



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

National Plan for Health Workforce Well-Being

DRAFT FOR PUBLIC INPUT

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Key Definitions

- **Burnout** is a workplace syndrome characterized by high emotional exhaustion, high depersonalization (e.g., cynicism), and a low sense of personal accomplishment (NASEM, 2019).
- **Health care organization (HCO)** broadly applies to all types of care-providing entities—from single clinician offices to integrated health systems. All HCOs comprise people, processes, and resources that are part of a system that delivers care services to meet the needs of patients (NASEM, 2019)
- **Health systems** encompass organizations and people who work to improve, maintain or restore the health of individuals and their communities. This includes the care provided

¹ Appendix materials are forthcoming.



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by hospitals and clinicians, as well as the prevention and control of communicable disease and health promotion (WHO, 2022).

- **Health workforce** comprises a range of occupations, including providers such as registered nurses, physicians, and allied health professionals, as well as individuals in health care support roles, such as community health workers, public health workers, direct support professionals, and caregivers (HRSA, 2021).
- **Health equity** is the state in which everyone has the opportunity to attain full health potential and no one is disadvantaged from achieving this potential because of social position or other socially defined circumstance (NASEM, 2017).
- **Mental health** is a state of well-being in which an individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and is able to make a contribution to his or her community ([WHO, 2018](#)).
- **Resilience** is the ability of an individual, organization, community, or system to withstand, adapt, recover, rebound, or grow from adversity, stress, or trauma (NASEM, 2019).
- **Professional well-being** is a function of being satisfied with one's job, finding meaning in work, feeling engaged at work, having a high-quality working life, and finding professional fulfillment in work (Danna and Griffin, 1999; Doble and Santha, 2008).
- **Psychological safety** is a climate of trust and respect in which people are comfortable expressing and being themselves and share the belief that teammates will not embarrass, reject, or punish a colleague for speaking up (Edmonson, 2018; Shapiro, 2020; Center for Creative Leadership, 2022).
- **Stigma** is a negative social attitude attached to a characteristic of an individual that may be regarded as a mental, physical, or social deficiency. A stigma implies social disapproval and can lead unfairly to discrimination against and exclusion of the individual (American Psychological Association, nd).
- **Workplace Stress** is the harmful physical and emotional responses that occur when the requirements of the job do not match the capabilities, resources, or needs of the worker. Workplace stress can lead to poor health or even injury (NIOSH, 1999).



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Chapter 1

Introduction

Health systems do not exist in isolation. Political, market, professional, and cultural factors influence health care delivery and contribute to the degree of workplace stress and health worker professional well-being. For decades, health workers have been reporting a loss of meaning in work due to overwhelming job demands and lack of supportive resources in the environments in which they operate (Maslach, 2018). Up to 54% of nurses and physicians and 60% of medical students and residents in the U.S. have symptoms of burnout—high emotional exhaustion, depersonalization, or low sense of personal accomplishment from work (NASEM, 2019).² Burnout is a fundamental barrier to professional well-being and was exacerbated during the COVID-19 pandemic. We know that health workers who find joy, fulfillment and meaning in their work are able to engage on a deeper level with their patients, who are at the heart of health care (NASEM, 2019; Lai et al., 2021). Thus, a thriving workforce is essential for delivering safe, high-quality, patient-centered care.

While the challenge of sustaining the health workforce predated the pandemic, health care teams and public health workers experienced fear during the COVID-19—of personal safety, being contagious, and feeling inadequately prepared to save lives as patients died from a disease previously unknown. They experienced extreme fatigue, isolation, and moral distress and injury, and often felt abandoned and undervalued by their health care organizations and their country (NAM, 2022). In April 2020, the death of Dr. Lorna Breen, an emergency physician in New York City, captured national attention and many people in the public could clearly see the toll on health workers during the pandemic (Knoll et al, 2020).

The pandemic forced the nation to broaden our understanding of how we consider the external environment's effects on health care and health worker well-being. The nation witnessed how physical and emotional well-being was affected early in the pandemic by a lack of personal protective equipment (PPE), long hours, and lack of real-time data to inform clinical decision making. Changing policies at the federal and state levels were critical to adjusting procedures at the level of the health care organization to save lives, though inadequate communication led to confusion at times (Healthcare Policy Updates, n.d.; 10 State Policy, 2022). Moreover, the public's behaviors seemed to be driven by political ideologies that led to tensions over masks and distancing (Hardy et al., 2021) and, in some cases, as harassment and violence against health workers. Multiple surveys of physicians, nurses, and public health workers revealed that the health workforce faced on-the-job harassment and verbal or virtual bullying and threats related to COVID-19 (Larkin, 2021). These factors eroded the trust and respect between the public and health workers, ultimately threatening the health workforce's

² For background on health worker burnout, see Appendix A [forthcoming].



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contract with society—dedication to serving the interest of the patient and the public’s trust and respect for health workers.

The existing inequalities that were exacerbated by the pandemic extended to health care environments. Black and Latinx health workers reported the highest stress levels during the pandemic when compared to White workers, fueled in part by a greater fear of exposure to COVID-19, as racial and ethnic minority groups were at greater risk of getting sick and dying from COVID-19 (Berg, 2021). Asian and Pacific Islander health workers also reported high stress levels fueled by the pandemic and anti-Asian hate in the form of slurs and physical assaults (Yi, 2020). At a National Academy of Medicine (NAM) convening on unifying the health workforce in March 2022, experts further highlighted the unequal distribution of the burdens placed on certain groups of health workers. Available data indicate physicians of color experienced COVID-related workplace bias, discrimination, and harassment not only from patients but also from their superiors and co-workers. As schools, daycares, and elder care facilities closed, women physicians were often disproportionately affected by additional caregiving responsibilities compared to their male counterparts and reported more work-home conflicts during the pandemic in addition to existing gender-based differences suggested in multiple studies (NAM 2022; Templeton et al, 2019).

The result is a severe health workforce shortage beyond pre-pandemic projections, most critically among nurses, which places enormous burden on the health workers remaining and jeopardizes the health of the nation (American Hospital Association, 2021). Recent surveys showed high-stress work environments are driving more physicians (20%) and nurses (40%) to leave practice after two years of the pandemic (Abbasi, 2022). In addition, more than 25% of employees in state and local government public health departments indicated they are considering leaving their organization, a dire situation as the public health workforce has lost 20% of workers since 2008 (PH wins, 2021; Stone, 2021).

Taking Collective Action for the Future of the Nation’s Health System

To prevent a dissolution of the health professions, and to ensure a strong and interconnected health care ecosystem, collective action is urgently needed. Health workers have been operating in a survival state for a long time and change is possible. Therefore, an important step is a well-coordinated plan that provides government, health care organization leadership and governance, payers, industry, education, and leaders in other sectors with the tools and approaches required to drive policy and systems change. As members of the NAM’s Action Collaborative on Clinician Well-Being and Resilience³ learned from numerous studies and reports, the solution is to take a systems approach that recognizes no single variable in the health system is to blame for the burnout problem, and that it takes multiple levers for change to redesign environments so that patients who are sick and in pain are met with a thriving

³ For background on the NAM Clinician Well-Being Collaborative, see Appendix B [forthcoming].



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health workforce that approaches them with all of the skills, expertise, care, and attention they have at their disposal (NASEM, 2019). Leaders have tremendous responsibility and opportunity to address systems issues that are root cause issues of workplace stress and burnout. Reducing burnout is not enough to achieve professional well-being, though addressing the factors contributing to burnout is fundamental to fostering professional well-being and achieving the goal of a thriving health workforce.

This National Plan is intended to inspire collective action to improve the well-being of the health workforce to ensure that health workers can provide optimal care for their patients and improve population health in communities across the nation. Specifically, the National Plan focuses on changes needed across the health system and at the organizational level. We must redesign how health is delivered so that human connection is strengthened, health equity is achieved, and trust is restored. Health care can be less transactional and instead center relationships. We should bolster the public health system and invest in the public health infrastructure so that leaders and decision-makers are using the best data and evidence to guide policies locally and across the country. We need to make investments in the health system, not solely for a financial return on investment, but to improve care across the country and for the long-term well-being of our society. Together we can create a health system in which care is delivered joyfully and with meaning, by a committed care team, in partnership with engaged patients and communities.

The Plan's vision is that patients are cared for by a health workforce that is thriving, in an environment that fosters their well-being, as they improve population health, enhance the care experience, reduce costs, and advance health equity, therefore achieving the "quintuple aim".⁴

Priorities of the National Plan

The National Plan addresses seven priority areas, each focusing on the immediate and long-term needs of the health workforce with the intention that the goals and actions will enable a sustained state of well-being. Each chapter is devoted to discussing a priority area in detail. These priorities strongly echo recommendations from the NAM's 2019 report on *Taking Action Against Clinician Burnout: A Systems Approach to Professional Well-Being*,⁵ as this plan builds on that work and incorporates early lessons and considerations from the COVID-19 pandemic.

- **Create and sustain positive work and learning environments and culture.** Transform health systems, and health education and training, by prioritizing and investing in efforts

⁴ The "quintuple aim" framework to optimize health system performance and care delivery includes *advancing health equity and professional well-being*, as an imperative to 1) improving population health, 2) improving the care experience, and 3) reducing costs (Nundy et al., 2022).

⁵ For foundational materials to the National Plan's priority areas, see Appendix C [forthcoming].



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to optimize environments that prevent and reduce burnout, foster professional well-being, and support quality care.

- **Invest in measurement, assessment, strategies, and research.** Expand the uptake of existing tools at the health system level and advance national research on decreasing health worker burnout and improving well-being.
- **Support mental health and reduce stigma.** Provide support to health workers by eliminating barriers and reducing stigma associated with seeking services needed to address mental health challenges.
- **Address compliance, regulatory, and policy barriers for daily work.** Prevent and reduce the unnecessary burdens that stem from laws, regulations, policies, and standards placed on health workers.
- **Engage effective technology tools.** Optimize and expand the use of health information technologies that support health workers in providing high-quality patient care and serving population health, and minimize technologies that inhibit clinical decision-making or add to administrative burden.
- **Institutionalize well-being as a long-term value.** Ensure COVID-19 recovery efforts address the toll on health worker well-being and bolster the public health and health care systems for future emergencies.
- **Recruit and retain a diverse and inclusive health workforce.** Promote careers in the health professions and increase pathways and systems for a diverse, inclusive, and thriving workforce.

The time is now to re-establish the social contract between health workers and society. This mutual agreement and understanding calls on health workers to fulfill their roles as healers. In exchange, society grants trust in the health professions, provides the ability for professions to self-govern, and shares in the responsibility for improving public health and maintaining health infrastructure and systems (Khan et al, 2022). Following the death of Dr. Lorna Breen, her family, together with policymakers and other key stakeholders, successfully advocated for the passage of Dr. Lorna Breen Health Care Provider Protection Act in March 2022, to start supporting the mental and behavioral health of health workers (Lorna Breen Act, 2022). This is an important step and an indicator of progress toward a health ecosystem that better serves both patients and health workers. However, this is a complex issue, and much more is needed to achieve a thriving health workforce. Everyone from the health community to the public to key decision-makers across sectors need to come together collectively to support a new social contract that begins with a coordinated national plan and a system of accountability to monitor efforts and track progress on advancing health worker well-being (see figure 1, Clinician Well-Being Systems Map). The health of the nation depends on it.



