

The New  
Normal



## **Managing the impact of caregiver stress and trauma in the COVID-19 era: a strategy toward resilience-building**

A thought leadership paper on “Improving patient experience”  
co-authored with James S. Gordon, MD, The Center for Mind-Body Medicine

# Preface

## The Insights Series

The Siemens Healthineers **Insights Series** is our preeminent thought leadership platform, drawing on the knowledge and experience of some of the world's most respected healthcare leaders and innovators. The Series explores emerging issues and provides you with practical solutions to today's most pressing healthcare challenges.

We believe that increasing value in healthcare – delivering better outcomes at lower cost – rests on four strategies. These four principles serve as the cornerstones of the **Insights Series**.



## The New Normal

**The New Normal** is a special edition of our **Insights Series** focusing on the COVID-19 pandemic. This series provides recommendations on how to confront the current SARS-CoV-2 outbreak and its implications, as well as strategies and ideas on how to emerge from the current crisis stronger, more resilient, and better prepared to address the healthcare challenges that lie ahead.

Please visit [siemens-healthineers.com/insights-series](https://www.siemens-healthineers.com/insights-series)

# Executive summary

**The COVID-19 pandemic has had a devastating global impact and one of the sectors that has been hit hard is healthcare. Its leaders and staff have, at times, been asked to make unthinkable life and death decisions. For many, this has come at an overwhelming physical, mental and emotional price – the extent of which will not be fully realized for years to come. The ability of healthcare leaders to address their staff’s trauma and stress will be essential to their organization’s long-term viability and the future of patient care.**

## Trauma and healthcare

The U.S. Substance Abuse and Mental Health Services Administration (SAMHSA), defines trauma as “an event, a series of events or a set of circumstances that is experienced by an individual as physically or emotionally harmful or life threatening.”<sup>1</sup> Stress, trauma, and related “burnout” are not new phenomena for healthcare providers. According to the National Academy of Medicine as many as half of the doctors and nurses in the United States have experienced it, resulting in increased risks to patients, malpractice claims, worker absenteeism and turnover costing the medical industry billions of dollars in losses every year.<sup>2</sup> While it’s impossible to determine the full impact stress-related trauma from COVID-19 will have on frontline staff, initial studies from China indicate it has already taken a great toll there with some 50.4% of those surveyed reporting symptoms of depression, 44.6% reporting symptoms of anxiety and 34.0% reporting symptoms of insomnia.<sup>3</sup>

Doctors and nurses are notoriously skeptical patients and can be particularly resistant to addressing their own mental health issues.<sup>4</sup> Many have been “programmed” to cope alone or may not feel they have the time to seek

treatment. Still others fear the impact of stigma and the possibility their mental health concerns might make it harder for them to obtain licensure in the future. This makes it even more critical – and difficult – to offer them the support they need to ensure their long-term well-being.

For almost 30 years, the Washington DC-based Center for Mind-Body Medicine (CMBM) has been a leader in developing strategies and techniques to successfully address population-wide psychological trauma. Their international faculty has trained more than 6,000 health professionals, educators, and community leaders around the world in their pioneering mind-body medicine model of self-care, self-awareness, and group support.<sup>5,6</sup>

At a time like this, as the world struggles with the COVID-19 pandemic, the CMBM’s proven techniques and expertise are of particular value. This paper looks at some of the innovative ways in which the CMBM has helped individuals and communities in the past, and the insights they have acquired. It also presents practical suggestions on how these evidence-based techniques can be applied and what healthcare providers can, and should, learn from them.

# The challenge

The COVID-19 pandemic has already had devastating global consequences. Few foresaw how quickly it would spread, leaving many countries unable to fully address the public health crisis to follow. Early on, it became apparent that many hospitals in the hardest hit areas were not adequately prepared to protect their staff and safely care for patients, leading to increased anxiety in both

healthcare leaders and their staff. There was a lack of basic personal protective equipment (PPE). In countries around the world, ICUs reached capacity and concerns over ventilators and related life and death decisions left staff overwhelmed. Difficult choices had to be made. Fear grew and stress levels increased.

