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System-Level Interventions for Addressing Burnout and Improving Professional Wellness for Orthopaedic Surgeons

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Abstract

Burnout is characterized by feelings of depersonalization, emotional exhaustion, and low personal achievement, which adversely affects orthopaedic surgeons and their patients. Burnout is increasingly being recognized as a systemic problem, resulting from excessive workloads, administrative burdens, inadequate job resources, and lack of work-life balance. There is a growing movement to develop system-level strategies to address it. Here, we summarize evidence-based organizational strategies and approaches to assist institutions in addressing burnout in orthopaedic surgery, and we summarize key recommendations outlined in landmark burnout guidelines. Among the recommendations made by the World Health Organization (WHO) and the National Academy of Medicine (NAM), we identified seven key themes in order to address burnout, which include: (1) recognizing the presence of burnout and investing in strategies to measure and address it; (2) harnessing leadership support and commitment; (3) establishing and sustaining a culture of wellness and support; (4) promoting diversity and inclusion in the workplace; (5) securing access to mental healthcare and promoting individual resilience; (6) reducing workplace inefficiencies; and (7) enhancing orthopaedic surgeons' autonomy and control.

Key Concepts

- Burnout is a work-related syndrome characterized by depersonalization, emotional exhaustion, and low personal achievement that negatively impacts orthopaedic surgeons and their patients.

- Burnout is increasingly being recognized as a systemic problem, resulting from excessive workloads, administrative burdens, inadequate job resources, and lack of work-life balance, requiring system-level interventions.
- System-level recommendations to address burnout have been made by researchers, national medical associations, community organizations, and landmark guidelines from the World Health Organization and the National Academy of Medicine.
- It is imperative that institutions invest in system-level interventions to address burnout in order to improve the work environment of orthopaedic surgeons, offer greater professional satisfaction, and facilitate better patient outcomes.

Introduction

To provide high-quality, patient-centered orthopaedic care, it is important for orthopaedic surgeons to feel physically and mentally well. Despite this, there is increasing recognition that orthopaedic surgeons' well-being is deteriorating as a result of occupational stressors, which has only been further exacerbated by the COVID-19 pandemic.[1-9] Such deterioration has been termed "burnout," which is characterized by emotional exhaustion, depersonalization, and low levels of personal achievement.[10,11]

Our recent umbrella review of burnout among orthopaedic surgeons revealed its pervasiveness in our specialty. Residents were found to be especially prone to burnout as were those who identified as female or as a racial minority.[1,12,13] Surgeon burnout, which can manifest as dysfunctional relationships, alcohol and substance use, depression, and suicide, ultimately impacts the physician-patient relationship and contributes to decreased patient satisfaction.[1,3,4,6,14] Physician retention, productivity, and quality of care also decrease,[2,4,14] with conservative estimates indicating that physician burnout costs the United States approximately $4.6 billion annually.[15] High rates of burnout–along with its detrimental personal, professional, and financial implications–highlight the urgent need to intervene.

Evidence on burnout prevention and management in orthopaedic surgery is scarce; therefore, the community has relied heavily on general medical literature. Within this evidence base, numerous individual level interventions have been proposed to address burnout.[16,17] Commonly, mindfulness-based interventions, as well as counselling and relaxation sessions, have been recommended.[2,4,6,7,14,16] However, burnout is increasingly recognized as a system-level problem resulting from excessive workloads, administrative burdens, inadequate job resources, and lack of work-life balance.[18,19] Therefore, clinicians, researchers, national medical associations, and community organizations are advocating for organizational and workflow interventions to address burnout.[3,5,6,12-14,17,20-23]

In this paper, we aim to summarize system-level interventions, including evidence-based organizational strategies and approaches suggested by national medical associations, to better equip institutions in their efforts to address burnout in orthopaedic surgery. We also aim to summarize the recommendations outlined in landmark burnout guidelines, such as those published by the World Health Organization (WHO) and the National Academy of Medicine (NAM).

Evidence-Based Organizational Strategies

There have been a number of evidence-based organizational strategies proposed for addressing physician burnout in the medical literature as illustrated in our umbrella review. A recent multi-institutional consensus review of experts highlighted key strategies for reducing physician burnout using the Stanford multi-pronged model.[24] Leaders in the field advocated for organizational strategies that fit into three domains:

(1) culture of wellness, (2) efficiency of practice, and (3) personal resilience (Figure 1).[24]

(1) Culture of wellness: Promote strategies that cultivate a culture of well-being among physicians. These include improvements in leadership development, physician autonomy, teamwork, as well as equity, diversity, and inclusion.[24] In order to achieve these strategies, specific tactics were proposed, including focusing on hiring leaders that exhibit qualities associated with physician well-being (e.g., integrity and vision), empowering physicians to refine their own jobs ("job-crafting"), implementing team-based care models that allow each member to operate at their highest ability, and establishing procedures for improving equity, diversity, and inclusion.[24]

