

Empowering *Total Worker Health*® in a Traumatized Workforce

What's Next for Worker Safety, Health, and Well-being?



Oregon Health Science University Fall Symposium | December 9, 2022

CDR Heidi Hudson, MPH

Disclaimer: The findings and conclusions in this report are those of the author and do not necessarily represent the official position of the National Institute for Occupational Safety and Health, Centers for Disease Control and Prevention. *Total Worker Health*® is a registered trademark of the U.S. Department of Health and Human Services (HHS).

Agenda

1. Brief overview of disasters and collective traumas
2. Highlight recent trends in worker and workforce safety, health, and well-being
3. Recovery and reconstruction initiatives addressing worker safety, health, and well-being and other resources for promoting worker well-being



Disaster

a sudden event that severely disrupts the functioning of a community or a society causing widespread human (e.g., psychological, relational), material, economic, or environmental losses, which exceed the ability of the affected community or society to cope using their own resources (WHO, 2019)

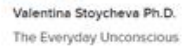


Types of Trauma

Trauma	Vicarious Trauma	Collective Trauma
<ul style="list-style-type: none">• Results from an event or series of events experienced by an <u>individual</u> as physically or emotionally harmful or threatening• Can lead to long-term adverse effects on physical, social, and emotional well-being	<ul style="list-style-type: none">• Results from exposure to traumatic material (stories, details, images, etc.) in someone else's experiences• May lead to similar emotional impact as the direct survivor of the experience• Considered secondary trauma also referred to as Compassion Fatigue	<ul style="list-style-type: none">• Results from <u>community or social exposure</u> to a large-scale traumatic event or series of events• Can lead to wide-reaching disorientation, loss, helplessness, as well as increased questioning related to identity and meaning• Impacts relationships, alter policies, government processes, change social norms

Reactions to Trauma - Immediate and Delayed

IMMEDIATE		DELAYED
Emotional	Anxiety Guilt Sadness Denial	Anxiety Depression Shame Fear of reoccurrence
Physical	Nausea Fatigue Depersonalization	Sleep disturbances Lower resistance to infections Long-term health effects (heart, liver, COPD)
Cognitive	Difficulty concentrating Distortion of time and space Memory problems	Intrusive memories or flashbacks Difficulty making decisions Self-blame
Behavioral	Startled Argumentative Avoidant Increased use of alcohol, drugs, tobacco	Social relationship disturbances Engagement in high-risk behaviors Decreased activity level Withdrawal
Existential	Loss of self-efficacy Despair about humanity Restoration of faith in the goodness of others	Loss of purpose Redefined meaning and importance of life Reestablished priorities Increased self-confidence



Why now is exactly the time to slow down.

Posted November 28, 2022 | Reviewed by Michelle Guirk



KEY POINTS

- As the world is returning to higher levels of activity, there are reasons why you may be feeling exhausted.
- We do not just leave a traumatic situation, like a worldwide pandemic, and not have reactions to it.
- Burnout, increased social interactions, and unconscious processes impact how we recover.



If you are feeling exhausted, and you are not quite sure why, you are not alone. At least once a

Story by Tara Parker-Pope, Lindsey Bever • Nov 23 React 42



Listen to this article People with three major shootings in less than two weeks, many are expressing a combination of fear, anger and resignation that gun violence now has become part of normal life in the United States.



Support us →



World ► Europe US Americas Asia Australia Middle East Africa Inequality Global development

Coronavirus

● This article is more than 3 months old

'A collective trauma': Covid keeps its grip on mental health of many patients

Rates of anxiety and depression have decreased since first year of the pandemic but there still aren't enough therapists

Eric Berger

Sat 27 Aug 2022 08.36 EDT

[illegible]

There's A Mental Health Crisis Among Black Students. What Are HBCUs Doing To Help?

Depression and anxiety have been increasing at a staggering rate among Black students. It's time to examine the systems that are holding us back from sound health.