Simultaneously, healthcare leaders watched as their revenue plummeted. Elective surgeries were cancelled, and patients were either told to or chose to stay at home to minimize the possibility of contracting the virus. Meanwhile, in the United States, a Health Affairs study found that a single hospitalized case would cost a median of \$14,366 during the course of the infection.<sup>7</sup> For those hospitals already struggling financially, the consequences may prove disastrous. Stories quickly began to circulate online about layoffs and staff being moved into new roles in ICUs without sufficient training, while the numbers of infections and deaths continued to rise.

## COVID-19 impact on healthcare system\*



A single hospitalization would cost a median of **\$14,366** during the course of the infection.<sup>7</sup>



\* Figures from U.S.

# The impact

It is clear, healthcare systems will not be the same after COVID-19. Healthcare professionals have faced unprecedented challenges at a tremendous personal cost. In addition to overwhelmingly stressful and sometimes traumatic work situations, many faced loneliness and isolation at home, as they were forced to distance themselves from loved ones whom they feared they might infect. The healthcare systems and the way they did things before were disrupted. In the wake of this crisis many have been left feeling uncertain of what the future holds.

Each person's experience of trauma is unique. It affects them differently and at different times. Even prior to COVID-19, post-traumatic stress disorder (PTSD) was more prevalent in healthcare providers (about 15%) than in the general population (3% to 4%).<sup>8</sup> Some healthcare providers have already begun to exhibit visible indications of it, becoming emotionally avoidant, or having bouts of uncontrollable anxiety, sadness or shame.<sup>9</sup> The impact of traumatic events can be deceptive and even destructive – but what is certain is they will have an impact.

## COVID-19 impact on healthcare workers\*



### Consequences include:

- Increased rates of illness
- Operational troubles at healthcare facility
- Personal consequences (motivation, enthusiasm for job, ...)



\* Figures from China

Those able to cope now, may suddenly find it difficult to function later. It may become increasingly hard for them to focus and regulate their emotions. They may begin to take more sick days as their immune systems and general well-being are compromised by the persistent stress. As the National Academy of Medicine noted, the effects of stress are not only worrying for healthcare professionals but also for its effect on patient care and outcomes. Staff who feel they were not well-protected or cared for during the pandemic may become disgruntled or disengaged. Some may choose to leave. Prior to COVID-19 many were already considering it. A survey of 23,000 hospital nurses in 10 countries in Europe reported that 9% of the nurses intended to leave their profession, varying from 5 to 17% between different countries.<sup>10</sup>

### Intended to leave their profession



9% of the nurses in 10 European countries intended to leave their profession,<sup>10</sup> potentially harming patient care and increasing organisational costs.



The Limeade Institute's 2019 white paper "The Science of Care", found that some 60% of workers who said they felt cared for planned to stay with their companies for three or more years, compared to only 7% of those who said they don't feel cared for.<sup>11</sup> The report defined "care" as providing what's necessary for the "health, welfare, maintenance and protection" of someone or something and their needs. This feeling of being "cared for" translates not only to higher retention rates, but also greater engagement in work (94% v. 43%); improved stress management (50% v. 14%) and lower burnout rates (56% v. 16%). This demonstrates that how health leaders support their staff now will likely have a lasting effect on health systems and the level of care they provide in the future.

During the pandemic many clinical settings and health systems were forced to change their longstanding practices and engage in or ramp up new initiatives, like new technologies, new processes, and new hygiene protocols, to protect patients from possible infection from COVID-19. While done to ensure patient safety, the required redesign and in some cases new technology, at times, added to the stress healthcare providers were already under, potentially placing patients at greater risk.<sup>12</sup>

# The solution

## What can be done for stress and trauma relief?

Traumatic events, such as facing a pandemic or the diagnosis of a life-changing disease, can trigger the body's sympathetic nervous system (SNS), releasing stress hormones and causing physical reactions, like a racing heartbeat, inhibited immune function, and high blood pressure. This is known as the "fight" (stay and react to the problem) or "flight" (escape the threat) response. Normally, the parasympathetic nervous system or "rest and digest" response is soon activated, and the vagus nerve tells the heart to slow down and conserve energy, calming the body after the danger has passed, usually within 20-30 minutes.