(2) Efficiency of practice: Create strategies focused on reducing inefficiencies in medicine, such as optimizing improvements in electronic health record (EHR) processes and improving ease of productivity.[24] The tactics proposed included automating and simplifying EHR tasks, hiring scribes to alleviate documentation burdens, and designing time-based care models.[24]

(3) Personal resilience: Develop programs that support individual resilience and self-care, for example, by developing peer support programs, securing mental health services, and supporting physicians in maintaining healthy lifestyles.[24]

Similar organizational strategies have also been endorsed in other publications. The Mayo Clinic described key drivers of burnout, which organizations should focus their efforts on addressing (Figure 2), and advocated for organizational strategies to reduce burnout, providing tangible examples of the ways in which their institution successfully operationalized their suggested approaches (Figure 3).[25] Like the expert review mentioned above, many of the proposed strategies fell within the realms of improving the culture of wellness, efficiency of practice, and personal resilience.[25] A strong business case was made to invest in efforts that reduce physician burnout,

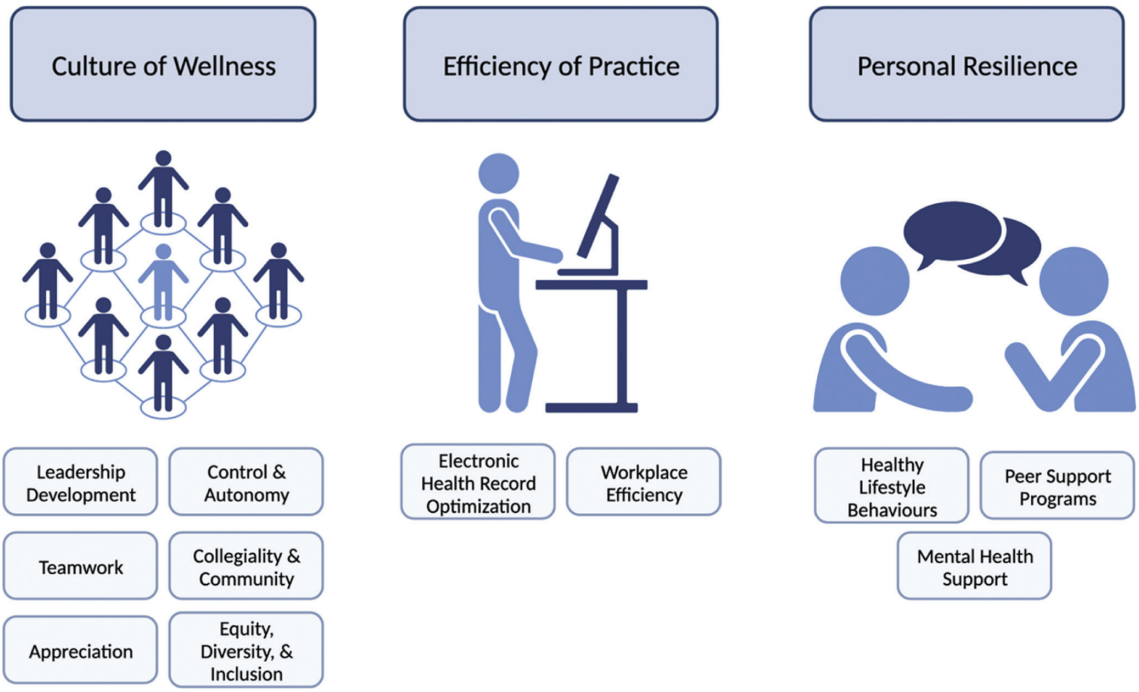

Figure 1. *Organizational strategies to improve physician well-being: Consensus review. Figure developed from: Olson K, Marchalik D, Farley H, et al. Organizational strategies to reduce physician burnout and improve professional fulfillment. Curr Probl Pediatr Adolesc Health Care. 2019;49(12):100664. doi: 10.1016/j.cppeds.2019.100664.*