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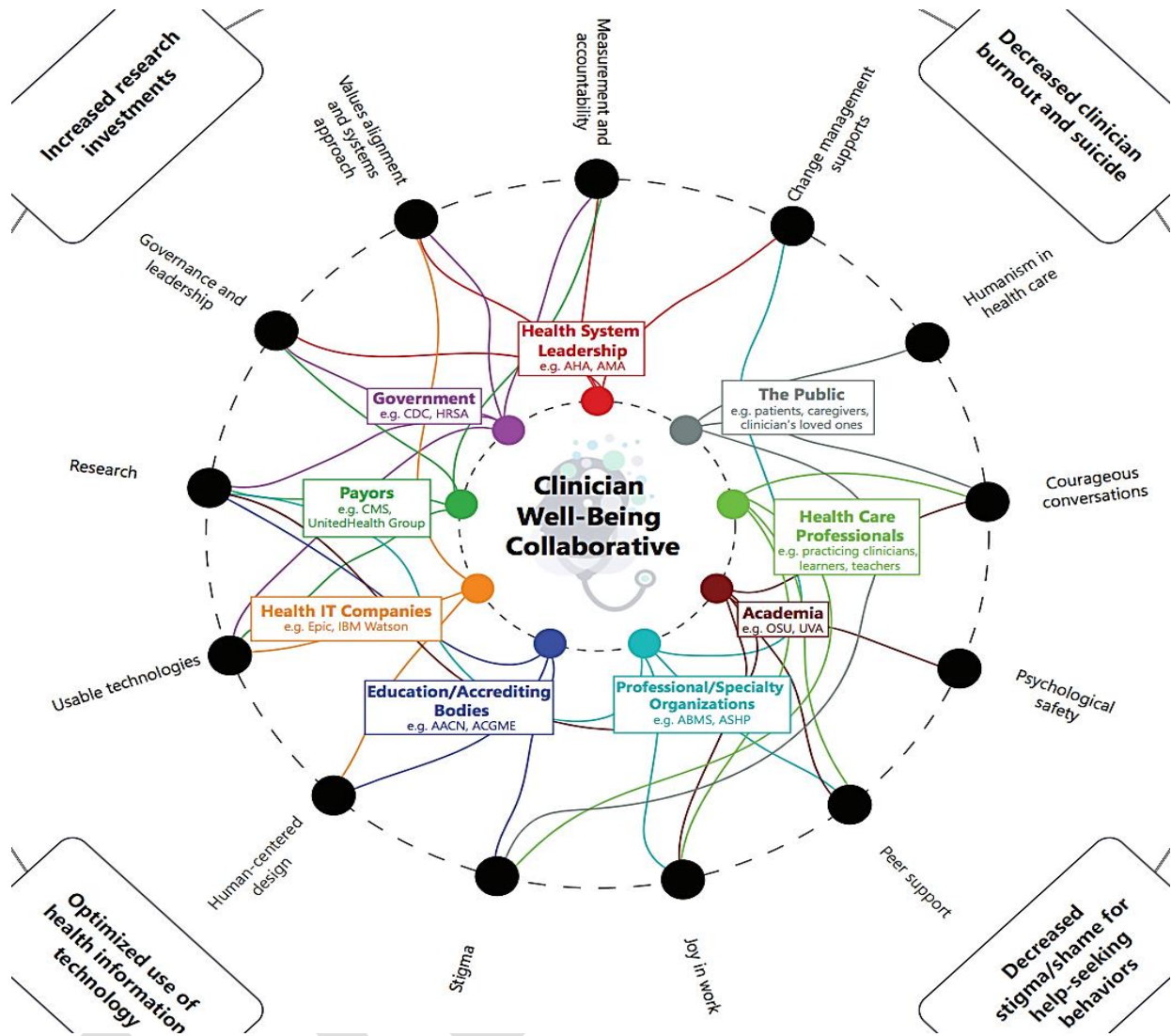


Figure 1: Clinician Well-Being Systems Map
SOURCE: National Academy of Medicine, 2020.



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Chapter 2

Priority Area: Create and sustain positive work and learning environments and culture.

Transform health systems, and health education and training, by prioritizing and investing in efforts to optimize environments that prevent and reduce burnout, foster professional well-being, and support quality care (NASEM, 2019).

“Invest and prioritize in a true well-being program and prioritize it to make it a culture. Often organizational policies and expectations are conflicting with true commitment to well-being. There needs to be more than just telling people to take care of themselves.” – Frontline Health Worker⁶

Positive work and learning environments for health workers are intertwined with safe environments for patient care and population health. Not only is it part of an organization’s ethical responsibility to invest in health worker well-being, but evidence also suggests that it is central to optimizing patient outcomes and addressing costs associated with staff turnover, lost revenue, and financial risk and threats to a health system’s long-term viability (Shanafelt et al., 2017). However, there is no one-size-fits-all solution to improving health worker well-being, and there are challenges for organizations and small practices alike in navigating appropriate investments that are reflective of their local environments. For health care organizations, changing the environment and culture will require active and engaged executive leadership that meaningfully involves service line directors, department chairs, clinical learning environment directors, and frontline workers in decision-making, and that fosters an environment of continuous learning and improvement.

Though optimizing work conditions and managing workforce were challenges for many health care organizations before the pandemic, these pressures have only grown more acute. Work stressors, particularly during COVID-19, have driven health workers to leave the profession, exacerbating the burdens on remaining staff and perpetuating a cycle of introducing new workers into suboptimal work and learning environments. As health care organizations mitigate critical staffing shortages (e.g., contracting labor to ensure that patient care and organizational operations remain safe, which in some cases led to conflict, because contract workers were paid more than regular staff), they must also direct attention to other factors that decrease staff wellbeing and increase burnout, which include structural racism, discrimination, and bias in organizational practices and the delivery of care. Not surprisingly, discrimination and bias affect education, training, and work environments for health workers with equally negative and devastating results for patient experience, perceptions, and patient outcomes (Hu et al, 2019; Leape et al., 2012; National Commission to Address Racism in Nursing, 2022). Health workers want to see an enhanced commitment from their organizations to using strategies to combat racism and promote diversity, equity, inclusion and accessibility in the health system. It is important to recognize that individuals from a range of different racial

⁶ For background, visit the NAM [Clinician Burnout Crisis in the Era of COVID-19: Insights from the Frontlines of Care](#) page.



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and cultural backgrounds, from practicing health workers to learners, come together as the clinical care team, and to emphasize purposeful interactions that capitalize on different professional strengths and respect and appreciate personal differences.

The consistent and sustainable delivery of safe and high-quality patient care is only possible when clinical learning environments ensure the well-being of all health workers (ACGME, 2019). Executive leadership's effective engagement of educational leadership in the design of solutions to keep pace with the rapidly changing health care environments cannot be overstated (Nasca et al., 2014). Significant opportunities remain to optimize care delivery models to leverage the use of technology and advanced analytics (see Chapter 6), team-based principles, and other emerging approaches.

Goals/[WHAT]	Actions/[HOW]	Actors/[WHO]
GOAL 1: Routine measurement of workforce stress and drivers of stress informs well-being strategy	Instill approaches to decrease workplace stress and burnout, and improve health worker and learner well-being in strategic plans and organizational values.	Health care organization leadership and governance
GOAL 2: Settings are diverse, equitable, accessible, and inclusive	Examine institutional policies and organizational goals and objectives with an equity lens. Review and revise clinical algorithms that erroneously rely on race. Create real-time reporting initiatives to track and respond to racist, sexist or other discriminatory behaviors. Establish mentorship programs to help health	Health system leadership and governance, health workers Health care organizations, health workers, engineers, researchers Health system leaders, managers, health workers Health system leaders, managers, health workers



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Goals/[WHAT]	Actions/[HOW]	Actors/[WHO]
	<p>workers of color thrive in educational, training, and practice environments.</p> <p>Review leadership opportunities and pathways to ensure they promote diversity and are accessible, equitable, and inclusive.</p>	Health systems executive leadership, frontline health care workers
<p>GOAL 3:</p> <p>Culture of well-being is integrated into operations, programs and services, and curricula</p>	<p>Implement wellness onboarding programs for students as they enter health professions schools to build coping and resiliency skills.</p> <p>Provide training opportunities for faculty to help them integrate well-being into programming</p> <p>Organizational leadership manages expectations of productivity.</p>	<p>Educational institutions, educational associations, residency program directors, department chairs</p> <p>Health system leaders and educators, in collaboration with their health workforce and learners</p>
<p>GOAL 4:</p> <p>Leadership recognizes the negative impact of health worker burnout and fosters a culture of well-being</p>	<p>Use data to develop strategies that will improve well-being and decrease health worker burnout and distress on a continual basis.</p> <p>Leaders consider well-being when making decisions, to account for the potential impact on patients, the workforce, and their health care system.</p>	Health care organization executive leadership (governing boards, Chief Wellness Officers, Chief Medical Officers, Chief Nursing Officers, Chief Pharmacy Officers) and frontline care providers



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Goals/[WHAT]	Actions/[HOW]	Actors/[WHO]
	<p>Provide protected time for and empower managers and staff to address well-being in the workplace.</p> <p>Invest in well-being leadership roles, such as Chief Wellness Officers (and Chief Nursing and Chief Pharmacy Officer roles as appropriate) that report to executive leadership and governance, to facilitate uptake and accountability of well-being measures within the health workforce and are allocated the resources necessary to implement strategies that will improve health worker well-being.</p>	
<p>GOAL 5:</p> <p>Accountability standards and best practices for well-being are adopted</p>	<p>Establish and implement accountability measures, incentives, and consequences for leaders.</p> <p>Fund and evaluate demonstration programs and grants in the workplace and learning environments.</p> <p>Decrease the amount of time between research and translating evidence into real-world settings.</p>	<p>Health care organization executive leadership and governance, accrediting organizations, the Joint Commission</p> <p>Department of Health and Human Services (Agency for Healthcare Research and Quality), private and non-profit funders, professional societies</p> <p>Department of Health and Human Services (Agency for Healthcare Research and</p>



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Goals/[WHAT]	Actions/[HOW]	Actors/[WHO]
		Quality), health care organization leadership and governance
<p>GOAL 6:</p> <p>Increased retention and decreased turnover of health workers</p>	<p>Provide mechanisms and systems to allow health workers to operate as teams in their care.</p> <p>Invest in adequate, flexible staffing plans that allow for safe patient care, including needed backup.</p> <ul style="list-style-type: none"> • Examine sick leave and personal time off (PTO) policies and staffing to accommodate health workers who need time off, regardless of their tenure. • Develop and incentivize coverage systems that allow health workers to take time off, especially for frontline workers to not be responsible for patient care activities during their time off. • Offer employee benefits such as child care and elder care services. • Ensure that health worker meal and rest breaks are expected and routine, not exceptional. • Learn about health worker experiences by asking them directly and 	<p>Health care organization leadership</p> <p>Health care organization executive leadership, directors, department chairs, and clinical learning environment directors, health workers</p>



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Goals/[WHAT]	Actions/[HOW]	Actors/[WHO]
	<p>conducting surveys and exit interviews to understand why they are leaving their positions.</p> <ul style="list-style-type: none"> Promote work-life integration for health workers through structures (e.g., sufficient staffing, flexible schedules) and resources (e.g., health care services, low-cost food options). Make resources widely available and remove any barriers to use. <p>Address the accountability and reward systems and re-orient the promotion/tenure and salary processes to reward positive learning environments.</p>	

Related Resources⁷

Advance Organizational Commitment

- **White Paper:** [Framework for Improving Joy in Work \(Institute for Healthcare Improvement\)](#)
- **Report:** [CLER Pathways to Excellence: Expectations for an Optimal Clinical Learning Environment to Achieve Safe and High Quality Patient Care, Version 2.0](#) (Accreditation Council for Graduate Medical Education)
- **Guide:** [Well-Being Playbook: A Guide for Hospital and Health System Leaders \(American Hospital Association\)](#)
- **Guide:** [Establishing a Chief Wellness Officer Position \(American Medical Association\)](#)
- **Case Example:** [Workplace Wellness Champions: Lessons Learned and Implications for Future Programming \(Amaya et al., 2017\)](#)

⁷ For additional resources, visit the NAM [Resource Compendium for Health Care Worker Well-Being](#) page.