By Glyniss Wiggins

Nov 28, 2022, 05:30 PM EST | Updated Nov 30, 2022

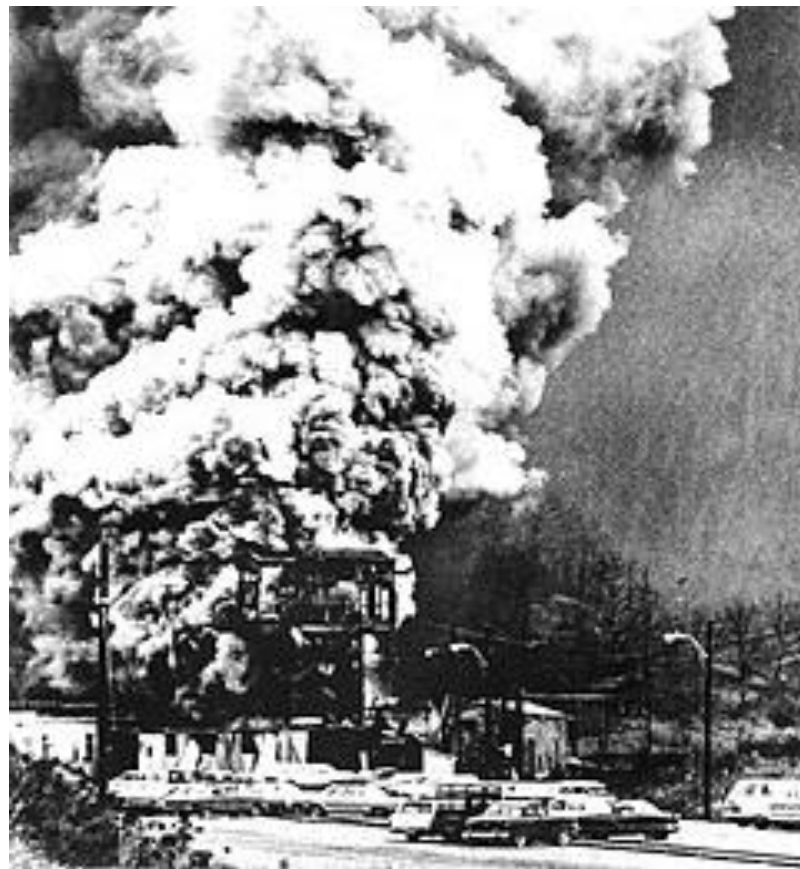


ILLUSTRATION: BENJAMIN CLIBBER-KERST, (SAVOY) GETTY IMAGES

News articles highlighting the collective traumas



U.S. History of Collective Traumas



The OSH Act—A Response to Workplace Tragedies

<https://blogs.cdc.gov/niosh-science-blog/2021/11/23/historical-disasters/>

What we know about collective trauma

- Each crises may independently have mental health consequences for exposed individuals (e.g., short-term anxiety to long-term depression and to PTSD)
- Repeated direct and indirect media-based exposure to collective traumas is associated with mental and physical ailments
- Multiple crises are not uncommon following natural disasters, yet research on cascading traumas is limited
- Greater severity of exposure is likely to occur for the most vulnerable adding to the burden of compounding effects
- Limited empirical data on the consequences of compounding collective crises and limited research from an ecological systems perspective



It's times like these you learn to live again.
- *Foo Fighters*

Impact of Collective Traumas on Workforce

- Life expectancy losses
- Labor and education losses
- Gender and racial inequities
- Elevated levels of burnout and stress
- Increases in overdose deaths and suicides in some groups
- Blurring of the lines between work and nonwork
- New orphans and adverse childhood experiences

Impact of Collective Traumas on Workers

- Fear of returning to work
- Fear of losing a job
- Increased social isolation
- High levels of anxiety
- Burnout
- Interpersonal conflict
- Lack of clarity around roles and responsibilities