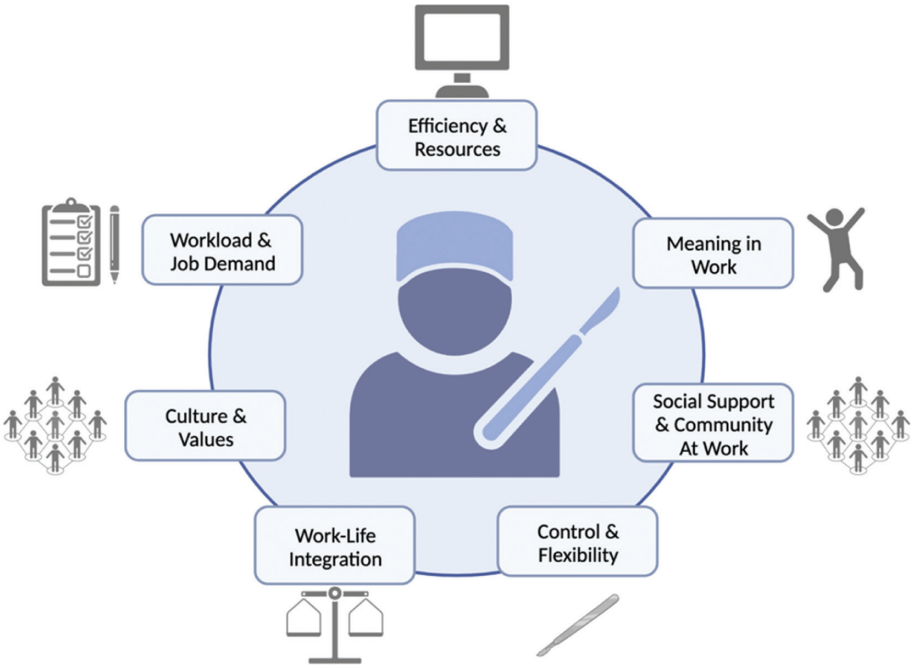

Figure 2. *Key drivers of burnout and engagement in physicians: Mayo clinic. Figure developed from: DeChant PF, Acs A, Rhee KB, et al. Effect of organization-directed workplace interventions on physician burnout: a systematic review. Mayo Clin Proc Innov Qual Outcomes. 2019;3(4):384-408. doi: 10.1016/j.mayocpiqo.2019.07.006.*

while urging institutions to refrain from placing the burden of addressing burnout on physicians themselves as individual strategies to combat burnout are less successful.[17,25]

Literature focused specifically on orthopaedic surgery has made similar recommendations. For example, OrthoCarolina (a large, private orthopaedic practice) reported intentionally developing a culture of wellness that improved physician well-being by: (a) harnessing leadership support and commitment (e.g., developing a medical director position charged with developing a culture of physician well-being and reporting to the Board of Directors); (b) setting small, achievable goals focused on critical behavioural changes; and (c) creating a nurturing work environment (e.g., establishing a formal mentorship program and organizing social activities, such as dinners, outside the workplace).[26]

It is imperative to acknowledge the similarities between the evidence-based strategies discussed so far. Burnout is a pervasive problem in medicine and as we have described, successful organizational strategies can be employed across disciplines and practice types to improve culture and well-being of the workforce. Orthopaedic surgery is no exception, with evidence to support that a sustained, intentional initiative can result in improved physician engagement and resilience.[26]

National Medical Association Approaches

In addition to evidence-based recommendations to address physician burnout, several national medical associations have incorporated these concepts and proposed strategies for reducing burnout and improving physician wellness. Organizations have adopted wellness strategies for physicians (e.g., American Medical Association and American College of Physicians), surgeons specifically (e.g., American College of Surgeons), and orthopaedic surgeons (e.g., Pediatric Orthopaedic Society of North America).[27-30] Although each has published articles proposing slightly different