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- **Applications for Recognition Programs:** [Joy in Medicine Health System Recognition Program](#) (American Medical Association), [Beacon Award](#) (American Association of Critical-Care Nurses), [Pathway to Excellence Program](#) and the [Magnet Recognition Program](#) (American Nurses Credentialing Center)
- **Infographic:** [Survey Shows Substantial Racism in Nursing](#) (National Commission to Address Racism in Nursing)

Strengthen Leadership Behaviors

- **Guide:** [Chief Wellness Officer Roadmap](#) (American Medical Association)
- **Discussion Paper:** [A Call to Action: Align Well-Being and Antiracism Strategies](#) (Barrett et al., 2021)

Conduct Workplace Assessment

- **Overview of Established Tools:** [Valid and Reliable Survey Instruments to Measure Burnout, Well-Being, and Other Work-Related Dimensions](#) (National Academy of Medicine)
- **Infographic/Assessment Tool:** [Standards for Establishing and Sustaining a Healthy Work Environment](#) (American Association of Critical-Care Nurses)

Cultivate a Culture of Connection and Support

- **Guide:** [A Nurse's Guide to Preventing Compassion Fatigue, Moral Distress, and Burnout](#) (American Nurses Foundation)
- **Guide:** ["What Matters to You?" Conversation Guide for Improving Joy in Work](#) (Institute for Healthcare Improvement)
- **Case Study:** [Culture of Well-Being](#) (American Hospital Association)



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Chapter 3

Priority Area: Invest in measurement, assessment, strategies, and research. Expand the uptake of existing tools at the health system level and advance national research on decreasing health worker burnout and improving well-being.

“So far, most of the response of my organization has been psychosocial support for health care workers, but I'd like to see us measure burnout organizationally, track it and design improvement efforts around it.” – Frontline Health Worker⁸

Burnout has a negative impact on patient outcomes, health workers and health system finances, and appears to be pervasive across the U.S. health care system. The longitudinal use of validated tools is required to accurately measure the prevalence of burnout and the impact of strategies to decrease workplace burnout and distress in health care settings of all sizes and locations. Measuring and understanding the drivers of workplace distress and burnout among individuals, and particularly health care teams are essential to forming the baseline for organizations to establish their well-being guidelines, and to evaluating the effectiveness of strategies to decrease workplace distress and improve health worker well-being. However, employing inappropriate measures to track how individual and organizational data related to burnout and distress is used can cause more harm than good (NASEM, 2019).

Metrics to assess the prevalence of burnout need to be harmonized with existing organizational efforts around employee engagement and satisfaction. The metrics also need to be appropriate for the setting, using valid and reliable survey instruments to measure burnout, well-being, and, for health care settings, other clinically relevant dimensions of distress that include meaning in work, severe fatigue, work–life integration, quality of life, and suicidal ideation (Dyrbye et al., 2016). More validation and efforts to assess burnout among health professional students are needed, though burnout surveys for medical students have emerged. Cross walks between workplace measures of burnout and distress have also been developed (Brady et al., 2022). For health care organizations, the choice of which survey to implement is much less important than the decision to choose one of the validated survey tools and use it to measure and report the prevalence of health worker burnout and distress over time. Accurate assessment of total workload and the quality of care provided presents complementary data to surveys of burnout and distress, and should also be regularly assessed (Sinsky et al., 2020). At the national level, additional research is needed to not only better understand the extent of health worker burnout as a baseline, but also the success of various interventions and implementation strategies to decrease burnout and improve well-being across the field.

⁸ For background, visit the NAM [Clinician Burnout Crisis in the Era of COVID-19: Insights from the Frontlines of Care](#) page.



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Importantly, data that identify the prevalence of health workforce burnout should not be used for public rankings due to the highly subjective nature of the questions and undue incentives to receive high scores rather, than to collect honest feedback for internal use to drive change (NASEM, 2019; Mayer et al., 2021). As mentioned in Chapter 2, it is in health care organizations' financial interests and part of their care responsibility to take action to decrease burnout among health workers, and there are opportunities for external stakeholders to provide additional incentives to do so.

Goals/[WHAT]	Actions/[HOW]	Actors/[WHO]
GOAL 1: Routine collection of data on health worker and learner well-being and burnout, and the drivers of workplace stress in the local environment.	Measure and assess core leadership behaviors that promote workforce well-being (e.g., Mayo Clinic Leader Index uses Include, Inform, Inquire, Develop, Recognize framework)	Health systems executive leadership, frontline health care workers
	Identify internal and external funding streams for measurement and assessment of learner and health workforce burnout and wellbeing.	Health care organization executives and governance
	Measure the prevalence and drivers of health worker and learner burnout and distress, using one of the existing validated survey tools, for which established benchmarks are available.	Health care organization executives and governance; mid-level managers, labor organizations, standard-setting organizations such as the Joint Commission; national or regional professional societies, front line staff; nonprofit sector
	Recognize and evaluate the links between well-being outcomes and key performance indicators most relevant to the organization	Health care organization executives and governance



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Goals/[WHAT]	Actions/[HOW]	Actors/[WHO]
	<p>and learning environments (e.g., quality of care, patient reported outcome and experience, staff turnover)</p> <p>De-identify data, share it across the organization, and use it to develop intervention strategies that will drive positive local changes in the workplace and learning environments.</p>	Health care organization executives and governance
<p>GOAL 2:</p> <p>A national commitment to report health worker and learner burnout and well-being as a quality and performance metric.</p>	Establish a national epidemiologic tracking program to measure health worker and learner well-being, distress, and burnout, with mandated funding.	Congress, the U.S. Centers for Disease Control and Prevention, Substance Abuse and Mental Health Services Administration, Health Resources and Services Administration, accrediting agencies including the Centers for Medicare and Medicaid Services (CMS), American College of Occupational and Environmental Medicine, American Association of Occupational Health Nurses, health care organizations, health workers
<p>Goal 3:</p> <p>A coordinated research agenda, including public–private partnerships to improve health worker and learner well-being and decrease burnout.</p>	<p>Coordinate and fund a research agenda to examine:</p> <ul style="list-style-type: none"> organizational, learning environment and health system factors (e.g., payment models, health IT, 	Agency for Health Care Research and Quality, in conjunction with the CDC National Institute for Occupational Safety and Health (NIOSH), the National Institutes of Health, the Health Resources and



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Goals/[WHAT]	Actions/[HOW]	Actors/[WHO]
	<p>regulatory practices, workload and staffing models, local culture) that contribute to burnout, moral injury, and occupational distress, intention to leave healthcare as a profession, and death by suicide among health workers</p> <ul style="list-style-type: none"> the impact of bias, discrimination, sexism, and/or racism on the professional and personal well-being of health workers and learners the immediate and long-term effects of COVID-19 on the well-being of the health workforce strategies to improve health worker and learner well-being in the local environment 	<p>Services Administration, and the U.S. Department of Veterans Affairs, Executive government, the Patient-Centered Outcomes Research Institute (PCORI), nonprofits, foundations</p> <p>Funding agencies, the Patient-Centered Outcomes Research Institute (PCORI), nonprofits, foundations</p>
	<p>Create and manage a national registry of evidence-based interventions to coordinate and facilitate research and innovation aimed at eliminating health worker and learner burnout and improving professional worker and learner well-being.</p>	<p>Agency for Healthcare Research and Quality, the National Institute for Occupational Safety and Health, the Health Resources and Services Administration, and the U.S. Department of Veterans Affairs, the Accreditation Council for Graduate Medical Education,</p>



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Goals/[WHAT]	Actions/[HOW]	Actors/[WHO]
	<p>Enhance wide-scale uptake of implementation best practices and approaches to improve well-being and decrease burnout across various stakeholder groups.</p> <p>Convene conferences and symposia to share strategies for improving well-being and preventing and reducing burnout and distress.</p>	<p>the Association of American Medical Schools, American College of Occupational and Environmental Medicine, American Association of Occupational Health Nurses, health professional associations, foundations, payers, health care industry, health care organizations, health IT vendors and the technology industry, health professions educational institutions, and professional liability insurers</p> <p>Convening bodies, professional societies, industry</p>

Related Resources⁹

Conduct Workplace Assessment

- **Overview of Established Tools:** [Valid and Reliable Survey Instruments to Measure Burnout, Well-Being, and Other Work-Related Dimensions \(National Academy of Medicine\)](#)
- **Tool:** [Healthy Work Environment Assessment Tool \(Association of Critical-Care Nurses\)](#)
- **Tool:** [NIOSH Worker Well-Being Questionnaire \(WELLBQ\) \(National Institute for Occupational Safety and Health\)](#)
- **Tool:** [Wellness Culture and Environment Support Scale \(Melnik et al., 2017\)](#)
- **Calculator:** [Organizational Cost of Physician Burnout \(American Medical Association\)](#)
- **Discussion Paper:** [A Pragmatic Approach for Organizations to Measure Health Care Professional Well-Being \(Dyrbye et al., 2018\)](#)
- **Discussion Paper:** [Establishing Crosswalks Between Common Measures of Burnout in US Physicians \(Brady et al., 2022\)](#)

⁹ For additional resources, visit the NAM [Resource Compendium for Health Care Worker Well-Being](#) page.



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Strengthen Leadership Behaviors

- **Guide:** [Cultivating Leadership: Measure and Assess Leader Behaviors to Improve Professional Well-Being \(American Medical Association\)](#)
- **Perspective:** [Preventing a Parallel Pandemic – A National Strategy to Protect Clinicians' Well-Being \(Dzau et al., 2020\)](#)

DRAFT



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Chapter 4

Priority Area: Support mental health and reduce stigma. Provide support to health workers by eliminating barriers and reducing stigma associated with seeking services to address mental health challenges.

“We need investment in mental health in the long term, funding and access to care, and change in barriers to access like conversations about care and stigma in our culture.”
– Frontline Health Worker¹⁰

Mental health is a state of well-being in which an individual realizes their own abilities, can cope with the normal stresses of life, can work productively and is able to make a contribution to his or her community (WHO, 2018). Mental health disorders affect 15-20% of U.S. adults in any given year and are the leading cause of disability in the country (U.S. Burden of Disease Collaborators, 2013). For health care workers specifically, the nature of their training and work is linked to substantial increases in depression, anxiety, suicidal ideation, and other mental health conditions upon entering the profession, with high rates persisting through their careers (Melnyk et al., 2020; Bellini et al., 2018; Mata et al., 2015). If health workers are not well, health care delivery and safety may suffer (Fahrenkopf et al., 2008). Past pandemics and emerging evidence suggest that many health workers will experience COVID-19-related trauma, risk for substance use and depression (McKay and Asmundson, 2020).

There is robust evidence that mental health disorders can be prevented, and prevention approaches have the potential to substantially reduce the public health burden of these disorders (Munoz et al., 2012). Prevention efforts should be aimed at populations, such as health care workers and other professionals, where the prevalence of disorders are high and important drivers of poor mental health have been identified. Thus, it is critical that health care organizations address the system challenges that are the primary identified drivers to their employees' poor mental health such as high workload, administrative burden, and work-family conflict (Fang et al., 2022; Guille et al., 2017). When mental health issues arise, these upstream drivers must be addressed in addition to the provision of appropriate mental health resources and referrals. This requires appropriate triage by skilled mental health providers at the individual level who can distinguish between burnout and mental and behavioral health and make an accurate referral for treatment.

In the U.S., stigma associated with seeking support for emotional and mental health and substance use is widespread in the general population (NASEM, 2019). Negative perceptions, attitudes, and discrimination around help seeking is particularly rampant in the health

¹⁰ For background, visit the NAM [Clinician Burnout Crisis in the Era of COVID-19: Insights from the Frontlines of Care](#) page.



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professions because of the culture and nature of training, as well as individual perceptions of and the actual expectations and responses of health care organizations, licensing bodies, and other governing forces (NASEM, 2019). Notably, in 2018, the Federation of State Medical Boards (FSMB) released recommendations for updating licensing applications to ask only about current *impairments* to practicing—not all conditions—that might undermine a physician’s ability to work safely (FSMB, 2018). Though many boards have altered their licensing applications, this stigma continues to be profound, causing health care professionals to internalize shame and avoid speaking up and getting care, or providing truthful answers to organizational requests for measurement and reporting. Eliminating this type of stigma and reducing barriers to care are foundational to the professional well-being of health workers and learners. Attention should be paid to health workers struggling with addiction but fearful of losing their license and other career consequences.