### Rest and digest response



The vagus nerve tells the **heart** to **slow down and conserve energy**, calming the body after the danger has passed, usually within **20-30 minutes**.<sup>5, 6, 16</sup>



### Outcome measures for participants of stress and trauma relief programs:

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- Improved mood, quality of life, and professional satisfaction
  - Significant decrease in levels of stress, burnout, depression
  - Improved job satisfaction and working relationships
  - Positive impact on health symptoms
  - Greater sense of meaning and purpose
-

When fight-or-flight persists long after the threat is over, or the threat is continuous, it may cause long-term physical and psychological damage and disorders, including hypertension, type II diabetes, major depressive disorder, and post-traumatic stress disorder (PTSD). Symptoms of PTSD may begin within weeks of the triggering event, or can take months, even years to manifest. They can be disabling, and include anxiety, irritability, difficulty sleeping and concentrating, or persistent emotional numbing and withdrawal. When these symptoms continue for long periods of time, they can significantly interfere with a person's work and home life.<sup>5, 6, 16</sup>

The Center for Mind-Body Medicine (CMBM) has frontline experience in developing and implementing trauma relief programs in places deeply affected by catastrophic events. They created one of the world's largest trauma relief programs in Gaza. In addition they worked in Haiti, helping to control the emotional toll of the devastation after the earthquake of 2010 and after Hurricane Matthew destroyed large parts of the island in 2016. Their first-hand experience has provided them with deep insights into the complex ways in which people react to situations of stress and trauma, and in how to develop successful stress and trauma relief programs.

## Mind and body reaction to an experience.<sup>19</sup>

### Anxious



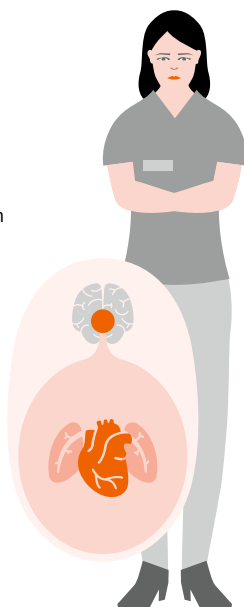
#### Reduces

- Mental processing capacity
- Digestion and nutrient absorption



#### Increases

- Emotionally sensitive and reactive
- Biomarkers in blood and saliva:
  - Catecholamines
  - Cortisol level
  - Alpha-amylase
- Heart rate
- Respiration rate
- Blood pressure



### Relaxed



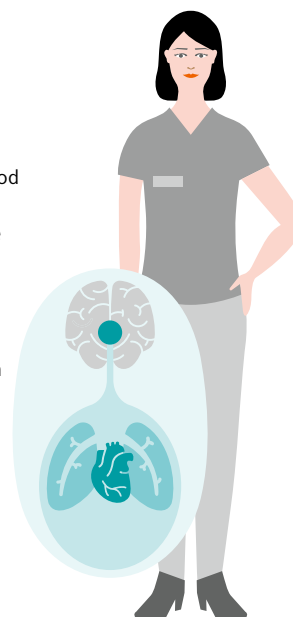
#### Increases

- Mental focus
- Biomarkers in blood or saliva: ACh
- Immune response



#### Reduces

- Emotional reaction
- Heart rate
- Respiration rate
- Blood pressure





## A three-part strategy for developing successful stress and trauma relief programs



### Part 1: Incorporating mind-body techniques as self-care for stress and trauma relief

Mind-body techniques like mindful breathing with the abdomen soft and relaxed, biofeedback, and guided imagery have been shown to be effective antidotes to the fight-or-flight response. Regular, daily mindful breathing activates the vagus nerve, quieting the fight-or-flight response, lowering blood pressure, improving immunity, decreasing anxiety, enhancing the person's capacity for concentration, and making them more compassionate toward themselves and others.