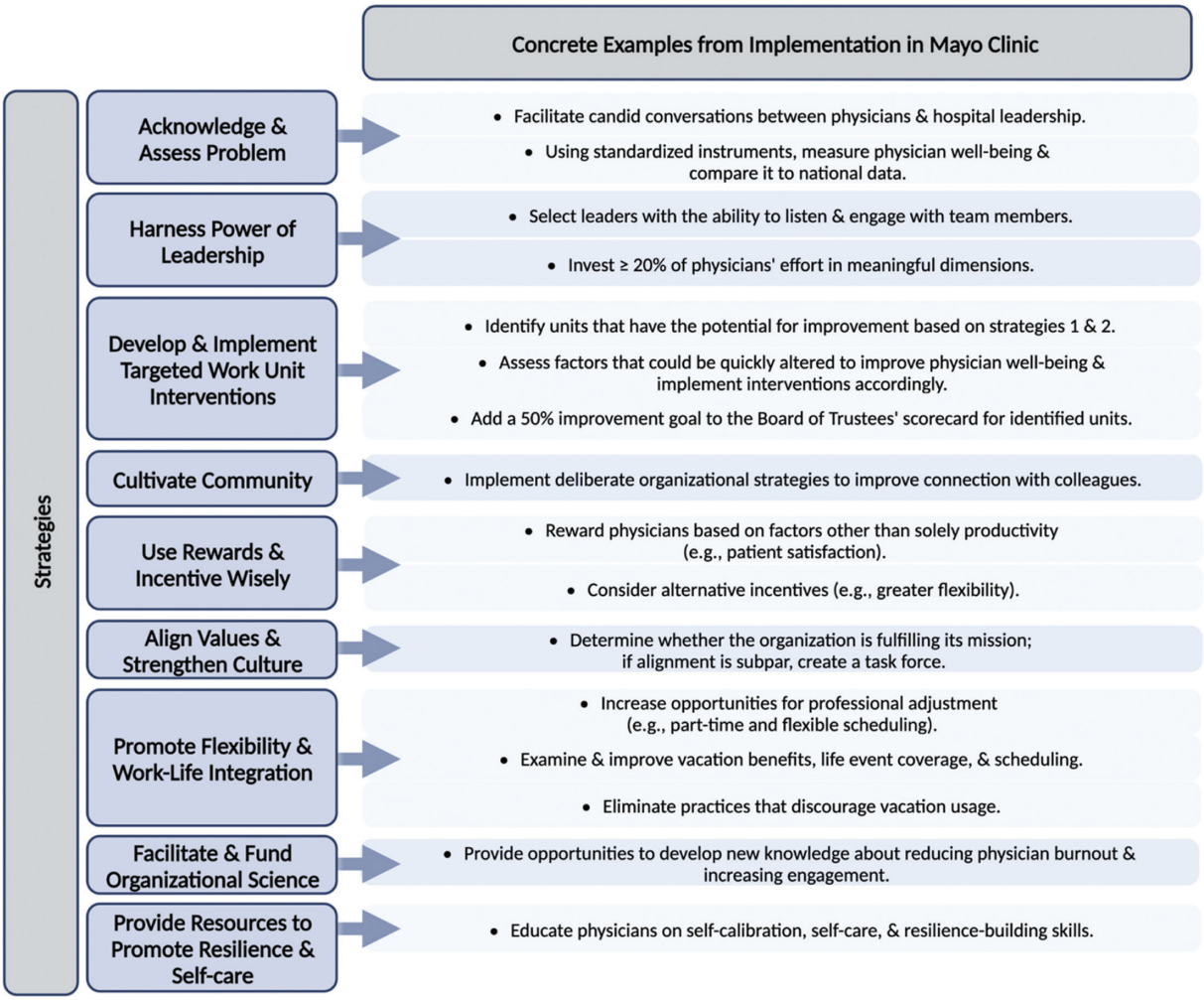

Figure 3. *Organizational strategies to reduce physician burnout: Mayo clinic.*
Figure developed from: DeChant PF, Acs A, Rhee KB, et al. Effect of organization-directed workplace interventions on physician burnout: a systematic review. Mayo Clin Proc Innov Qual Outcomes. 2019;3(4):384-408. doi: 10.1016/j.mayocpiqo.2019.07.006.

approaches, common themes among recommendations include: (a) establishing wellness as a quality indicator; (b) developing a wellness committee and/or a wellness champion role; (c) proactively working to reduce the stigma associated with burnout and mental illnesses; and (d) advocating for and implementing individual and system-level interventions to address burnout (Table 1, Appendix).[27,29-31]

There have also been numerous community organizations advocating for changes to improve physician well-being, often highlighting similar principles to those suggested by national medical associations. One example of this is the Dr. Lorna Breen Heroes' Foundation, an organization established to help healthcare providers cope with mental illness.[32] It recommended that: (a) clinicians be given more flexibility and autonomy; (b) low-value work be identified and removed through improvement processes; (c) frontline teams be provided with support; (d) a person with operational authority be appointed to oversee and align all clinician well-being efforts; and (e) adequate mental healthcare be provided via mental health counseling, peer-support programs, and psychological first-aid training.[32] Developing a wellness champion role, removing workplace inefficiencies, providing adequate resources, and proactively addressing burnout through

individual and system-level interventions parallel recommendations of the national medical associations.

Landmark Guidelines

In response to the growing epidemic of burnout in healthcare, evidence-based landmark guidelines have also been developed and released. At the end of September 2022, the WHO released its global guidelines on mental health at work.[33] Based on evidence presented in systematic reviews, it made conditional recommendations for the implementation of organizational interventions addressing psychosocial risk factors to improve work- and mental health-related outcomes. Workplace flexibility (e.g., flexitime and telework), participatory job design interventions, as well as performance feedback and rewards were among the approaches summarized.[33] The WHO also conditionally recommended implementation of: (a) psychosocial interventions designed to improve workers' stress management skills (e.g., mindfulness and cognitive-behavioral approaches); (b) opportunities for physical activity for workers (e.g., walking or yoga); and (c)