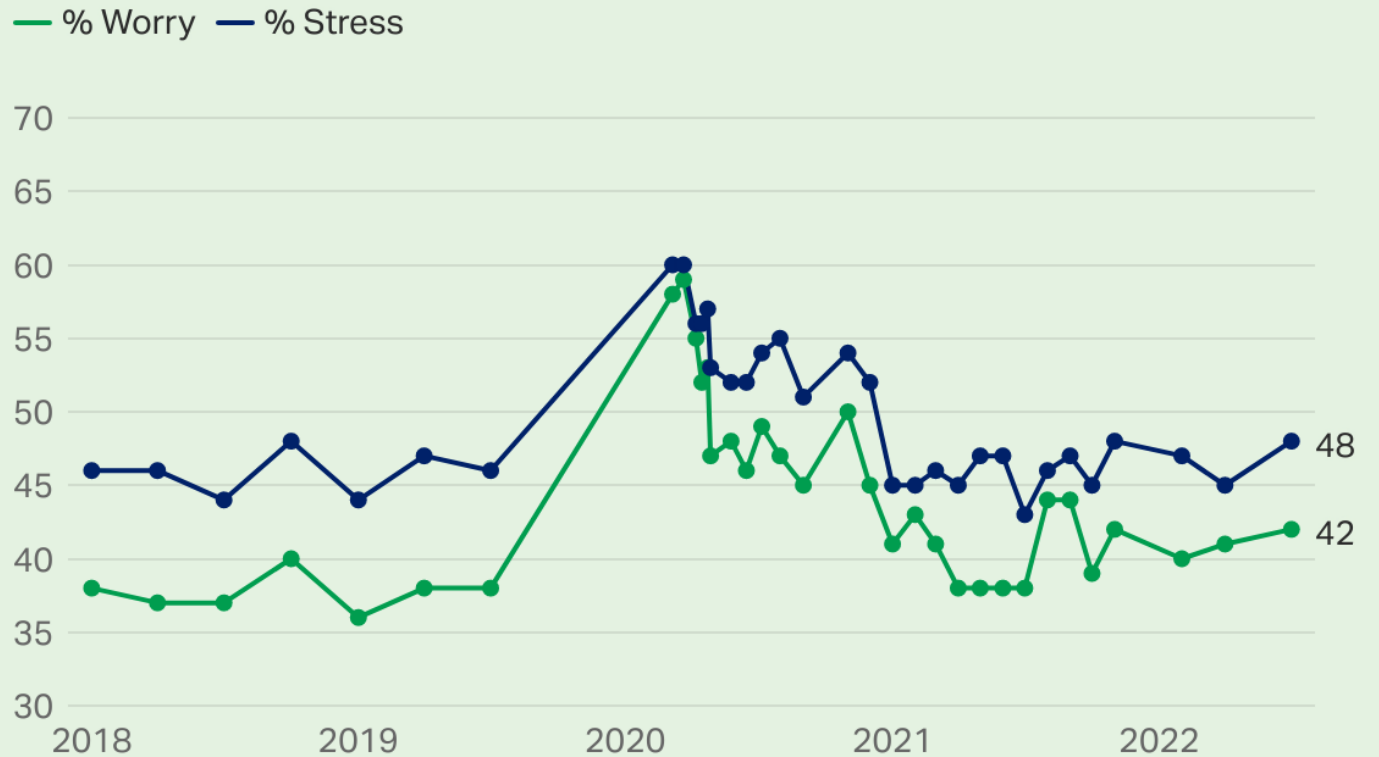
What Are the Evolving Work Hazards of Modern Work?

- Precarious employment, insecurity, rapid job cycling
- Unemployment and underemployment
- Anxiety about employment and career progression
- Blurring of work/home boundaries
- Work intensification/fast pacing of work
- Stressful interaction with robots, co-bots, technology
- Privacy loss/invasion
- Loss of social skills and increased loneliness
- Increasing use of performance enhancing substances
- Effects on dignity, meaningful work, purposefulness

(Adapted from NIOSH/Paul Schulte et al., 2020)