### Mind-body techniques



Techniques for self-awareness, self-care, and self-expression for stress and trauma relief.



Guided imagery has been found to be particularly helpful. The brain centers where images are formed are connected with the limbic or emotional brain, including the amygdala and hippocampus, and with the hypothalamus which controls the autonomic nervous system and its fight-or-flight and freeze responses. These connections make it possible to improve physical and mental functioning and reverse the damage done by trauma. These techniques have also been found to be particularly effective in reducing patients' preoperative and postoperative anxiety and pain after surgical procedures or when getting an MRI scan.<sup>13, 14</sup>

The value of incorporating self-care techniques has been well-documented. After a near fatal ski accident Mark T. Bertolini, the former CEO of Aetna, the international health insurer, used self-care techniques to heal. After having experienced the benefits first hand, he decided to offer a similar program to Aetna employees. This led to a change in culture and subsequent increase in productivity, which translates to staff gaining on average of 62 minutes per week, which Aetna estimates is worth \$3,000 per employee per year. Additionally, the company's healthcare costs fell 7.3 percent the first year, representing about \$9 million in savings.<sup>15</sup>



## Part 2: Benefiting from expert-led small groups

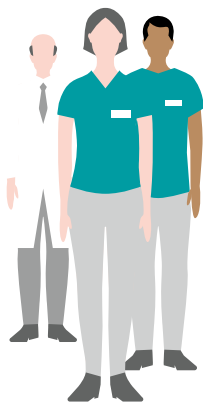
The Center for Mind-Body Medicine has found that being a part of a facilitated group significantly enhances participant outcomes. In their work with U.S. veterans, participants said they found it far more comfortable to engage with a group of peers than in individual sessions in which they often felt objectified and stigmatized. Over the years, many spoke of the camaraderie and of the benefits of feeling like they were “all in it together,” learning from and supporting each other.

Furthermore, CMBM has worked with small groups at healthcare facilities and medical schools. Since 1993, their trained faculty have been providing Mind-body Skills Groups (MBSG) for students at the Georgetown University School of Medicine. The program has since expanded to 15 U.S. medical schools with many other schools recognizing the benefits and including mind-body practices in their curriculum. A study of medical students who practiced these techniques showed many health benefits, including lowered levels of stress, improved mood, sleep, and academic performance, greater hopefulness about becoming physicians, and, importantly greater compassion for each other. Many noted that they were also able to use the skills they learned with the patients with whom they were working.<sup>16, 17</sup>

## Expert-led small groups



Promoting a  
feeling of trust,  
learning  
and supporting  
each other.



In response to the unprecedented stress and trauma of the COVID-19 pandemic, CMBM launched an online program of self-care and social support for healthcare workers and others afflicted by COVID-19. The majority of participants said that the techniques they learned gave them the balance they needed to deal with the fears and challenges of the pandemic, and that the group has been their single most important source of support.

*“Almost anyone who is committed to helping others can do this work. They have to be willing to learn the material and to use it to deal with their own psychological and emotional issues. We then teach them to share what they’re learning with others and provide ongoing supervision and mentorship.”*

James S. Gordon, MD



### **Part 3: Sustaining mind-body health by training the trainers**

Everyone, from radiologists to emergency medical technicians, go through the same, rigorous, evidence-based training program. They initially learn the science of mind-body medicine, and practice the skills themselves in the small, faculty-led groups that are a core part of the training and preparation required to lead the groups. In the advanced training, after intensive coaching sessions, the participants themselves lead the small groups, taking responsibility for teaching the science, as well as facilitating the group process. They then enter an intensive process of supervision and self-reflection, as they integrate the CMBM model into their ongoing work with individuals and families, and into the small groups they form.