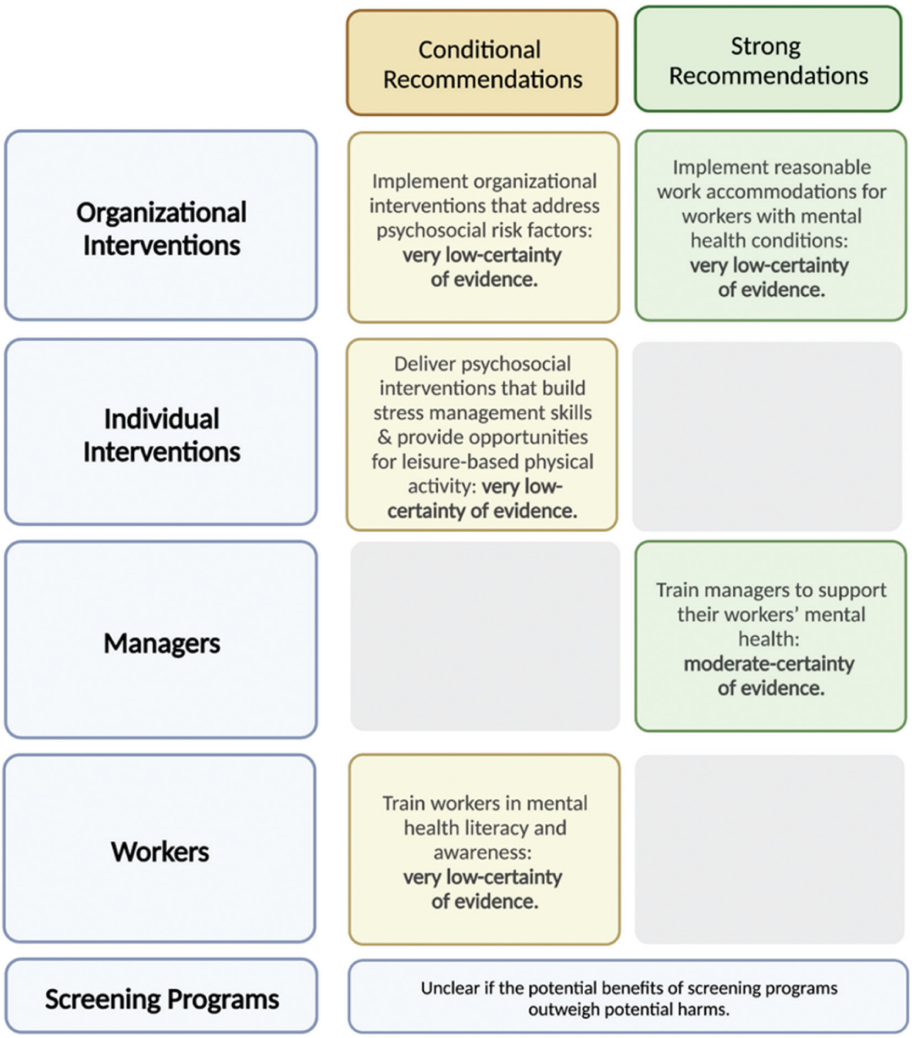

Figure 4. *WHO guidelines on mental health at work: Summary of key recommendations*.*
**Figure does not include all recommendations made within guidelines, please refer to original guidelines. Table developed from: World Health Organization. WHO Guidelines on Mental Health at Work. World Health Organization; 2022. Available at: https://apps.who.int/iris/handle/10665/363177.*

mental health literacy training for workers.[33] Of note, it considered the evidence supporting the aforementioned conditional recommendations to be of very-low certainty.[33] Using evidence deemed to be of moderate certainty, the WHO strongly recommended mental health training for *managers* in an effort to help prevent the formation of stressful workplace environments and to respond to workers who are distressed (Figure 4).[33]

Shortly following the release of the WHO guidelines, the NAM released their National Plan for Health Workforce Well-Being.[34] Unlike the WHO, whose guidelines speak broadly to improving workplace mental health, the NAM developed a national plan focused specifically on the health workforce. Mirroring their important 2019 consensus, *Taking Action Against Clinician Burnout: A Systems Approach to Professional Wellbeing*,[18] their national plan offers a framework for a systems-based approach to addressing physician burnout.[34] In it, the organization prioritized six key areas: (1) creating and sustaining positive work and learning environments and culture; (2) investing in measurement, assessment, strategies, and research; (3) supporting mental health and reducing stigma; (4) addressing compliance, regulatory, and policy barriers for daily work; (5) engaging effective technology tools; (6) institutionalizing well-being as a long-term value; and (7) recruiting and retaining a diverse and inclusive health workforce.[34] Each of the seven areas were further subdivided into subgoals with associated detailed action items for institutions to consider (Table 2, Appendix), described in detail in the full report.

