How data-driven insights and coaching promote health and performance for clinicians
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INTRODUCTION: THE HEALTHCARE BURNOUT EPIDEMIC

“[Healthcare workers] are wounded; they’re bruised. We’ve got quite a crisis brewing.”
—Dr. James Jackson, Director of Long-Term Outcomes at Vanderbilt University Medical Center

The COVID-19 pandemic pushed an already overworked and at-risk healthcare system to its limits. PPE shortages, high patient volumes, elevated risk of infection, and innumerable hospitalizations and deaths have all contributed to a daily work environment that has been compared to a war zone. And no one is exempt: From frontline workers to employees in administrative roles, the profound physical and emotional impact of the pandemic has been felt deeply across the entire healthcare spectrum.

And yet, pre-pandemic, up to 50% of U.S. physicians were already experiencing burnout.

We explore how the pandemic fundamentally transformed care delivery and exacerbated an ongoing wellness crisis among healthcare providers. Beyond unpacking one of the most pressing health issues of our time, we propose a solution for building more resilient healthcare organizations—by equipping clinicians with the tools, technology, and coaching they need to endure and thrive in the face of unpredictable global health issues and challenges. When clinicians are empowered to prioritize their own mental and physical health, they can deliver higher quality care, drive patient engagement, reduce risk, and achieve better health outcomes. Let’s find out how.

1 Healthline, “The Shadow Pandemic: COVID 19’s Impact on Healthcare Workers’ Mental Health”
2 The Guardian, “It’s a war zone: healthcare workers show signs of stress similar to combat veterans”
3 National Institute of Health, “Beyond Burnout: Responding to the COVID-19 Pandemic Challenges to Self-care”
A DOMINO EFFECT IN THE HEALTHCARE ECOSYSTEM

In the wake of the pandemic, many hospitals and healthcare organizations are experiencing financial uncertainty. In an effort to increase profitability, these organizations are merging with bigger hospital systems and intentionally understaffing to cut costs.

As a result, clinicians have to see more patients to ensure financial stability. Amid this understaffing and increased demand, clinicians are overworked and under-rested.

When clinicians are faced with extreme stress, lack of sleep, or health issues, the potential impact is two-fold: one, a frontline healthcare professional working at reduced capacity; and two, a patient isn’t receiving optimal care. Furthermore, when clinicians are overworked and exhausted, the risk of accidents or errors increases.

And while physicians exhibit higher levels of resilience than the general working population, burnout rates are still significant among even the most resilient physicians. A study published in the Journal of the American Medical Association (JAMA) found that 29% of physicians with the highest levels of resilience still experienced burnout.

To complicate matters, healthcare leaders and administrative employees are ill equipped to evaluate the safety, readiness, and resilience of their teams. They lack insight into how clinicians are showing up to work each day—particularly in terms of sleep and mental capacity. This perpetuates a culture of burnout that can lead to errors, along with healthcare providers who don’t feel supported or understood by their employers.

NICU physician Dr. Anthony Orsini recognizes the impact of this in neonatology, “There is evidence to suggest that after a nurse experiences a baby’s death, they are more likely to commit a medical error during the rest of their shift.”

Left unaddressed, this problem permeates the overall patient experience. If clinicians aren’t feeling healthy themselves or showing up to work at their prime, they aren’t providing a great example of how patients can do that for themselves. Increasingly, we’re seeing that if patients aren’t encouraged to take control of their health by those responsible for their care, they’re less likely to initiate meaningful conversations with their providers and even less likely to be active participants in their health journey.

Improving population health requires every piece of the care puzzle to work in harmony—and that necessitates greater visibility into what providers need to deliver optimal care.


6 The Orsini Way, “Reaching Peak Performance in Medicine”
7 WHOOP, “WHOOP Partners with Datavant to Connect Wearable Data for Holistic Patient Health Insight”
HOW CLINICIANS’ WELLNESS AFFECTS PATIENT CARE

Prior to the pandemic, clinicians’ physical and mental health was a significant public health concern. In a 2018 report that surveyed more than 15,000 physicians across 29 specialties, 42% reported burnout.⁹

A plethora of factors contribute to elevated stress among healthcare workers, including:¹⁰

- Heavy workloads
- Long shifts
- Fast-paced work environments
- Lack of physical or psychological safety
- Moral conflicts
- Perceived job security
- Workplace-related bullying or lack of social support

The nature of this inherently high-stress field—where life and death are frequently on the line—puts healthcare workers at heightened risk for anxiety, depression, insomnia, moral distress, post-traumatic stress disorder, and burnout.¹¹ And no role is immune: Everyone from nurses and hospital administrators to attending physicians, emergency department staff, specialists, and technicians can feel the pressure.