In 2015, Eskenazi Health (Indiana), one of the largest safety net health systems in the U.S., partnered with CMBM to create a comprehensive wellness program for more than 4,500 employees and more than 100,000 patients in their care. More than 300 staff were trained in self-care,

stress-reduction, mind-body medicine, nutrition, exercise, and group support. The organization saw a substantial reduction in their previously escalating healthcare costs, which went from 5% growth per year to just 1% per year after the program was implemented.<sup>18</sup>

### **Training the trainers**



Sustaining mind-body health among care teams and improving the patient experience by **training the trainers**.



# Conclusion

## Healing after trauma

In the wake of the COVID-19 pandemic healthcare providers and the communities they serve will need programs to provide trauma relief and address ongoing stress. Without proper coping skills, many are likely to develop long-term psychological and physical disorders.

A deeper understanding of how stress and trauma can affect healthcare professionals is essential to protecting them – just when they are needed most. Taking steps to safeguard their health and well-being not only helps them safely navigate their own way through this crisis, it also helps ensure that patients can receive the care they so urgently need.

### Three specific strategies healthcare providers can implement toward resilience-building:

#### 1. Promote mental and physical self-care

Healthcare professionals need to know that it's okay, not to feel okay. They also need to feel that their well-being matters to their organization. Healthcare leaders should ensure that all staff have the skills they need to be mentally and physically well and resilient, so they can provide the best care possible for their patients – under any circumstance. Mind-body techniques such as mindful breathing, active meditation, movement, biofeedback, and guided imagery are part of the program to teach self-awareness, self-care, and self-expression skills.

#### 2. Incorporate stress and trauma relief into the workplace

Healthcare systems that incorporate proven and scientifically-based mind-body medicine programs in small group formats and support their staff now will have more positive long-term outcomes. Effective trauma relief and resilience building is essential not only for staff well-being, but also that of the organization itself.

#### 3. Develop a true culture of caring and well-being

Institution-wide programs in self-care, based in facilitated small groups, give healthcare leaders the means to help their staff manage their stress. Working together, organizations can create a culture that values the well-being of all and promotes feeling “cared for” as an organizational principle, potentially reducing burnout, increasing retention rates and improving the patient experience.

The COVID-19 pandemic has put our healthcare system under unprecedented strain. It is essential that we understand the stress and trauma that healthcare workers experience and take steps to deal with it. The proposed strategy provides a roadmap of how stressful situations can be effectively overcome and how the debilitating effects of trauma can be reduced.

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# About the authors



**James S. Gordon, MD**  
CEO and Founder at  
The Center for Mind-Body Medicine (CMBM)

James S. Gordon, MD, author of “The Transformation: Discovering Wholeness and Healing After Trauma”, is a world-recognized authority on post-traumatic stress and a mind-body medicine pioneer. A long-time researcher at the National Institute of Mental Health and a Clinical Professor at Georgetown Medical School, he was chairman (under Presidents Clinton and GW Bush) of the White House Commission on Complementary and Alternative Medicine Policy. As Founder and Executive Director of The Center for Mind-Body Medicine in Washington, D.C., Dr. Gordon, a psychiatrist, has created and implemented the world’s largest and most effective program for healing population-wide psychological trauma and dealing with chronic stress. He and his 140 international faculty have brought this evidence-based program of self-care and group support to more than 6,000 health professionals and the institutions in which they work, including VISN-8, the largest division of the US Veteran’s Administration and Eskenazi Health, Indiana’s premier safety-net system, as well as to communities in the U.S. and overseas that have been devastated by war, climate-related disaster, the opioid epidemic, school shootings, and historical trauma.



**Andrea J. Miller**  
Principal Consultant, Patient Experience and  
Trend Scout at Siemens Healthineers

Andrea J. Miller is a Principal Consultant, nationally recognized as an expert in patient experience, engagement, and caregiving. She is also a specialist in behavioral health and the related use of digital health technology. Before her work with Siemens Healthineers, she consulted the WHO, UNAIDS, the UN Refugee Agency, the CDC and New York City Department of Health and Mental Hygiene, as well as numerous health tech startups. Her policy papers and thought leadership have been published by the UN, Entrepreneur.com and Thrive Global, among others. Andrea holds a Master in International and Intercultural Management from the School of International Training (SIT) and completed post-graduate studies at the UPenn School of Social Policy and Practice.