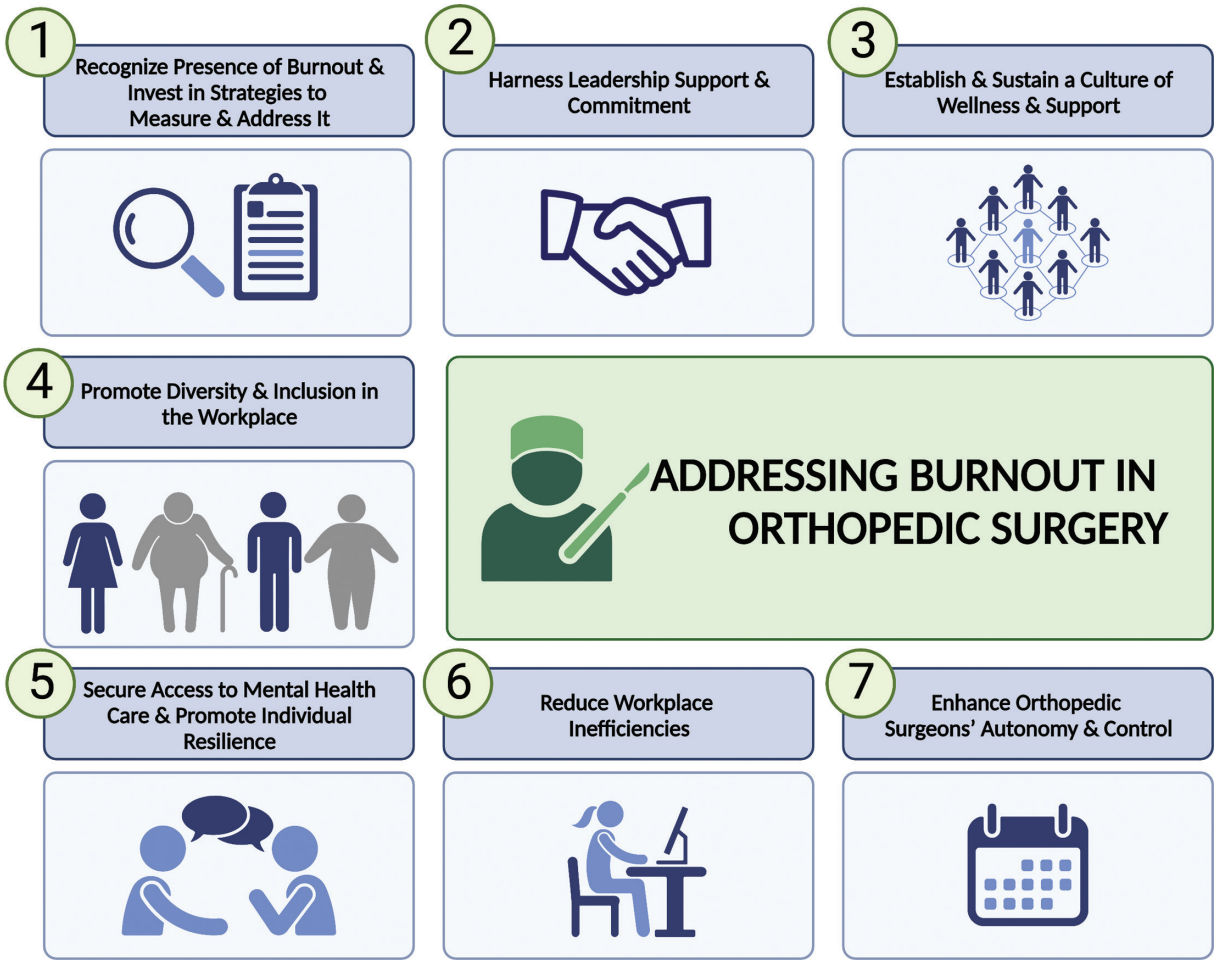

Figure 5. *Consolidated strategies for addressing orthopaedic burnout.*

Key Themes

Across the healthcare literature, clear themes emerge among recommendations made by researchers, national medical associations, community organizations, and landmark guidelines by the WHO and NAM. These recurring themes have been summarized as seven key recommendations for institutions below (Figure 5):

(1) Recognize the presence of burnout and invest in strategies to measure and address it:

- Measure burnout on a regular basis (e.g., annually) using standardized metrics.
- Compare institutional burnout rates with national benchmarks.
- Provide burnout data to executive management to assist in developing ongoing interventions.
- Following the implementation of burnout interventions, repeat measurements of burnout outcomes to aid in the adaptation of interventions.
- Provide opportunities for institutional leadership and orthopaedic surgeons to discuss burnout and develop appropriate interventions to address it.
- Invest in research initiatives that aim to measure and/or address burnout.

(2) Harness leadership support and commitment:

- Employ institutional leaders who are passionate about improving physician well-being.
- Develop a wellness committee and/or wellness officer role to oversee physician wellness and report to institutional leadership.
- As per above, create opportunities for institutional leadership and orthopaedic surgeons to collaborate on efforts to address burnout.

(3) Establish and sustain a culture of wellness and support:

- Incorporate wellness as a quality indicator.
- Reduce stigma surrounding burnout and mental illness (e.g., mental health literacy training for orthopaedic surgeons and managers).
- Set reasonable production expectations with appropriate resources.
- Limit the number of work hours, provide regular rest periods, and allow for flexible working arrangements.
- Implement team-based care models that allow each member to collaborate and contribute to their maximum ability.
- Establish dedicated relaxation areas (e.g., lounges) for orthopaedic teams.
- Eliminate practices that discourage vacation use.