Worry and Stress among U.S. Adults

Levels of Daily Stress and Worry in U.S. Adults

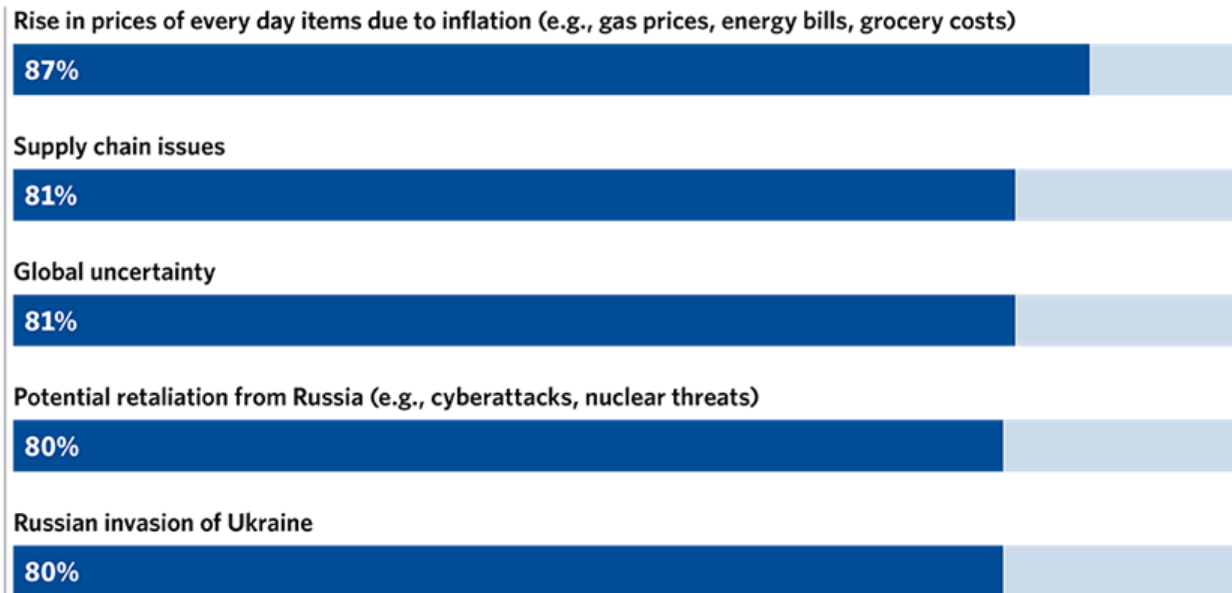


Data from January 2018-August 2019 and from July 31-Sept. 3, 2020 are based on the Gallup National Health and Well-Being Index. Data from March 12-July 26, 2020, and from September 2020-November/December 2021 through July 2022 are based on the Gallup Panel.

GALLUP®

March 2022 - Americans in “Survival Mode”

% SAY IS A SIGNIFICANT SOURCE OF STRESS



STRESS IN AMERICA™ 2022: COVID SECOND ANNIVERSARY

© 2022 American Psychological Association

- U.S. adults appear to be emotionally overwhelmed and showing signs of fatigue.
- Inflation, supply chain and “life logistics”
- Political divides and global unrest
- Childcare and losses in education, are a major source of worry
- Barriers to mental health support (access and workplace stigma)

Sources: APA, 2022; McKinsey, 2021;

We at Fireside Grill understand that times are a little tight right now for a lot of people... our serving staff included. Our girls make \$3.00/hr (State of Tennessee wage is \$2.17/hr.) They work hard and they run their legs off for people. Why is it that people have the audacity to not tip them? I know your getting good service... maybe you should consider not going out if you can't take care (TIP) of the person taking care of you. **THEY DEPEND ON TIPS FOR THEIR PAY!!** The workers in the service industry need to make money too... they have bills, kids, car payments, etc just like everyone else. **STOP BEING SO STINGY!! TIP YOUR SERVERS AND BARTENDERS!! THEY WORK HARD FOR YOU! Rant over....**

NOBODY IS ENTITLED TO 'CHARGE UP' ANY MOBILE PHONES OR OTHER ELECTRICAL DEVICES ON THESE PREMISES. IT IS THEFT OF ELECTRICITY AND YOU MAY FIND A DEDUCTION HAS BEEN MADE FROM YOUR PAY. PHONES SHOULD BE SWITCHED OFF.