**Isabel Nieto Alvarez, MSc**  
Senior Key Expert on Improving  
Patient Experience at Siemens Healthineers

Isabel Nieto is passionate about innovating and transforming the experience of care to be human-centered. She is part of the Siemens Healthineers Global Innovation Network as expert on patient stressors in the experience of care. Isabel has lead and supported cross-functional teams in marketing and innovative projects on patient experience. She is a biomedical engineer from Universidad Iberoamericana in Mexico, holds a Master in Science on Mind and Body Medicine from Saybrook University in California, and a Certification on Leadership in Healthcare without Harm.



**Christina Triantafyllou, PhD**  
Vice President Head of Improving  
Patient Experience at Siemens Healthineers

Christina Triantafyllou began her journey in healthcare at Massachusetts General Hospital, Boston, U.S., where she worked as a medical physicist, developing imaging technology for the study of brain anatomy and function in disease. Thereafter she joined Siemens Healthineers as the Director of Global Ultra High Field (UHF) Business Management in the Business Line MR, focusing on business strategy, KOL-based collaboration projects in innovation/clinical translation, and product management for the first worldwide clinical 7T MR system. Christina holds a PhD in the field of Medical Physics from Kings College, University of London, UK. Prior to joining Siemens Healthineers, she held appointments as faculty at Massachusetts General Hospital, Harvard Medical School and as the Associate Director of the Imaging Center at the Brain and Cognitive Sciences Department at Massachusetts Institute of Technology (MIT), Boston, U.S..



## Suggested follow-up on

Siemens-healthineers.com/news  
Improving Patient Experience

- Siemens Healthineers Insights Series, issue 3: What has real impact on the patient experience, and what doesn't?  
Available at: [siemens-healthineers.com/insights/news/insights-series-issue-3.html](https://www.siemens-healthineers.com/insights/news/insights-series-issue-3.html)
- Siemens Healthineers Insights Series, issue 5: Reducing fear and anxiety by re-designing the patient experience.  
Available at: [siemens-healthineers.com/insights/news/redesigning-patient-experience.html](https://www.siemens-healthineers.com/insights/news/redesigning-patient-experience.html)
- Siemens Healthineers HBR white paper: Improving the patient experience: a four part-approach to delivering the care patients want and need.  
Available at: [siemens-healthineers.com/insights/news/mso-hbr-improving-patient-experience.html](https://www.siemens-healthineers.com/insights/news/mso-hbr-improving-patient-experience.html)
- Siemens Healthineers Talks with Jason A. Wolf, President of the Beryl Institute: How can we improve the patient experience in healthcare?  
Available at: [siemens-healthineers.com/insights/news/shs-talks-wolf.html](https://www.siemens-healthineers.com/insights/news/shs-talks-wolf.html)



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## Contact:

For further information on this topic,  
or to contact the authors directly:

**Christina Triantafyllou, PhD**  
Vice President Head of Improving  
Patient Experience

[christina.triantafyllou@siemens-healthineers.com](mailto:christina.triantafyllou@siemens-healthineers.com)

At Siemens Healthineers, our purpose is to enable healthcare providers to increase value by empowering them on their journey towards expanding precision medicine, transforming care delivery, and improving patient experience, all enabled by digitalizing healthcare. An estimated five million patients worldwide every day benefit from our innovative technologies and services in the areas of diagnostic and therapeutic imaging, laboratory diagnostics and molecular medicine as well as digital health and enterprise services.

We are a leading medical technology company with over 120 years of experience and 18,500 patents globally. With about 50,000 dedicated colleagues in over 70 countries, we will continue to innovate and shape the future of healthcare.

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**Siemens Healthineers Headquarters**

Siemens Healthcare GmbH  
Henkestr. 127  
91052 Erlangen, Germany  
Phone: +49 9131 84-0  
[siemens-healthineers.com](https://www.siemens-healthineers.com)