(4) Promote diversity and inclusion in the workplace:

- Recruit, train, and retain providers from underrepresented and marginalized communities.
- Develop policies to ensure that discriminatory practices are reported and properly addressed in a timely manner.
- Increase parental leave duration and pay.

(5) Secure access to mental healthcare and promote individual resilience:

- Establish and sustain peer-support programs.
- Ensure that mental health services are available during hours when orthopaedic surgeons are not working.
- Promote healthy lifestyles by eliminating practices that discourage vacation usage, limiting the number of hours worked, providing regular rest periods, and providing scheduling flexibility.
- Provide training in mental health literacy and psychological first aid for orthopaedic surgeons and managers.

(6) Reduce workplace inefficiencies:

- Address inefficiencies in the use of electronic health records (EHRs) (e.g., hire scribes to reduce documentation burdens and automate tasks within EHRs).
- Improve inefficient workplace processes through team-based care models that enable each member of a team to collaborate and contribute to the maximum extent possible.

(7) Enhance orthopaedic surgeons' autonomy and control:

- Provide orthopaedic surgeons with the opportunity to shape their schedules, including flexible work schedules, telehealth (where appropriate), and part-time positions.

Conclusions

In this paper, we offer tangible system-level interventions for addressing burnout in orthopaedic surgery, including evidence-based organizational strategies, approaches suggested by national associations, and recommendations outlined by landmark burnout guidelines. In order to address burnout in orthopaedic surgery, we must resist the tendency to place responsibility on the surgeon and examine the system-wide factors that are at the heart of the issue. We therefore urge institutions to invest in system-level interventions to improve the work environment of orthopaedic surgeons, which will ultimately result greater professional satisfaction and optimized patient care.

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Disclaimer

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Appendix

Supplementary Information: System-Level Interventions for Addressing Burnout and Improving Professional Wellness for Orthopaedic Surgeons

Table 1. National Medical Associations: Recommended Approaches to Reducing Burnout and Improving Physician Wellness

National Association	Approaches To Reducing Burnout and Improving Physician Wellness
PHYSICIANS	
American Medical Association[1] (AMA)	1. Establish wellness as a quality indicator for your practice. 2. Start a wellness committee and/or choose a wellness champion. 3. Conduct an annual wellness survey. 4. Meet regularly with leaders and/or team members to discuss data and interventions to promote well-being. 5. Initiate selected interventions. 6. Repeat the survey within the year to re-evaluate well-being. 7. Seek answers within the data, refine the interventions, and continue to make improvements.
American College of Physicians[2] (ACP)	1. Limit work hours and offer flexible work arrangements. 2. Invest in leadership development. 3. Create a wellness committee, identify a wellness champion, and create a wellness toolbox. 4. Establish wellness as a quality indicator for the practice. 5. Conduct facilitated physician discussion groups incorporating elements of mindfulness, reflection, shared experience, and small-group learning. 6. Establish a culture (time, space, training) in which teamwork and relationships are prioritized. 7. Provide relationship-centered communications skills training for physicians. 8. Conduct workflow and quality improvement projects aimed at addressing clinician concerns. 9. Implement the "Listen-Act-Develop" model. 10. Proactively work to reduce the stigma associated with mental illness to encourage clinicians to seek help when they need it.
SURGEONS	
American College of Surgeons[3] (ACS)	1. Decrease stigma around surgeon distress. 2. Address adverse effects of decreased surgeon well-being. 3. Promote surgeon-resilience through education, resources, and tools. 4. Increase work-life integration. 5. Advocate for system level changes in programs, organizations, hospitals, institutions, and government agencies to improve surgeons' professional and personal wellness.
ORTHOPAEDIC SURGEONS	
Pediatric Orthopaedic Society of North America[4] (POSNA)	1. Redesign postgraduation fellowship education: streamline clinical care to increase efficiency. 2. Redesign healthcare deliver: reduce burdens from electronic medical records, regulations, documentation, and reimbursement. 3. New research agenda: explore workforce wellbeing and culture change strategies.

Table 2. NAM National Plan for Health Workforce Well-Being: Summary of Key Priority Areas, Goals, and Actions*