The arrival of the pandemic elevated those pressures exponentially. Healthcare workers had to quickly adapt to accommodate a tremendous influx of patients and completely new care modalities with the rise of virtual care and telemedicine.

In the wake of these unprecedented challenges, a 2020 survey of 1,119 healthcare workers found that 93% of workers were experiencing stress, 86% reported anxiety, 77% reported frustration, and 76% reported exhaustion and burnout.¹² Beyond stress, anxiety, and frustration, sleep deprivation from longer and extra shifts has also taken a toll on healthcare workers.

“We are needed. It’s not an option, we are needed. How can we do this better? How can we have longer, healthier careers?”

Dr. Jamie Coleman,
Trauma Surgeon and WHOOP user⁸
THE IMPACT OF SLEEP DEPRIVATION ON CLINICIANS

The same study on healthcare workers’ mental health found that nearly all of the frontline healthcare workers surveyed on social media reported poor sleep, while over one-third reported insomnia. Factors contributing to reduced sleep duration and quality included children and family, work demands, personal health, and pandemic-related sleep disturbances.\(^\text{13}\)

It’s no secret that people need enough sleep to operate at their best—especially in demanding healthcare environments. But the impact of sleep on performance is bigger than many people realize. In a study with the University of Queensland and McKinsey’s Executive Leadership Program in Australia, WHOOP discovered that:

- For every 45 minutes of sleep debt accrued, individuals experienced a 5-10% decrease in mental control the following day.\(^\text{14}\)
- Conversely, for every 30 minutes of slow wave sleep gained, individuals saw a 5-10% increase in mental control the next day.\(^\text{15}\)

Another recent WHOOP study, done in collaboration with leading scientists at Harvard University, Austin Health, and Monash University, explored how the COVID-19 pandemic has impacted American adults’ physical and mental wellness.\(^\text{16}\) The results of this report, coined the COVID Resilience Project, were eye-opening:

- More people are dealing with mental health challenges than before, with American adults reporting 3 to 4 times the prevalence of anxiety and depression symptoms.
- Those who slept sufficiently before the pandemic were less likely to experience a mental health decline, even if they slept less during the pandemic.
- People who slept less than 6 hours a night had 1.8 times the odds of anxiety or depression symptoms and 1.6 times of burnout symptoms compared to those who slept more than 7 hours per night.
- Along with the amount of sleep, research found that sleep consistency (going to bed and waking up at similar times each day) was a better predictor of mental health resilience during the pandemic than sleep duration.\(^\text{17}\)

And the hard truth is that *30% of employed U.S. adults typically sleep six hours or less in a 24-hour period.*\(^\text{18}\) Both chronic and acute sleep deprivation pose serious risks. Chronic sleep deprivation can lead to increased risk of obesity, Type II diabetes, cardiovascular disease, dementia, cancer, or depression while acute sleep deprivation can lead to reduced coordination, energy expenditure, and focus—as well as increased anxiety and stress hormone production.\(^\text{19}\)

\(^\text{13}\) National Institutes of Health, *Sleep Disturbances in Frontline Health Care Workers During the COVID-19 Pandemic*
\(^\text{14}\) WHOOP, *The Optimal Sleep Playbook: Managing Sleep Debt with WHOOP*
\(^\text{15}\) WHOOP, *Understanding Sleep Cycles and the Stages of Sleep*
\(^\text{16}\) WHOOP, *Podcast 129: How Sleep Affected Mental Health During COVID-19*
\(^\text{17}\) WHOOP, *“There’s More to Sleep than Sleep Need: The Importance of Sleep Consistency”*
\(^\text{18}\) Centers for Disease Control, *Sleep and Sleep Disorders*
\(^\text{19}\) WHOOP, *“Ask WHOOP: What are the Consequences of Sleep Deprivation?”*
For healthcare professionals, the risks associated with sleep deprivation are high. A 2020 JAMA study found that lack of sleep is associated with 97% greater odds of self-reported significant medical errors among physicians.\(^\text{20}\)

**INTERCONNECTED ISSUES: DEPRESSION, ANXIETY, AND BURNOUT**

The World Health Organization (WHO) defines burnout as an “occupational phenomena” that stems from chronic workplace stress. Healthcare professionals experiencing burnout may feel emotionally or physically exhausted, mentally distant from work, negative or cynical about their job, and less productive overall.\(^\text{21}\) While burnout isn’t classified as a medical condition, this work-related stress syndrome has a profound impact on frontline workers’ health.

