness Program <u>https://students-residents.aamc.org/financial-aid-resources/aamc-financial-wellness-program</u>

Resources for Faculty and Staff Wellbeing

- 1. Webinar: Leading and Supporting the Emotional and Physical Well-Being of Our Academic Medicine Community <u>https://vimeo.com/492204595?embedded=true&source=video_title&owner=22066161</u>
- 2. Webinar: Cultivating Well Workspaces for Women of Color <u>https://aamc.elevate.commpartners.com/products/cultivating-well-workspaces-for-women-of-color</u>
- 3. Wellbeing in Academic Medicine Website <u>https://www.aamc.org/news-insights/wellbeing/faculty</u>

Wellness Across Health Care

- Report: The Rise of Wellness Initiatives in Health Care: Using National Survey Data to Support Effective Well-Being Champions and Wellness Programs <u>https://www.aamc.org/data-</u> reports/report/rise-wellness-initiatives-health-care-using-national-survey-data-support-effectivewell-being
- Webinar: Supporting Wellness Initiatives in Health Care and Recommendations for Promoting a Culture of Well-Being - March 23 <u>https://aamc.elevate.commpartners.com/p/220323_Wellness#tabproduct_tab_overview</u>
- 3. Legislative Update: AAMC, Congress Highlight Workforce Well-Being Initiatives <u>https://www.aamc.org/advocacy-policy/washington-highlights/aamc-congress-highlight-workforce-well-being-initiatives</u>

National Institute for Occupational Safety and Health, CDC

RESOURCES LIST

1. NIOSH Worker Well-Being Questionnaire (WellBQ)

New research-based tool that measures worker well-being. Based on a <u>published conceptual</u> <u>framework</u> and covers five domains: Work Evaluation and Experience; Workplace Policies and Culture; Workplace Physical Environment and Safety Climate; Health Status; Home, Community, and Society.

2. Healthcare Workers: Work Stress & Mental Health | NIOSH | CDC

New NIOSH website on mental health and health workers. Includes <u>training resources on workplace</u> <u>stress</u>. Also includes "Protecting Health Worker Mental Health: A Call-to-Action Webinar," a Nov 2021 webinar featuring Dr. Vivek Murthy, U.S. Surgeon General; Dr. John Howard, NIOSH Director; Dr. Lotte Dyrbye, Co-Director of the Mayo Clinic Program on Physician Well-Being; Liz Royal from the Service Employees International Union.

3. The Value of Worker Well-Being

Adams, 2019

Former U.S. Surgeon General Jerome M. Adams describes the changing nature of work and its effects on worker well-being, in addition to offering proven actions employers can take to foster employee well-being.

4. Making the Business Case for Total Worker Health | NIOSH | CDC

NIOSH tools for demonstrating the benefits of worker well-being to an organization

5. <u>Real Costs of Fatigue Calculator - National Safety Council (nsc.org)</u>

Online tool by the National Safety Council and Brigham and Women's Hospital which allows employers to receive a tailored estimate of how much fatigue is costing their bottom line.

6. Mental Health Employer Cost Calculator - National Safety Council (nsc.org)

Online tool by the National Safety Council and NORC at the University of Chicago to demonstrate the cost of employee mental health and illness for employers, with specific information about the cost of mental health (including depression, anxiety, and general mental distress) in a workplace based on the size of employee base, industry, and state

7. Promising Practices for Total Worker Health-

Highlights real-world examples of how organizations can see positive results using comprehensive workplace policies, programs, and practices

8. Stress at Work | NIOSH | CDC

NIOSH research and resources related to job stress

9. NIOSH Healthy Work Design and Well-Being (HWD) Cross-Sector Program

The program's mission is to protect and advance worker safety, health, and well-being by improving the design of work, management practices, and the physical and psychosocial work environment.

10. NIOSH Healthcare and Social Assistance Program

The program's mission is to eliminate occupational diseases, injuries, and fatalities and improve health and well-being among those who work in industries providing human and veterinary healthcare and who provide social assistance services across a broad range of settings such as hospitals, clinics, nursing and private homes. Includes resources for <u>healthcare workers</u>.

11. <u>3rd International Symposium to Advance Total Worker Health</u>

October 11-14, 2022 at the NIH headquarters in Bethesda, Maryland A public conference to explore opportunities to create safer workplaces and ways to improve the health and well-being of the workforce

12. <u>Companies That Promote a Culture of Health, Safety, and Wellbeing Outperform in the</u> <u>Marketplace</u>

Fabius and Phares, 2021

The objective of this research is to test the hypothesis that companies distinguished by their commitment to their workforce's health, safety, and well-being outperform in the marketplace.