Goals/[WHAT]	Actions/[HOW]	Actors/[WHO]
GOAL 1: A decrease in the number of health workers and learners who develop depression, anxiety, and other mental health issues (see actions for reducing administrative burden in Ch. 5)	Provide supportive mental health services for health workers involved in medical errors and safety events, as part of a system’s layered protections against medical errors. Acknowledge the use of informal services (e.g., life coaches, pastors, and commercial websites) with the shortage of licensed mental health providers.	Health care organization executive leadership, managers, health workers Health system leaders
GOAL 2: A strengthened mental health workforce and increased numbers of practitioners.	Train, recruit, and retain additional mental health professionals (psychiatrists, psychologists, mental health nurse practitioners, physician assistants, and social workers) to provide care for the health workforce.	Health professions schools, professional societies, Federal government, Department of Health and Human Services



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Goals/[WHAT]	Actions/[HOW]	Actors/[WHO]
	<p>Increase resources to support individuals seeking education to become mental health professionals.</p> <p>Continue to address the lack of pay parity between health care professionals providing mental health services and those who provide other forms of treatment.</p> <p>Establish debt forgiveness programs and pathways to increase interest of learners in mental health professions.</p> <p>Integrate training on referral pathways from primary care to specialty mental health care</p>	<p>Professional societies, Department of Education, employers</p> <p>Payers, regulators, Legislative government</p> <p>Congress, Federal government to include the Department of Education, Centers for Disease Control and Prevention</p> <p>Health professions associations, educational institutions and associations, health care organizations, health workers</p>
<p>GOAL 3:</p> <p>Adequate mental health services are available, easily accessible, confidential, dignified, paid for, and encouraged for use by health workers and learners.</p>	<p>Provide quality mental health services, offer telemedicine and virtual care options where appropriate, and expand hours of availability to when health workers are not at work.</p> <p>Consider offering external providers of mental health</p>	<p>Health care organizations, managers</p>



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Goals/[WHAT]	Actions/[HOW]	Actors/[WHO]
	<p>services to emphasize confidentiality.</p> <p>Arrange coverage for health workers to participate in mental health appointments</p> <p>Establish peer-support programs and offer psychological and/or stress first aid training for all workers, in addition to Employee Assistance Programs.</p> <p>Guarantee mental health parity with other medical conditions for the coverage of healthcare costs</p> <p>Increase reimbursement and re-evaluate prior authorization for mental health services so that health workers receive the care they need</p>	<p>Health care organizations, managers</p> <p>Health care organizations, managers, health workers</p> <p>Private payers, CMS, regulators, Legislative and governmental bodies</p> <p>Private payers, CMS, regulators, Legislative government</p>
<p>GOAL 4:</p> <p>Reduced stigma and barriers to health workers and learners disclosing mental health issues and utilizing mental health services</p>	<p>Increase awareness of mental health services through routine communications, such as rounds or regularly scheduled meetings, and other dissemination efforts.</p> <p>Allocate time within the work and training day for health workers and learners to utilize services.</p>	<p>Health care organizations, mid-level leaders and managers</p> <p>Health care organizations, mid-level leaders and managers</p>



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Goals/[WHAT]	Actions/[HOW]	Actors/[WHO]
	<p>Develop policies and exemplar practices regarding requirements for privileging and credentialing in health care delivery organizations</p> <p>Convene state licensing and certification boards to accelerate appropriate changes to mental health reporting requirements, reduce stigma, and normalize the process for health workers to seek help for workplace related stresses. (See 2018 FSMB recommendations for updating licensing applications)</p> <p>Strengthen whistleblower protections for health workers who speak out about unlawful work environments that threaten public health and safety</p> <p>Educate the public and health workforce about the benefits of mentally healthy workers</p>	<p>Regulators and credentialing bodies, Federation of State Medical Boards, Federation of Physician Health Programs, National Council of State Boards of Nursing, representatives of Employee Assistance Programs</p> <p>Department of Labor, Office of Special Counsel</p> <p>Media and messaging organizations, mental health advocacy groups</p>
GOAL 5: Health workers and learners do not receive unnecessary punitive actions when seeking mental health services	Revise state licensing boards, health system credentialing bodies, disability insurance carriers, malpractice insurance carriers, and payer credentialing questions about	Regulators and credentialing bodies, disability insurers, malpractice insurers, private payers, Centers for Medicare and Medicaid Services (CMS)



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Goals/[WHAT]	Actions/[HOW]	Actors/[WHO]
	<p>personal health information to align with the Americans with Disabilities Act and inquire only about a health worker's current impairment that affects their ability to provide care due to a health condition rather than a past or current diagnosis or treatment for a mental health condition.</p> <p>Establish accountability frameworks for ensuring a psychologically safe working and learning environment and impose penalties for taking punitive actions (including covert actions such as retaliation or overt actions such as termination) when health workers and learners disclose mental health challenges</p>	<p>Health system leadership and governance, educational institutions, mid-level managers, Human Resources, the Equal Employment Opportunity Commission, national accrediting bodies for health care delivery and health training and education</p>
<p>GOAL 6:</p> <p>Access to resources is correlated with improved well-being.</p>	<p>Track utilization of mental health and Employee Assistance Program services, whether efforts to seek assistance and treatment have increased, and organizational barriers (such as stigma, lack of confidentiality, fear of punitive consequences, etc.) have been removed. NOTE: Data should be de-identified.</p> <p>Track whether state barriers have been removed.</p>	<p>U.S. Centers for Disease Control and Prevention, health care organizations, providers of mental health care, Federation of State Medical Boards, Federation of State Physician Health Programs, National Council of State Boards of Nursing, professional societies</p>



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Goals/[WHAT]	Actions/[HOW]	Actors/[WHO]
		U.S. Centers for Disease Control and Prevention, state public health departments

*Related Resources*¹¹

Cultivate a Culture of Connection and Support

- **Organizational Guide:** [2022 Healthcare Workforce Rescue Package \(National Academy of Medicine-All In\)](#)
- **Organizational Guide:** [Conversation and Action Guide to Support Staff Well-Being and Joy in Work During and After the COVID-19 Pandemic \(Institute for Healthcare Improvement\)](#)
- **Organizational Graphic:** [Psychological PPE: Promote Health Care Workforce Mental Health and Well-Being \(Institute for Healthcare Improvement\)](#)
- **Organizational Guide:** [Peer Support Programs for Physicians \(American Medical Association\)](#)
- **Organizational Best Practices:** [At the Heart of the Pandemic: Nursing Peer Support \(Godfrey et al., 2020\)](#)
- **Organizational Guide:** [Preventing Physician Suicide: Identify and Support At-Risk Physicians \(American Medical Association\)](#)

¹¹ For additional resources, visit the NAM [Resource Compendium for Health Care Worker Well-Being](#) page.



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Chapter 5

Priority Area: Address compliance, regulatory, and policy barriers for daily work. Prevent and reduce the unnecessary burdens that stem from laws, regulations, policies, and standards placed on health workers.

*“Reduce the regulatory burden which makes clinicians feel like data entry people.”
— Frontline Health Worker¹²*

Health workers are faced with time-consuming tasks that detract from time spent with patients or promoting health, yet they are often not empowered to take back their time (Sinsky et al., 2020). Though standards are essential to providing safe, high-quality care, the constellation of organizational, state, and federal policies have created administrative requirements that multiply over the course of a health worker’s day. Depending on the clarity of guidance from government agencies, overly conservative interpretation of regulations at the organizational level can result in a less safe environment for patient care, as health workers lose time and cognitive bandwidth for clinical care.

There have been many advocacy efforts to address nonessential policy barriers, but change was incremental until the federal government and many states removed barriers to care to respond to the COVID-19 public health emergency. This demonstrated that strategies to decrease health worker workload, which contributes to burnout, can be rapidly implemented on a wide scale. With the Centers for Medicare and Medicaid Services’ emergency declaration blanket waivers, out-of-state licenses to practice were issued, documentation and reporting requirements were suspended or eliminated, and scope of practice restrictions were modified—so that the health system could emphasize taking care of patients. As COVID-19 becomes a more predictable and manageable threat, additional flexibilities allowed during the pandemic will need to be addressed. Fundamentally, health workers recognize what is working and what is not working in their local environments. Organizational leaders should empower health workers to share their views and work together with additional stakeholders to design a system that better serves the population and the health workforce.

Goals/[WHAT]	Actions/[HOW]	Actors/[WHO]
GOAL 1: Time spent on documentation is reduced to	Review and revise policies to enable health workers to provide quality patient care.	Health care organization leadership, Compliance Officers, Chief Medical Information Officers, health

¹² For background, visit the NAM [Clinician Burnout Crisis in the Era of COVID-19: Insights from the Frontlines of Care](#) page.



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Goals/[WHAT]	Actions/[HOW]	Actors/[WHO]
provide more time for meaningful professional activities and personal well-being	<p>Remove low-value tasks from processes (rather than simply automating them).</p> <p>Measure time spent on documentation and set goals to reduce non-patient contact time.</p> <p>Use metrics to assess the nature and quality of workload in addition to a reduction in overall time on administrative work.</p> <p>Include direct care workers in the refinement of electronic health records (EHRs) to ensure that proposed changes improve workflow.</p>	<p>workers, Centers for Medicare and Medicaid Services (CMS), private payers</p> <p>Health care organization leadership, health IT vendors, engineers, quality assurance professionals, Centers for Medicare and Medicaid Services (CMS), private payers</p> <p>Health care organization leadership, managers, health workers, health IT vendors</p>
<p>GOAL 2:</p> <p>Policies address hybrid, virtual, and in-person workflow to facilitate work-life integration and responsive patient care</p>	<p>Institute paid leave and protections for health workers in state and federal legislation.</p> <p>Involve direct care workers in the development of hybrid workplace policies and provide training for teams to connect in-person and virtual workflows.</p>	<p>Congress, state legislatures, health care organization leadership and governance, management, educational institutions</p> <p>Health care organization leadership, managers, and health workers</p>



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Goals/[WHAT]	Actions/[HOW]	Actors/[WHO]
	Assess how virtual and in-person workflows connect and support each other.	Health care organization leadership, management, and health workers, health IT companies
<p>GOAL 3:</p> <p>Prior authorization fundamentally supports quality patient care and reduces health worker burden</p>	<p>Eliminate prior authorization requirements if using validated clinical decision support tools.</p> <p>Reduce the volume of prior authorizations needed and increase transparency requirements.</p> <p>Standardize the prior-authorization process with a single workflow so that payers can respond within fixed and defined timelines.</p> <p>Increase automation when appropriate and deploy health IT to ensure timely care for patients.</p> <p>Create rules and regulations that are general and as inclusive as possible. If exclusions are required, these are limited and as specific as possible.</p>	<p>Payers (private and Centers for Medicare and Medicaid Services), health IT companies</p> <p>HHS rule makers, regulators</p>
GOAL 4:	Form a public-private task force of experts, regulators,	Centers for Medicare and Medicaid Services (CMS),



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Goals/[WHAT]	Actions/[HOW]	Actors/[WHO]
Streamlined requirements for health workers to comply with regulations and policies	<p>and health workers to identify frameworks and best practices for interpreting rules and guidance at the local level that minimize burden.</p> <p>Standardize licensure processes, prepopulate necessary documents, and standardize timelines.</p> <p>Standardize facility and procedural credentialing with prepopulated documents, attestations, and other documents.</p> <p>Re-evaluate mandatory learning/trainings to shorten or eliminate those that add to the administrative burden of health workers.</p>	<p>Office of the National Coordinator for Health IT (ONC), National Quality Forum (NQF), state-level actors, health IT companies, convening bodies, Federal agencies, health care organizations, health workers</p> <p>Federation of State Medical Boards (FSMB), State licensing boards, accrediting bodies, health workers</p> <p>Federation of State Medical Boards (FSMB), State licensing boards, Centers for Medicare and Medicaid Services (CMS), accrediting bodies, health workers</p> <p>Accrediting bodies, health care organizations, health workers</p>
<p>GOAL 5:</p> <p>The health workforce experiences relief from the significant worker shortages across the health system.</p>	<p>Enable health workers to practice at the top of their training and education; and permanently eliminate onerous scope-of-practice regulations to allow advanced practice providers (e.g., nurse practitioners, midwives) to practice independently.</p>	<p>Congress, state legislatures, Centers for Medicare and Medicaid Services (CMS), Office of Personnel Management, Federal Trade Commission, Antitrust Division of the Department of Justice, professional societies, licensing board representatives</p>