7 Key Priority Areas	Associated Goals and Actions
Create and sustain positive work and learning environments and culture	1. Culture of well-being is integrated into program operations, human resource management, services, and curricula. *Example action: Set reasonable productivity expectations with adequate resources.* 2. Setting are diverse, equitable, accessible and inclusion. *Example action: Establish policies to support timely reporting of and response to discriminatory behaviors.* 3. There is increased retention and decreased turnover of health workers. *Example action: Ensure health workers' meal and rest breaks are expected and routine.* 4. Leadership recognizes negative impacts of health workers burnout and fosters a culture of well-being. *Example action: Invest in well-being leadership roles, such as Chief Wellness Officers.* 5. Accountability standards and best practices for well-being are adopted. *Example action: Establish and implement accountability measures and incentives for leaders.*
Invest in measurement, assessment, strategies, and research	1. Burnout and well-being of health workers and learners, and the drivers of workplace stress, are routinely measured. *Example action: Measures the prevalence and drivers of health worker and learner burnout and distress, using an existing validated tool with established benchmarks.* 2. A national commitment is made to invest in research, strategies, and partnerships to improve health worker and learner well-being. *Example action: Enhance wide-scale uptake of implementation best practices to improve well-being and decreased burnout.*
Support mental health and reduce stigma	1. The mental health workforce is strengthened with increased number of practitioners. *Example action: Train, recruit, and retain additional mental health professionals to provide care for the health workforce.* 2. Adequate mental health services are available, easily accessible, confidential, dignified, paid for, and health workers and learners are encouraged to use them. *Example action: Provide quality mental health services and hours of availability for when health workers are not working.* 3. Stigma and barriers are reduced for health workers and learners to disclose mental health issues and utilize mental health services. *Example action: Educate public and health workforce about benefits of mentally health workers.* 4. Health workers and learners do not experience unnecessarily punitive actions when seeking mental health services. *Example action: Establish accountability frameworks for ensuring psychologically safe working and learned environments that prevent discrimination against workers and learners disclosing mental health challenges.* 5. Access to mental health resources is correlated with improved health worker well-being. *Example action: Track use of mental health services to ensure programs are designed to meet needs of health workers.*

Table 2. Continued

7 Key Priority Areas	Associated Goals and Actions
Address compliance, regulatory, and policy barriers for daily work	1. Time spent on documentation is reduced to provide more time for meaningful professional activities and personal well-being. *Example action: Revise policies and requirements for documentation that do not contribute to quality patient care.* 2. Policies address hybrid, virtual, and in-person workflows to facilitate work-life integration and responsive patient care. *Example action: Assess how virtual and in-person workflows connect and support each other.* 3. Prior authorization requirements are reimagined in a manner that places a focus on supporting quality patient care while also reducing unnecessary burden on health workers. *Example action: Eliminate prior authorization requirements if validated clinical decision support tools are used.* 4. Requirements are streamlined for health workers to comply with regulations and policies. *Example action: Standardize licensure processes, pre-populate necessary documents, and standardized timelines.* 5. Interstate practice is simplified and virtual services are easy for health workers and patients to use. *Example action: Expands virtual care for patients where such care is safe and effective.*
Engage effective technology tools	1. Health IT is user friendly and affordable, and meets standards co-designed with users. *Example action: Promote interactions of stakeholders to design and improve documentations systems that are more health- and human-centered.* 2. Health IT is interoperable across disciplines and platforms to enhance team-based care and continuity of care. *Example action: Encourage adoptions of existing interoperability standards and development of enhanced standards.* 3. Technology innovations improve both patient care and workload of health workers. *Example action: Establish joint public-private fund for technology and EHR optimization to improve workloads and workflows.* 4. Technologies facilitate increased personal connections with patients. *Example action: Automate processes to streamline healthcare team's workflow to allow health workers to focus on listening to patients and increase patient safety.* 5. The use of technology is understood and established as an enabler to streamline care. *Example action: Employ technology tools to maintain personal safety when treating communicable disease or calling on other experts.*
Institutionalize wellbeing-being as a long-term value	1. Health worker and learner well-being are prioritized, reflected in, and operationalized in strategic plans and core values. *Example action: Commit to infrastructure, resources, accountability, and a culture that supports well-being.* 2. The effects of COVID-19 on the well-being of health workforce are addressed. *Example action: Secure long-term funding to treat and support those who experience acute physical and mental stress and long-term effects form providing care in responses to COVID-19.* 3. A strong and coordinate national public health infrastructure has a thriving public health workforce. *Example action: Re-invest in public health workforce through training and education opportunities.*

Table 2. Continued

7 Key Priority Areas	Associated Goals and Actions
Recruit and retain a diverse and inclusion health workforce	1. Recruit and retain a diverse and inclusive health workforce. *Example action: Train, hire, and retain people from underrepresented and marginalized communities in healthcare and public health.* 2. The health system retains health workers who have personal caregiving responsibilities. *Example action: Increase duration of and pay for parental leave. Invest in and improve childcare opportunities.* 3. Healthcare environments are person-centered and safe for health workers. *Example action: Create clear criteria for the appropriate use of mandatory overtime to ensure it is applied only in emergencies.* 4. Health workers have the infrastructure to support their work to improve population health. *Example action: Provide greater flexibility for Medicare Advantage to reimburse health workers for addressing social determinates of health.* 5. Health workers and learners are inspired and equipped to meet the challenges of caring for the nation. *Example action: Create incentives to facilitate team-based care.*

*Table does not include all recommendations made within guidelines, please refer to original guidelines.[5] Table developed from: National Academy of Medicine. National Plan for Health Workforce Well-Being. Washington, D.C.: National Academies Press; 2022:26744. doi: 10.17226/26744.

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