Yet, because of the stigma around mental health issues in the medical community, physician depression is often under-reported and under-treated. As a result, physicians are unlikely to seek professional treatment and may feel they have nowhere to turn when struggling with substance abuse, depression, and suicidal thoughts.\(^\text{24}\)

Physical exhaustion and anxiety also disproportionately affect healthcare professionals. A 2020 survey shows that 68% of healthcare workers have experienced physical exhaustion, and 63% report work-related dread. Another 39% feel they don’t have adequate emotional support in their role.\(^\text{25}\)

The bottom line? Healthcare providers urgently need more support to perform at the highest level—in order to provide patients with the quality care they need to thrive.

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\(^{20}\) JAMA Network, *Assessment of Physician Sleep and Wellness, Burnout, and Clinically Significant Medical Errors*

\(^{21}\) World Health Organization, *Burn-out: International Classification of Diseases*

\(^{22}\) WHOOP, Podcast No. 65: Jaimee Coleman, Trauma Surgeon, Author, Professor

\(^{23}\) The Washington Post, “Doctors die by suicide at twice the rate of everyone else. Here’s what we can do.”

\(^{24}\) National Institutes of Health, “Burnout, Drop Out, Suicide: Physician Loss in Emergency Medicine, Part 1”

\(^{25}\) Mental Health America, *The Mental Health of Healthcare Workers in COVID-19*
In recent years, growing recognition about the importance of mental wellness has helped to reduce the stigma around burnout. From meditation apps and virtual counseling to wellness stipends, there is no shortage of solutions on the market right now to address this crisis. And while these wellness initiatives can be beneficial to clinician health, it can be difficult to measure their impact on clinician wellbeing.

What’s more, many of these options put the onus on healthcare workers alone to improve their mental wellness and resilience. Without the education and support to use these tools effectively, these wellness initiatives don’t necessarily solve the burnout problem—or promote resilience.

ICU physician Dr. Anthony Orsini recounts an observation during a recent visit to a hospital, “They had a chart on the wall that recommended actions nurses should take if they felt overwhelmed. The options were to get a massage, go for a run, and similar activities. Two nurses passed by and chuckled at this sign. They said—‘Well, if I had time to do all that, I wouldn’t be burnt out in the first place.’” This attempt to address stress and burnout fell flat in cultivating any meaningful behavioral change.

In the healthcare ecosystem especially, creating lasting behavioral change requires data—specific, personalized insights that can transform how every healthcare professional shows up to their job each day and how leadership supports their hardworking teams.

A 2019 study measuring the prevalence of burnout in orthopedic surgeons used WHOOP to determine if there was a correlation between clinician-specific variables (like age, gender, total hours worked, average sleep) and burnout. The results revealed that the number of overnight calls significantly put clinicians at higher risk of burnout.

WHOOP not only helps providers understand how work-related stressors and personal behaviors influence risk factors and delivery of care; at an aggregate level, it demonstrates to leadership and administrators how they can support staff. Identifying predictors of burnout—a department that’s juggling an unmanageable amount of overnight calls, for instance—allows teams to address these risk factors and reduce burnout.

This is only possible with the right tools and education.

26 The Orsini Way, “Speaking the Truth: Debriefing Nurse Leaders”
27 Arthroscopy, Sports Medicine, and Rehabilitation, The Measurement of Orthopaedic Surgeon Burnout Using a Validated Wearable Device
EMPOWERING PROVIDERS WITH PERSONALIZED HEALTH INSIGHTS

Healthcare organizations have a responsibility to protect their employees’ physical health as well as their mental wellness. This commitment means giving providers the tools they need to succeed—and making sure they know how to use them.