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Goals/[WHAT]	Actions/[HOW]	Actors/[WHO]
	Allow extensions to residency cap-building periods for new graduate medical education programs to account for COVID-19 related challenges, such as recruitment, resource availability, and program operations.	
<p>GOAL 6:</p> <p>Simplified interstate practice and ease of use of virtual services.</p>	<p>Expand telehealth and virtual care for subsets of patients where such care has been shown to be safe and effective.</p> <p>Permanently remove certain licensure requirements to allow out-of-state providers to perform telehealth services; and include telehealth credentialing and licensure within the interstate compacts such that it is not an additional burden.</p> <p>Develop compensation models that facilitate asynchronous and continuous electronic messaging between the patient and the health care team.</p>	Regulators, health IT companies, payers, Federal government, health care workers



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*Related Resources*¹³

Conduct Workplace Assessment

- **Tool:** [NASA Task Load Index](#)

Enhance Workplace Efficiency

- **Guide:** [Saving Time Playbook](#) (American Medical Association)
- **Calculator/Guide:** [Team Documentation: Improve Efficiency, Workflow, and Patient Care](#) (American Medical Association)
- **Guide:** [Lean Healthcare](#) (American Medical Association)

Examine Policies and Practices

- **Guide:** [Debunking Regulatory Myths](#) (American Medical Association)
- **Guide:** [Getting Rid of Stupid Stuff](#) (American Medical Association)
- **Framework:** [Putting Patients First by Reducing Administrative Tasks in Health Care](#) (Erickson et al., 2017)
- **Policy Considerations:** [Practice and policy reset post-covid-19: Reversion, transition or transformation?](#) (Sinsky and Linzer, 2020)
- **Policy Action Items:** [25 by 5 Initiative to Reduce Documentation Burden on U.S. Clinicians by 75% by 2025](#) (National Library of Medicine)

¹³ For additional resources, visit the NAM [Resource Compendium for Health Care Worker Well-Being](#) page.



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Chapter 6

Priority Area: Engage effective technology tools. Optimize and expand the use of health information technologies that support health workers in providing high-quality patient care and serving population health, and minimize technologies that inhibit clinical decision-making or add to administrative burden.

“The best redesign would be to really incorporate those who are working on the frontline in the decisions that are being made. Often the administration, who do not know what it’s like to be swamped in the trenches of illness and disease, are the ones making the decisions.” – Frontline Health Worker¹⁴

Well-designed health information technology (IT) will support the delivery and management of care and disease prevention, but poorly designed health IT can introduce frustration and errors into the care process, making it more difficult (NASEM, 2019). The implications can be pronounced in health care, where the ubiquity of electronic health records (EHRs) in most health care settings has significantly increased access to useful data for patient care and health care research. Unfortunately, EHRs are also among the most highly cited causes of health worker frustration and burnout (NASEM, 2019). Health workers report frustration stemming from several aspects, including cumbersome design, decisions made at implementation (e.g., whether a nurse or medical assistant can document within fields outside of the chief complaint, what actions require an order, etc.), and unclear or unnecessary language from regulating bodies. EHRs also serve as the dataset for billing by health entities, with varying requirements and processes for reimbursement. Often times there is a conflict between what information must be recorded for the patient’s health needs and what should be recorded for enhanced billing. In many instances, the same note is written multiple times by different team members. This tension can add to provider stress and burnout.

Inefficient workflows can be as or more problematic than the EHR for health workers. Interruptions and distractions are associated with lower-quality and less safe care. They also add to cognitive burden, delay task completion, and increase the risk of forgetting tasks (NASEM, 2019). Health workers have suggested ways to deploy technology to enable more efficient work and care, and contact tracing in public health (Alotaibai et al., 2017; O’Shea, 2020). There are many opportunities to reorient health IT to reduce workplace stress and enhance professional well-being in the domains of design, implementation, and regulation. Health IT companies, via the EHR and other digital platforms, can have a tremendous effect on the well-being of health workers if the private sector develops greater will to invest resources in well-designed health IT to serve all users, especially health workers.

¹⁴ For background, visit the NAM [Clinician Burnout Crisis in the Era of COVID-19: Insights from the Frontlines of Care](#) page.



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Goals/[WHAT]	Actions/[HOW]	Actors/[WHO]
<p>GOAL 1:</p> <p>Health IT is user friendly and affordable, and meets standards co-designed with users.</p>	<p>Promote necessary interactions of stakeholders to design and improve documentation systems and leverage better technology solutions that are health-oriented and human-centered (i.e., patients, health workers, and care teams).</p> <p>Conduct research on how to develop and apply health IT that supports health workers in care delivery, including prevention services and contact tracing.</p> <p>Include standards for the following domains: usability/user experience before and after implementation of technology, degree of cognitive load, degree of clinical decision-making support.</p>	<p>Health IT companies, regulators, payers, health workers, health care organizations, quality assurance professionals, systems engineers, patients, Certification Commission for Health Information Technology</p> <p>Health IT companies, health workers, research organizations, funding organizations, payers, quality assurance professionals, systems engineers, regulators, patients</p>
<p>GOAL 2:</p> <p>Interoperability across disciplines and platforms enhance team-based care.</p>	<p>Encourage adoption of existing interoperability standards, and development of necessary interoperability standards.</p>	<p>Health IT companies, health workers, regulators, quality assurance professionals, systems engineers, standards setting organizations, patients</p>



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	Discourage proprietary solutions that are not interoperable.	
<p>GOAL 3:</p> <p>Technology innovations improve both patient care and workload of health workers.</p>	<p>Create market advantages for producing technologies that are highly user friendly.</p> <p>Deploy health IT using human-centered design and human factors and systems engineering approaches to ensure the effectiveness, efficiency, usability, and safety of the technology.</p> <p>Develop widgets that focus on documenting individual services.</p> <p>Establish a joint public-private fund for technology/EHR optimization to improve workload and workflows.</p>	<p>Health care organizations, health IT industry, health workers, quality assurance professionals, patients</p> <p>Health IT companies, engineers, health workers</p> <p>Office of the National Coordinator for Health IT, Healthcare Information and Management Systems Society, American Medical Informatics Association, health IT companies, engineers</p>
<p>GOAL 4:</p> <p>Technologies facilitate increased personal connections with patients.</p>	<p>Automate processes to streamline the health care team's workflow, and increase staff safety and coverage (e.g., ambient artificial intelligence or virtual scribes) to allow health workers to focus on listening to patients, rather than manually documenting notes at the computer.</p>	<p>Health care organizations, health IT industry, health workers, quality assurance professionals, patients</p>



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	<p>Offload and/or automate the administrative tracking tasks associated with preventive care (e.g., Natural Language Processing technologies for inbox management), so health workers can focus on more complex care needs and communicating information to the patient.</p>	
<p>GOAL 5:</p> <p>The use of technology is established as an enabler to streamline care.</p>	<p>Employ technology tools to maintain personal safety when treating communicable diseases or while calling on other experts and members of the care team (e.g., virtual reality headsets).</p> <p>Use EHR audit-log data to characterize the work environment and assess whether interventions to improve the environment were effective.</p> <p>Create publicly available accountability measures (e.g., health workers can assess EHRs).</p> <p>Examine the benefits and drawbacks to the use of technology, video, and phone consultations in workforce burnout and patient health.</p>	<p>Regulators, payers, Health IT companies, health workers, patients</p> <p>Payers and regulators, patients</p>



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*Related Resources*¹⁵

Enhance Workplace Efficiency

- **Calculator/Guide:** [Team Documentation: Improve Efficiency, Workflow, and Patient Care \(American Medical Association\)](#)
- **Webinar:** [Taming the EHR \(American Medical Association\)](#)
- **Case Study:** [HCA Healthcare's Program to Streamline Documentation for Nursing \(American Hospital Association\)](#)
- **Case Study:** [Just in Time: EHR Training at Atlantic Medical Group \(American Hospital Association\)](#)

Strengthen Leadership Behaviors

- **Webinar:** [Reframing Burnout through Human Factors: Integrating Well-Being and Patient Safety \(American Hospital Association\)](#)

¹⁵ For additional resources, visit the NAM [Resource Compendium for Health Care Worker Well-Being](#) page.



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Chapter 7

Priority Area: Institutionalize well-being as a long-term value. Ensure COVID-19 recovery efforts address the toll on health worker well-being, and bolster the public health and health care systems for future emergencies.

“I felt forgotten about by upper-level hospital management, family, friends, neighbors, etc. This affected my personal mental health because I felt like I was fighting this invisible war every day, watching people die all the time, dealing with a very sick patient whose family doesn't believe COVID is real.” – Frontline Health Worker¹⁶

Health care teams and public health workers experienced extraordinary fear, fatigue, isolation, and moral distress and injury during COVID-19, yet recipes for resilience often place the onus on the individual rather than the system. The nation must acknowledge that the health workforce will require recovery from the trauma of the pandemic, and that stress and distress are long-term issues that are addressed with longitudinal, long-term solutions. In addition, the public health response to the pandemic may continue for years via surveillance programs, contact tracing, and other monitoring and evaluation efforts. The extent of the traumatic stress and injury from this period is yet to be determined, so policies and protocols should reflect the dynamic nature of responses and prioritize health worker well-being. At the organizational level, such culture

- understands that health worker well-being is essential for safe, high-quality patient care.
- has the required commitment, infrastructure, resources, accountability, and a culture that supports well-being.
- uses a systems approach for appropriate work system redesign and implementation.

As seen during the pandemic, an underfunded public health system, including federal agencies and local, regional, and state health departments, has negative implications for the health of people who live in the U.S. (Trust for America's Health, 2020). It is important that the public health and health care systems guard against “active forgetting,” emphasize lessons learned from the pandemic, and address emerging questions on how the nation might prepare for the next pandemic or national emergency. Investing in infrastructure and institutionalizing well-being as a value is a long-term approach to growing a culture that provides the health workforce with the supports necessary to recover from the trauma of serving during the pandemic, and bolster a system to support well-being for the long-term.

¹⁶ For background, visit the NAM [Clinician Burnout Crisis in the Era of COVID-19: Insights from the Frontlines of Care](#) page.



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Goals/[WHAT]	Actions/[HOW]	Actors/[WHO]
<p>GOAL 1:</p> <p>Health worker and learner well-being are prioritized as reflected in operationalization of strategic plans and core values.</p>	<p>Define the organization's ideal future state, guided by a culture that institutionalizes well-being as a value.</p> <p>Understand and communicate that health worker well-being is essential for safe, high-quality patient care.</p> <p>Commit to infrastructure, resources, accountability, and a culture that supports well-being.</p> <p>Ensure a systems approach for appropriate work system redesign and implementation.</p> <p>Provide training for health workers and learners that offers interactive, engaging formats that build communication and collaboration and goes beyond mandatory e-learning.</p> <p>Provide coverage and compensation for direct care workers to engage in meetings and other decision-making forums.</p>	<p>Health care organizations executive leaders, health workers, educational institutions, quality assurance experts, systems engineers</p> <p>Health care organization executive leadership and governance</p> <p>Health care organization executive leadership, management, health workers, payers</p> <p>Health care organization executive leadership, management, payers</p> <p>Health care organization executive leadership and governance, Federal government</p>



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Goals/[WHAT]	Actions/[HOW]	Actors/[WHO]
	<p>Develop hybrid work policies to enable health workers to complete their work from home if they are quarantining.</p> <p>Develop more ample reserves of personal protective equipment and other resources.</p>	Federal government, state and local health departments, health care organizations, payers
<p>GOAL 2:</p> <p>The effects of COVID-19 on the well-being of the health workforce are addressed.</p>	<p>Appropriate funds for the National Health Workforce commission (authorized as part of the Affordable Care Act) to gather real-time workforce data.</p> <p>Secure long-term funding to treat and support those who experience acute physical and mental stress and long-term effects from providing care in response to COVID-19.</p> <p>Facilitate adequate time off and mental health resources without stigma or punishment.</p>	<p>Congress, Federal and state agencies, private funders, nonprofit organizations, Department of Health and Human Services (National Institute for Health, Occupational Safety and Health), American Psychiatric Association, American Psychological Association, Federation of State Physician Health Programs</p> <p>Health care organizations, public health organizations, managers, health workers, CMS, private payers</p>
<p>GOAL 3:</p> <p>A strong public health infrastructure and thriving workforce.</p>	Invest in cross-cutting public health foundational capabilities including: threats assessment and monitoring, all-hazards preparedness, public communication and	<p>Policymakers, Department of Health and Human Services (U.S. Centers for Disease Control and Prevention), American Public Health Association, local, state, and</p>



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Goals/[WHAT]	Actions/[HOW]	Actors/[WHO]
	<p>education, community partnership development, program management and leadership.</p> <p>Re-invest in the public health workforce through training and education opportunities.</p> <p>Modernize surveillance and data systems.</p> <p>Provide full-year, disease-agnostic funding for federal agencies .</p> <p>Restore and grow the Prevention and Public Health Fund.</p> <p>Increase funding for the CDC's community health emergency preparedness programs.</p> <p>Use available data and science to inform decisions, priorities, and policies.</p>	<p>regional departments of health, Council of State and Territorial Health Officials</p> <p>Policymakers, Congress</p> <p>Department of Health and Human Services (U.S. Centers for Disease Control and Prevention)</p> <p>Policymakers, Congress</p> <p>Congress, Department of Health and Human Services (U.S. Centers for Disease Control and Prevention)</p> <p>Congress</p> <p>Policymakers, researchers</p>
<p>GOAL 4:</p> <p>National platforms are available to workshop and share their pathways to</p>	<p>Arrange a series of convenings that focuses on highlighting best practices models that improve workforce well-being.</p>	<p>Convening bodies, professional societies, health care organizations, health workers</p>



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Goals/[WHAT]	Actions/[HOW]	Actors/[WHO]
solutions from acute COVID to long-term well-being.	Create a network that rapidly shares, implements, and tests models and best practices on a wide scale.	Convening bodies, professional societies, health care organizations, health workers, stakeholders outside of health

*Related Resources*¹⁷

Cultivate a Culture of Connection and Support

- **Guide:** [Conversation and Action Guide to Support Staff Well-Being and Joy in Work during and After the COVID-19 Pandemic \(Institute for Healthcare Improvement\)](#)
- **Guide:** [Well-Being Playbook 2.0: A COVID-19 Resource for Hospital and Health System Leaders \(American Hospital Association\)](#)
- **Guide:** [Building Bridges Between Practicing Physicians and Administrators \(American Medical Association\)](#)
- **Organizational Best Practices:** [At the Heart of the Pandemic: Nursing Peer Support \(Godfrey et al., 2020\)](#)
- **Organizational Graphic:** [Psychological PPE: Promote Health Care Workforce Mental Health and Well-Being \(Institute for Healthcare Improvement\)](#)
- **Overview of COVID-19 Resources by Roles:** [COVID-19: Stress and Coping Resources \(American Hospital Association\)](#)

Advance Organizational Commitment

- **Guide:** [A Guide to Promoting Health Care Workforce Well-Being During and After the Pandemic \(Institute for Healthcare Improvement\)](#)
- **Guide:** [Creating the Organizational Foundation for Joy in Medicine \(American Medical Association\)](#)
- **Guide:** [Wellness with COVID: Contagious Strategies to Promote Pharmacy Well-Being](#)
- **Brief:** [Call to Action: Improving Clinician Well-Being and Patient Care and Safety \(Ohio State University College of Nursing/Health Policy Institute of Ohio\)](#)
- **Discussion Paper/Guide:** [Healing the Professional Culture of Medicine \(Shanafelt et al., 2019\)](#)

Strengthen Leadership Behaviors

- **Compilation:** [Leading Through Crisis: A Resource Compendium for Nurse Leaders](#)
- **Guide:** [Well-Being Playbook: A Guide for Hospital and Health System Leaders \(American Hospital Association\)](#)

¹⁷ For additional resources, visit the NAM [Resource Compendium for Health Care Worker Well-Being](#) page.



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- **Guide:** [Appreciative Inquiry Principles: Ask “What Went Well” to Foster Positive Organizational Culture \(American Medical Association\)](#)
- **Guide:** [Cultivating Leadership: Measure and Assess Leader Behaviors to Improve Professional Well-Being \(American Medical Association\)](#)
- **Strategies:** [Executive Leadership and Physician Well-Being: Nine Organizational Strategies to Promote Engagement and Reduce Burnout](#)
- **Discussion Paper:** [A Call to Action: Align Well-Being and Antiracism Strategies \(Barrett et al., 2021\)](#)

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Chapter 8

Priority Area: Recruit and retain a diverse and inclusive health workforce. Promote careers in the health professions and increase pathways and systems for a diverse, inclusive, and thriving workforce.

“The intention of remote work and telehealth was to avoid infection, but it has indirectly helped many women in medicine balance work/home life better. Especially for me, as a single mother of two young children, the ability to combine in person and remote work has opened up leadership opportunities that I would have never had.” – Frontline Health Worker¹⁸

Health care and public health workers were lauded as heroes early in the pandemic as they operated under high-pressure circumstances and navigated disease uncertainties. However, stress from the prolonged pandemic has shifted the emotional response toward the health workforce. Stress, burnout, and mental health challenges experienced by frontline workers have accelerated departures from direct patient care and disease prevention and monitoring across the health workforce. With the pandemic, the nation was forced to acknowledge that the health workforce is not an inexhaustible resource and needs to be cared for and replenished. While training new health professionals will take time, efforts to advance team-based care can help address workforce shortages in the near-term with demonstrated benefits of well-being for high-functioning teams and improved patient care.

It is paramount to promote careers in the health professions to build a strong health system that reflects a growing, aging, and more racially and ethnically diverse U.S. population, as well as to address social determinants of health and health equity. Unprecedented surges in medical and public health school applications were reported in 2021, though it is unclear how this affects enrollment; admissions offices believe this could be partially because the societal impacts of COVID-19 accelerated people’s motivations to join the pandemic response and help alleviate social justices (Boyle, 2021; Warnick, 2021). However, educational systems will need to adequately ramp up to meet the demand of incoming students, including ensuring the number of spots keep pace and embracing cohorts which are more ethnically diverse than any before 2021 (Boyle, 2021). Especially for nursing, where the shortage has been chronic prior to the pandemic, insufficient numbers of nurse faculty and clinical placements continue to severely limit the capacity of nursing schools to accept all qualified applicants (NASEM, 2021).

In addition, national media has highlighted dissatisfying working conditions for health workers, concerns for the safety of the patients in their care, and, in many cases, the inability to work and advise at the top of their training as care providers and public health specialists (Yong, 2020; 2021). If many of the goals described in earlier chapters are not achieved to cultivate positive work and learning environments, remove barriers to daily work, and institutionalize

¹⁸ For background, visit the NAM [Clinician Burnout Crisis in the Era of COVID-19: Insights from the Frontlines of Care](#) page.



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well-being as a long-term value, many applicants and potential future health professionals will be discouraged from pursuing these careers. The continuous journey to address the historical lack of diversity in the health workforce, which overtly and covertly reinforces exclusion of people of color, Indigenous populations, and other underrepresented groups in the health professions, is another barrier to recruiting and retaining a diverse and inclusive workforce.

An overarching goal of the National Plan is to remind prospective health workers of the nobility of caring for others; the intellectual gratification of public health and health care delivery; and the numerous possibilities of a health career. More importantly, society needs to employ the challenges and lessons learned during the pandemic to change the dialogue and commit to improving the health system so health workers and patients flourish. It does not matter if resilience is instilled in individual future health workers if they enter into systems that diminish their abilities to thrive (NAM COVID convening, 2022). This goal can be achieved by institutionalizing well-being as a value, prioritizing the retention of our skilled workforce, investing in pathways and programs to increase interest and skills, and restoring a sense of inclusion and meaning in health care and public health education and training.

Goals/[WHAT]	Actions/[HOW]	Actors/[WHO]
GOAL 1: The health workforce reflects the diversity of the U.S. population.	Train, hire, and retain people from underrepresented communities in health care and public health. Invest in educational pathways and programs such as pipeline programs and partnerships among high schools, technical schools, and universities to allow emergency medical technicians, certified nursing assistants, and armed forces medics to apply work hours toward clinical professions; targeted scholarships or tuition support for nursing students or nursing educators to increase supply; and onsite graduate school and professional	Educational institutions, employers, Federation of Associations of Schools of Health Professions (FASHP) Educational institutions, employers, Federation of Associations of Schools of Health Professions (FASHP)



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Goals/[WHAT]	Actions/[HOW]	Actors/[WHO]
	<p>development programs to retain experienced nurses</p> <p>Provide debt relief opportunities for students and workers through employer programs and expanded eligibility for loan forgiveness.</p> <p>Expand and scale support for a national Reserve Nurse Training Corps using the military's Reserve Officers' Training Corps (ROTC) as a model with undergraduate tuition payment and service commitment.</p> <p>Leverage the roles of the U.S. Surgeon General and Chief Nurse of the U.S. Public Health Service to prioritize health workforce well-being.</p>	<p>Congress, Department of Education, health care organizations, educational institutions, employers</p> <p>Congress, Department of Education, health care organizations, educational institutions</p> <p>Congress, policymakers, Department of Health and Human Services (Office of the Surgeon General, U.S. Centers for Disease Control and Prevention; U.S. Public Health Service)</p>
<p>GOAL 2:</p> <p>The health system retains health workers who have personal caregiving responsibilities.</p>	<p>Review and revise policies to offer flexibility in terms of clinical schedules, job-sharing opportunities, remote work options, and opportunities to re-enter the workforce.</p> <p>Increase the duration of and pay for parental leave.</p>	<p>State legislatures, health care organization leadership and governance, management, educational institutions</p> <p>State legislatures, health care organization leadership and governance</p>



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Goals/[WHAT]	Actions/[HOW]	Actors/[WHO]
	<p>Invest in and improve childcare opportunities.</p> <p>Increase diversity in leadership, management, and in health teams.</p> <p>Review compensation to ensure equitable practices across the organization.</p>	<p>Health care organization leadership and governance</p> <p>Health care organization leadership and governance</p>
<p>GOAL 3:</p> <p>Health care environments are person-centered and safe for health workers.</p>	<p>Establish and follow staffing plans that reflect effective team composition and balanced workloads to provide safe patient care.</p> <p>Limit the use of mandatory overtime to emergent situations where patient safety or access to care is at risk.</p> <p>Fund testing and implementation of interventions that improve safety for health workers.</p>	<p>Health care organization executive leadership, clinical leadership, accrediting bodies</p> <p>Congress, National Institute for Occupational Safety and Health</p>
<p>GOAL 4:</p> <p>Health workers are supported in their work to improve population health.</p>	<p>Incentivize payers to invest in the availability and quality of community resources to address the factors that patients face in obtaining care and their full health potential (the social determinants of health).</p>	<p>Federal government, public and private payers, health workers, patients, community-based organizations</p>