WHOOP is facilitating this process by equipping physicians, home care workers, ER doctors, administrative staff, and the entirety of the healthcare community with technology, education, and coaching to create a more holistic, supportive, and connected healthcare ecosystem.

How exactly? The WHOOP technology analyzes key health metrics like sleep trends, biometric data, and daily activity to give employees knowledge that enables them to take control of their own health, while helping employers gain insight into the stressors and challenges that their people are managing—on and off the job.

With an easy-to-use wearable and personalized insights delivered through an intuitive mobile app, WHOOP makes data easily accessible. Clinicians can understand how their habits and behaviors impact their bodies—and then take action to make lasting behavioral changes to their personal and professional lives.

What does this look like in everyday practice? Individuals can better understand how their habits and behaviors affect their health by logging their daily habits in the WHOOP Journal.28 This might take the form of tracking:

- When they’re on a night shift or on call
- Emotional or physical state after long shifts
- Sleep habits
- Reproductive health
- Bedtime routine
- Daily water consumption
- Medication
- Nutrition choices

28 WHOOP, “The WHOOP Journal”
The Monthly Performance Assessment\textsuperscript{29} helps individuals compare how their schedules and habits may affect their recovery and sleep over the course of the month, enabling them to more easily digest and interpret data.

For trauma surgeon Dr. Jamie Coleman, WHOOP offers vital education about the importance of sleep. “The biggest thing is consistency and rest,” she explained. “We get very little education about sleep during medical school...one of the cool things for me is delving into a whole new area of science and a whole new area of physiology that we don’t get much training about.”

Instead of navigating these health insights independently with little to no guidance, WHOOP provides individuals with the additional support of in-app education and coaching. Personalized feedback about how to understand health data and reach sustainable goals communicates that everyone’s needs matter—and that one size doesn’t fit all when it comes to prioritizing mental wellness.

For hospital administrators, leaders, and researchers, these insights are essential to help transform healthcare policies, promote cultural change, and prioritize more reasonable schedules for healthcare workers.

In 2020, researchers at Penn State College of Medicine conducted a study to determine how WHOOP can measure wellness and predict burnout among resident physicians. Led by Dr. Alexander Hajduczok, a third-year internal medicine resident at Penn State Health Milton S. Hershey Medical Center, the study was designed to increase awareness around burnout in residency, and identify warning signs earlier on.

“Everyone across the medical education spectrum, from medical students to residents to attendings, experiences stress,” Hajduczok explained. If leaders could identify these warning signs of burnout early on, they could take action to optimize resident schedules, and encourage healthy behaviors such as self-reflection and exercise.\textsuperscript{30}

\begin{thebibliography}{99}
\bibitem{29} WHOOP. “The WHOOP Monthly Performance Assessment and How to Interpret Data”
\bibitem{30} WHOOP. “Researchers Use WHOOP to Measure Resident Wellness, Prevent Burnout”
\end{thebibliography}
BUILDING RESILIENT ORGANIZATIONS—FUELED BY HEALTHY CLINICIANS

The past few years have significantly impacted the healthcare system—for better and for worse. While the rise of telemedicine continues to increase healthcare accessibility and drive patient engagement, the impact of provider burnout can no longer be ignored.\(^{32}\)

The silver lining is that healthcare organizations are increasingly prioritizing mental wellness in meaningful, measurable ways to give their employees the support they need, build proactive patient-physician relationships, and achieve better health outcomes. WHOOP is trailblazing a new way forward for healthcare and beyond—by providing actionable, wrap-around support that providers can implement in their lives right away.

Build a healthcare system wired for resilience, retention, and stronger health outcomes by giving clinicians, administrators, and every healthcare professional in between the tools they need to mitigate burnout—and reach their full potential.

\(^{31}\) WHOOP, Podcast No. 65: Jamie Coleman, Trauma Surgeon, Author, Professor
\(^{32}\) Health Tech, “How Telemedicine Helps Healthcare Organizations Improve Patient Engagement and Satisfaction”

“The best preparation for us in the hospital is what we’re doing outside of the hospital...and WHOOP gives us a whole new insight into that.”\(^{31}\)

Dr. Jamie Coleman, Trauma Surgeon
GET STARTED

Visit WHOOP for Healthcare to learn how WHOOP can help you enable a more connected and engaged healthcare community—beginning with healthy clinicians.