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Goals/[WHAT]	Actions/[HOW]	Actors/[WHO]
	<p>Provide greater flexibility for Medicare Advantage to reimburse health workers for addressing the social determinants of health.</p> <p>Explore the integration of social determinants of health (SDOH) as a factor in payment policy and the infrastructure needed to support connections to social services. Elements include: incorporating standardized SDOH codes into health workers IT systems, such as EHRs and care management platforms; aligning incentives for senior and front-line leaders to address SDOH for patients and populations; and recognizing and rewarding health workers for addressing SDOH.</p>	<p>Centers for Medicare and Medicaid Services</p> <p>Payers, health system leaders</p>
<p>GOAL 5:</p> <p>Health workers and learners are inspired and equipped to meet and respond to the challenges of caring for the nation.</p>	<p>Each profession creates a future vision of what it means to be a [nurse/medical doctor/pharmacist/therapist, etc.].</p> <p>Incentivize and facilitate team-based care.</p>	<p>Leaders of the health professions; associations</p> <p>Health care organizations, Interprofessional Education Collaborative, Federation of Associations of Schools of Health Professions (FASHP)</p>



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Goals/[WHAT]	Actions/[HOW]	Actors/[WHO]
	<p>Administer surveys to students pre-matriculation through graduation to assess, and respond in a timely manner to, personal and professional experiences along the educational pathway.</p> <p>Develop a reserve capacity of health workers to address emergent needs and large-scale disasters.</p> <p>Conduct message testing and communications research to develop media campaigns that highlight the joy and fulfillment of the health professions, and health worker contributions during the COVID-19 pandemic.</p> <p>Launch a campaign with influential voices in health that targets multiple sectors of society.</p>	<p>Health professions schools, Federation of Associations of Schools of Health Professions (FASHP)</p> <p>Interprofessional Education Collaborative, Federation of Associations of Schools of Health Professions (FASHP), Federal government, Department of Health and Human Services</p> <p>Mass communications professionals, health workers, professional associations</p> <p>Mass communications professionals, health workers, health influencers, professional associations</p>

Related Resources¹⁹

Examine Policies and Practices

- **Strategies:** [Policy Strategies for Addressing Current Threats to the U.S. Nursing Workforce \(Costa and Friese, 2022\)](#)

¹⁹ For additional resources, visit the NAM [Resource Compendium for Health Care Worker Well-Being](#).



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- **Survey:** [Matriculating Student Questionnaire \(Association of American Medical Colleges\)](#)

Strengthen Leadership Behaviors

- **Discussion Paper/Action Items:** [Physician Well-Being 2.0: Where We Are and Where We Are Going](#)
- **Discussion Paper/Action Items:** [Getting Through COVID-19: Keeping Clinicians in the Workforce \(Barrett et al., 2021\)](#)
- **Discussion Paper:** [A Call to Action: Align Well-Being and Antiracism Strategies \(Barrett et al., 2021\)](#)

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Chapter 9

Summary and Conclusion

[To be drafted after receiving public input]

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References

*Listed in order of appearance in text

CHAPTER 1 Introduction

- Maslach, C. 2018. Job burnout in professional and economic contexts. In *Diversity in unity: Perspectives from psychology and behavioral sciences*, edited by A. A. Ariyanto, H. Muluk, P. Newcombe, F. P. Piercy, E. K. Poerwandari, and S. H. R. Suradijono. London, England: Routledge. Pp. 11–19.
- NASEM, 2019: Taking Action Against Clinician Burnout: A Systems Approach to Professional Well-Being. Washington, DC: The National Academies Press.
<https://doi.org/10.17226/25521>.
- Lai, A. Y., & Fleuren, B. P. I. (2021). Clarifying the concepts of joy and meaning for work in health care. *Journal of Hospital Management and Health Policy*, 6. Retrieved from <https://jhmp.amegroups.com/article/view/6816>
- COVID-19: Healthcare Policy Updates. (n.d.) American Academy of Orthopedic Surgeons. <https://www.aaos.org/about/covid-19-information-for-our-members/healthcare-policy-updates/>. Accessed 10 Apr. 2022.
- 10 State Health Policy Changes That Should Outlive COVID-19. 2022. State Policy Network. <https://spn.org/blog/10-state-health-policy-changes-that-should-outlive-covid-19/>.
- Hardy et al. (2021). Who is to Blame for Covid-19? Examining politicized fear and health behavior through a mixed methods study in the United States.
<https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0256136>
- Larkin, H. (2021). Navigating Attacks Against Health Care Workers in the COVID-19 Era. *JAMA*, 325(18), 1822–1824. [doi:10.1001/jama.2021.2701](https://doi.org/10.1001/jama.2021.2701)
- Berg, Sara. Half of health workers report burnout amid COVID-19. (2021). American Medical Association. <https://www.ama-assn.org/practice-management/physician-health/half-health-workers-report-burnout-amid-covid-19>
- Yi, S. 2020. I'm an Asian American doctor on the front lines of two wars: Coronavirus and racism. <https://www.thelily.com/im-an-asian-american-doctor-on-the-front-lines-of-two-wars-coronavirus-and-racism/>
- NAM Convening, 2022: Clinician Retention in the Era of COVID: Uniting the Health Workforce to Optimize Well-Being. Presentations from Rachel Villanueva, Kim Templeton.
- National Academies of Sciences, Engineering, and Medicine. 2017. *Communities in Action: Pathways to Health Equity*. Washington, DC: The National Academies Press.
<https://doi.org/10.17226/24624>.
- NAM, 2022. Clinician burnout crisis in the era of COVID-19: Insights from the Frontline of Care. <https://nam.edu/initiatives/clinician-resilience-and-well-being/clinician-burnout-crisis-in-the-era-of-covid-19/>



National Academy of Medicine

Action Collaborative on Clinician Well-Being and Resilience

- Templeton, K., C. Bernstein, J. Sukhera, L. M. Nora, C. Newman, H. Burstin, C. Guille, L. Lynn, M. L. Schwarze, S. Sen, and N. Busis. 2019. Gender-based differences in burnout: Issues faced by women physicians. *NAM Perspectives*. Discussion Paper, National Academy of Medicine, Washington, DC. <https://doi.org/10.31478/201905a>
- Abbasi, 2022: <https://jamanetwork.com/journals/jama/fullarticle/2790791>
- American Hospital Association. 2021. *Strengthening the Health Care Workforce*. <https://www.aha.org/system/files/media/file/2021/11/strengthening-the-health-care-workforce-II.pdf>
- Khan et al. 2022. *The demise of the social contract in medicine: Recent health policy changes benefit patients but ignore demoralized health care workers*. <https://www.medpagetoday.com/opinion/second-opinions/96536>
- PH wins, 2021: Rising stress and burnout in public health. (2021). De Beaumont Foundation. <https://debeaumont.org/phwins/2021-findings/>
- Stone, K. W., Kintziger, K. W., Jagger, M. A., & Horney, J. A. (2021). Public Health Workforce Burnout in the COVID-19 Response in the U.S. *Int J Environ Res Public Health*, 18(8). [doi:10.3390/ijerph18084369](https://doi.org/10.3390/ijerph18084369)
- Nundy, S., Cooper, L. A., & Mate, K. S. (2022). The Quintuple Aim for Health Care Improvement: A New Imperative to Advance Health Equity. *JAMA*, 327(6), 521-522. [doi:10.1001/jama.2021.25181](https://doi.org/10.1001/jama.2021.25181)
- WHO (2022). Health systems. <https://www.euro.who.int/en/health-topics/Health-systems/pages/health-systems>
- HRSA (2021). Health Workforce Strategic Plan 2021. <https://bhw.hrsa.gov/sites/default/files/bureau-health-workforce/about-us/hhs-health-workforce-strategic-plan-2021.pdf>
- CDC (2022). Health Equity. <https://www.cdc.gov/chronicdisease/healthequity/index.htm>
- Danna and Griffin (1999). *Health and Well-Being in the Workforce: a Review and Synthesis of the Literature 1999*. <https://journals.sagepub.com/doi/abs/10.1177/014920639902500305>
- Doble and Santha (2008). *Occupational well-being: rethinking occupational therapy outcomes*. Edmondson, Amy C. *The Fearless Organization: Creating Psychological Safety in the Workplace for Learning, Innovation, and Growth*. Hoboken, NJ: John Wiley & Sons, 2018.
- FSMB (2018). *Physician Wellness and Burnout*. <https://www.fsmb.org/siteassets/advocacy/policies/policy-on-wellness-and-burnout.pdf>
- Shapiro (2020). Jo Shapiro, MD, explores peer support implementation during a crisis <https://www.ama-assn.org/practice-management/sustainability/jo-shapiro-md-explores-peer-support-implementation-during-crisis>
- Center for Creative Leadership (2020). *What is Psychological Safety at Work?*



National Academy of Medicine

Action Collaborative on Clinician Well-Being and Resilience

<https://www.ccl.org/articles/leading-effectively-articles/what-is-psychological-safety-at-work/>

Dr. Lorna Breen Health Care Provider Protection Act, H.R. 1667, 117th Cong. (2022).

<https://www.congress.gov/bill/117th-congress/house-bill/1667>

CHAPTER 2 Create and sustain positive work and learning environments and culture

NASEM, 2019: Taking Action Against Clinician Burnout: A Systems Approach to Professional Well-Being. Washington, DC: The National Academies Press.

<https://doi.org/10.17226/25521>.

Shanafelt et al., (2017). The Business Case for Investing in Well-Being.

<https://jamanetwork.com/journals/jamainternalmedicine/article-abstract/2653912>

Shanafelt TD, Gorringer G, Menaker R, Storz KA, Reeves D, Buskirk SJ, Sloan JA, Swensen SJ. Impact of organizational leadership on physician burnout and satisfaction. *Mayo Clin Proc.* 2015 Apr;90(4):432-40. [doi: 10.1016/j.mayocp.2015.01.012](https://doi.org/10.1016/j.mayocp.2015.01.012). Epub 2015 Mar 18. PMID: 25796117.

Shanafelt, T. D., Makowski, M. S., Wang, H., Bohman, B., Leonard, M., Harrington, R. A., . . . Trockel, M. (2020). Association of Burnout, Professional Fulfillment, and Self-care Practices of Physician Leaders With Their Independently Rated Leadership Effectiveness. *JAMA Netw Open*, 3(6), e207961.

[doi:10.1001/jamanetworkopen.2020.7961](https://doi.org/10.1001/jamanetworkopen.2020.7961)

Dyrbye, L. N., Leep Hunderfund, A. N., Winters, R. C., Moeschler, S. M., Vaa Stelling, B. E., Dozois, E. J., . . . West, C. P. (2020). The Relationship Between Residents' Perceptions of Residency Program Leadership Team Behaviors and Resident Burnout and Satisfaction. *Acad Med*, 95(9), 1428-1434. [doi:10.1097/acm.0000000000003538](https://doi.org/10.1097/acm.0000000000003538)

Dyrbye, L. N., Major-Elechi, B., Hays, J. T., Fraser, C. H., Buskirk, S. J., & West, C. P. (2021). Physicians' Ratings of their Supervisor's Leadership Behaviors and Their Subsequent Burnout and Satisfaction: A Longitudinal Study. *Mayo Clin Proc*, 96(10), 2598-2605.

[doi:10.1016/j.mayocp.2021.01.035](https://doi.org/10.1016/j.mayocp.2021.01.035)

Dyrbye, L. N., Major-Elechi, B., Hays, J. T., Fraser, C. H., Buskirk, S. J., & West, C. P. (2020). Relationship Between Organizational Leadership and Health Care Employee Burnout and Satisfaction. *Mayo Clin Proc*, 95(4), 698-708. [doi:10.1016/j.mayocp.2019.10.041](https://doi.org/10.1016/j.mayocp.2019.10.041)

Hu, Y.-Y., Ellis, R. J., Hewitt, D. B., Yang, A. D., Cheung, E. O., Moskowitz, J. T., Potts, J. R., Buyske, J., Hoyt, D. B., Nasca, T. J., & Bilimoria, K. Y. (2019). Discrimination, abuse, harassment, and burnout in surgical residency training. *New England Journal of Medicine*, 381(18), 1741–1752. <https://doi.org/10.1056/NEJMsa1903759>

Leape, L. L., Shore, M. F., Dienstag, J. L., Mayer, R. J., Edgman-Levitan, S., Meyer, G. S., & Healy, G. B. (2012). Perspective: A culture of respect, part 2: creating a culture of respect. *Academic Medicine: Journal of the Association of American Medical Colleges*, 87(7), 853–858. <https://doi.org/10.1097/ACM.0b013e3182583536>



National Academy of Medicine

Action Collaborative on Clinician Well-Being and Resilience

The Commonwealth Fund. 2021. Confronting racism in health care: Moving from Proclamations to New Practices.

<https://www.commonwealthfund.org/publications/2021/oct/confronting-racism-health-care>

ACGME (2019). CLER Pathways to Excellence: expectations for an optimal clinical learning environment to achieve safe and high-quality patient care.

<https://www.acgme.org/globalassets/pdfs/cler/1079acgme-cler2019pte-brochdigital.pdf>

Nasca, T.J., Weiss, K.B., Bagian, J.P. Improving Clinical Learning Environments for Tomorrow's Physicians. *New England Journal of Medicine*. 2014.370;11:991-993. DOI: 10.1056/NEJMp1314628. <http://www.nejm.org/doi/pdf/10.1056/NEJMp1314628>

Co, J., Weiss, K. B., & CLER Evaluation Committee (2019). CLER Pathways to Excellence, Version 2.0: Executive Summary. *Journal of graduate medical education*, 11(6), 739–741. <https://doi.org/10.4300/JGME-D-19-00724.1>

AMA, 2022: Joy in Medicine Health System Recognition Program

<https://www.ama-assn.org/practice-management/sustainability/joy-medicine-health-system-recognition-program>

Swenson, S., & Shanafelt, T.D. (2020). Cultivating leadership: measure and assess leader behaviors to improve professional well-being. American Medical Association: Steps Forward <https://edhub.ama-assn.org/steps-forward/module/2774089>

CHAPTER 3 Invest in measurement, assessment, strategies, and research

NASEM, 2019: Taking Action Against Clinician Burnout: A Systems Approach to Professional Well-Being. Washington, DC: The National Academies Press.

<https://doi.org/10.17226/25521>.

Dyrbye LN, Satele D, Shanafelt T. Ability of a 9-item well-being index to identify distress and stratify quality of life in US workers. *J Occup Environ Med*. 2016;58:810–7

Brady, K., Ni, P., Carlasare, L., Shanafelt, T. D., Sinsky, C. A., Linzer, M., Stillman, M., & Trockel, M. T. (2022). Establishing Crosswalks Between Common Measures of Burnout in US Physicians. *Journal of general internal medicine*, 37(4), 777–784.

<https://doi.org/10.1007/s11606-021-06661-4>

Sinsky, C. A., Rule, A., Cohen, G., Arndt, B. G., Shanafelt, T. D., Sharp, C. D., Baxter, S. L., Tai-Seale, M., Yan, S., Chen, Y., Adler-Milstein, J., & Hribar, M. (2020). Metrics for assessing physician activity using electronic health record log data. *Journal of the American Medical Informatics Association : JAMIA*, 27(4), 639–643.

<https://doi.org/10.1093/jamia/ocz223>

Mayer, T., Venkatesh, A., & Berwick, D. M. (2021). Criterion-Based Measurements of Patient Experience in Health Care: Eliminating Winners and Losers to Create a New Moral Ethos. *JAMA*, 326(24), 2471–2472. <https://doi.org/10.1001/jama.2021.21771>



National Academy of Medicine

Action Collaborative on Clinician Well-Being and Resilience

Valid and reliable survey instruments to measure burnout, well-being, and other work-related dimensions. (n.d.). National Academy of Medicine. Retrieved April 11, 2022, from <https://nam.edu/valid-reliable-survey-instruments-measure-burnout-well-work-related-dimensions/>

Dyrbye, 2018: A Pragmatic Approach for Organizations to Measure Health Care Professional Well-Being <https://nam.edu/a-pragmatic-approach-for-organizations-to-measure-health-care-professional-well-being/>

Dzau VJ, Kirch D, Nasca T. Preventing a Parallel Pandemic - A National Strategy to Protect Clinicians' Well-Being. *N Engl J Med*. 2020 Aug 6;383(6):513-515. doi: 10.1056/NEJMp2011027. Epub 2020 May 13. PMID: 32402153.

CHAPTER 4 Support mental health and reduce stigma

US Burden of Disease Collaborators. The state of US health, 1990-2010: burden of diseases, injuries, and risk factors. *JAMA*, 310(6): 591-608, 2013.

Melnyk et al., 2020. Interventions to improve mental health. Well-being, physical health, and lifestyle behaviors in physicians and nurses: a systematic review https://journals.sagepub.com/doi/10.1177/0890117120920451?url_ver=Z39.88-2003&rft_id=ori:rid:crossref.org&rft_dat=cr_pub%20%20pubmed

Bellini LM, Baime M, Shea JA. Variation of mood and empathy during internship. *JAMA*. 2002;287(23):3143-3146

Mata DA, Ramos MA, Bansal N, et al. Prevalence of Depression and Depressive Symptoms Among Resident Physicians: A Systematic Review and Meta-analysis. *JAMA*. 2015;314(22):2373–2383. doi:10.1001/jama.2015.15845

Fahrenkopf AM, Sectish TC, Barger LK, et al. Rates of medication errors among depressed and burnt out residents: prospective cohort study. *BMJ*. 2008;336(7642):488-491. doi:10.1136/bmj.39469.763218.BE

McKay and Asmundson (2020). COVID-19 stress and substance use: Current issues and future preparations <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7371588/>

Muñoz, R. F., Beardslee, W. R., & Leykin, Y. (2012). Major depression can be prevented. *American Psychologist*, 67(4), 285–295. <https://doi.org/10.1037/a0027666>

Fang Y, Bohnert ASB, Pereira-Lima K, Cleary J, Frank E, Zhao Z, Dempsey W, Sen S. Trends in Depressive Symptoms and Associated Factors During Residency, 2007 to 2019: A Repeated Annual Cohort Study. *Ann Intern Med*. 2022 Jan;175(1):56-64. doi: 10.7326/M21-1594. Epub 2021 Nov 16. PMID: 34781718.

Guille C, Frank E, Zhao Z, et al. Work-Family Conflict and the Sex Difference in Depression Among Training Physicians. *JAMA Intern Med*. 2017;177(12):1766–1772. doi:10.1001/jamainternmed.2017.5138

NASEM, 2019: Taking Action Against Clinician Burnout: A Systems Approach to Professional



National Academy of Medicine

Action Collaborative on Clinician Well-Being and Resilience

Well-Being. Washington, DC: The National Academies Press.

<https://doi.org/10.17226/25521>.

FSMB (2018). Physician Wellness and Burnout

<https://www.fsmb.org/siteassets/advocacy/policies/policy-on-wellness-and-burnout.pdf>

2022 healthcare workforce rescue package. (2022). All In WellBeing First for Healthcare.

<https://www.allinforhealthcare.org/articles/76-2022-healthcare-workforce-rescue-package>

CHAPTER 5 Address compliance, regulatory, and policy barriers for daily work

Sinsky, 2020: Organizational Evidence-Based and Promising Practices for Improving Clinician Well-Being

<https://nam.edu/organizational-evidence-based-and-promising-practices-for-improving-clinician-well-being/>

Sinsky, C., & Linzer, M. (2020). Practice and policy reset post-covid-19: Reversion, transition or transformation? *Health Affairs*, 39(8), 1405–1411.

<https://doi.org/10.1377/hlthaff.2020.00612>

Kelly, Susan. (2022). Medical groups say prior authorization burdens persisted during pandemic. *Healthcare Dive*. Retrieved April 11, 2022, from

<https://www.healthcaredive.com/news/medical-groups-prior-authorization-burdens-pandemic/619980/>

JD, Claire Ernst. (2022). Virtually all medical groups say payer prior authorization requirements aren't improving. *Medical Group Management Association*.

<https://www.mgma.com/data/data-stories/virtually-all-medical-groups-say-payer-prior-autho>

Costa, D. K., & Friese, C. R. (2022). Policy Strategies for Addressing Current Threats to the U.S. Nursing Workforce. *New England Journal of Medicine*. [doi:10.1056/NEJMp2202662](https://doi.org/10.1056/NEJMp2202662)

CHAPTER 6 Engage effective technology tools

NASEM, 2019: Taking Action Against Clinician Burnout: A Systems Approach to Professional Well-Being. Washington, DC: The National Academies Press.

<https://doi.org/10.17226/25521>.

Alotaibi, Y. K., & Federico, F. (2017). The impact of health information technology on patient safety. *Saudi medical journal*, 38(12), 1173–1180.

<https://doi.org/10.15537/smj.2017.12.20631>

O'Shea, Donna. How health care providers can use technology to help improve patient care and



National Academy of Medicine

Action Collaborative on Clinician Well-Being and Resilience

their practices. (2020). Modern Healthcare.

<https://www.modernhealthcare.com/technology/how-health-care-providers-can-use-technology-help-improve-patient-care-and-their>

CHAPTER 7 Institutionalize well-being as a long-term value

Shanafelt, T. D., Schein, E., Minor, L. B., Trockel, M., Schein, P., & Kirch, D. (2019). Healing the Professional Culture of Medicine. *Mayo Clinic proceedings*, 94(8), 1556–1566.

<https://doi.org/10.1016/j.mayocp.2019.03.026>

Farberman, R.K, McKillop, M., Lieberman, D.A., Delgado, D., Thomas, C., Cunningham, J., McIntyre. (2020). The Impact of Chronic Underfunding on America's Public Health System: Trends, Risks, and Recommendations, 2020. Trust for America's Health.

<https://www.tfah.org/wp-content/uploads/2020/04/TFAH2020PublicHealthFunding.pdf>

Costa, D. K., & Friese, C. R. (2022). Policy Strategies for Addressing Current Threats to the U.S. Nursing Workforce. *New England Journal of Medicine*. [doi:10.1056/NEJMp2202662](https://doi.org/10.1056/NEJMp2202662)

CHAPTER 8 Recruit and retain a diverse and inclusive health workforce

Boyle, Patrick. 2021. Medical school applicants and enrollments hit record highs; underrepresented minorities lead the surge. <https://www.aamc.org/news-insights/medical-school-applicants-and-enrollments-hit-record-highs-underrepresented-minorities-lead-surge>

Warnick, Aaron. 2021. Interest in public health degrees jumps in wake of pandemic: Applications rise. <https://www.thenationshealth.org/content/51/6/1.2>

NASEM, 2021. The Future of NUrning 2020-2030. <https://doi.org/10.17226/25982>

Yong, 2020. The Pandemic Experts are Not Okay.

<https://www.theatlantic.com/health/archive/2020/07/pandemic-experts-are-not-okay/613879/>

Yong, 2021: Why Health-Care Workers are Quitting in Droves

<https://www.theatlantic.com/health/archive/2021/11/the-mass-exodus-of-americas-health-care-workers/620713/>

NAM Convening, 2022: Clinician Retention in the Era of COVID: Uniting the Health Workforce to Optimize Well-Being.

Castner J, Bell SA, Castner M, Couig MP. National Estimates of the Reserve Capacity of Registered Nurses Not Currently Employed in Nursing and Emergency Nursing Job Mobility in the United States. *Ann Emerg Med*. 2021 Aug;78(2):201-211. [doi: 10.1016/j.annemergmed.2021.03.006](https://doi.org/10.1016/j.annemergmed.2021.03.006). Epub 2021 Jun 12. PMID: 34127308; PMCID: PMC8555063.

Dudley, J., McLaughlin, S., & Lee, T. H. (2022). Why so many women physicians



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are quitting. Harvard Business Review. <https://hbr.org/2022/01/why-so-many-women-physicians-are-quitting>

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Appendix A: Understanding health worker burnout and a systems approach to well-being

Appendix B: Background on the Clinician Well-Being Collaborative and National Plan process

Appendix C: Background from the NAM Consensus report and other reference materials for the National Plan's priority areas

[Appendix materials are forthcoming in the final National Plan]

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