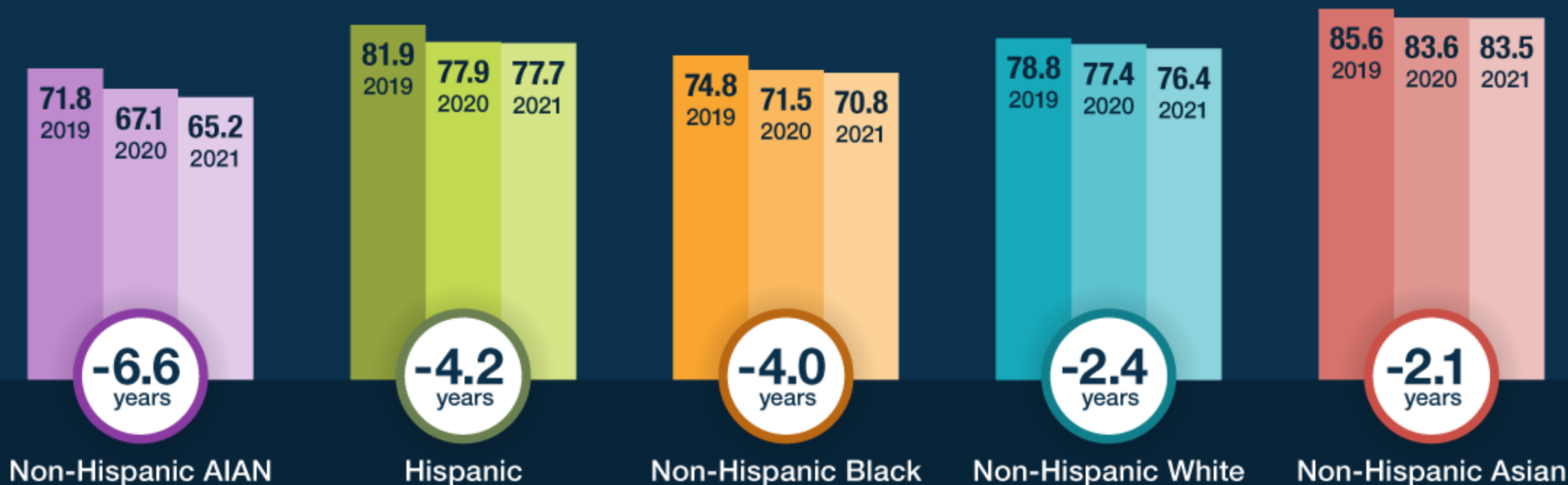
Requirements: Have reliable transportation, good hygiene, drug free, positive attitude (we don't want to hear about your bad days). Must be able to lift 50lbs. This job is very physical and fast paced. No cell phone use, no breaks, no sick days. You will be picking up poop, cleaning kennels, you might get bit, you will be doing laundry and all other duties the job requires. Hours are from 7:30 until we're done Mon-Fri, possibly a couple hours every other weekend. Hours are not negotiable so don't ask. Pay depends on experience. Owning a dog does not mean you have experience.

In the Media: Workers Reporting Poor Working Conditions

Source: <https://apple.news/AYOY5eCAhTHWkjb7tzxG19A>

U.S. LIFE EXPECTANCY AT BIRTH, PROVISIONAL MORTALITY DATA FOR 2021

The non-Hispanic American Indian and Alaska Native (AIAN) population experienced the largest decline in life expectancy between 2019 and 2021



During late June, 40% of U.S. adults reported struggling with mental health or substance use*

ANXIETY/DEPRESSION SYMPTOMS



STARTED OR INCREASED SUBSTANCE USE



TRAUMA/STRESSOR-RELATED DISORDER SYMPTOMS



SERIOUSLY CONSIDERED SUICIDE†



*Based on a survey of U.S. adults aged ≥ 18 years during June 24-30, 2020

†In the 30 days prior to survey

For stress and coping strategies: bit.ly/dailylifecoping



Overdose Deaths Reached Record High as the Pandemic Spread

More than 100,000 Americans died from drug overdoses in the yearlong period ending in April, government researchers said.



A memorial service in Baltimore last year for a man who died of an overdose. Overdose deaths have more than doubled since 2015. Andrew Mangum for The New York Times

- Up 30% from prior year; more than the toll of car crashes and gun fatalities combined
- Largely a result of lost access to treatment, rising mental health problems, and wider availability of dangerously potent street drugs
- About 70% of deaths were among men between the ages of 25 and 54

“It has to be easier to get treatment than to buy a bag of dope.”

Exploring the Link: Opioid Use Disorders and Work

Lack of employment

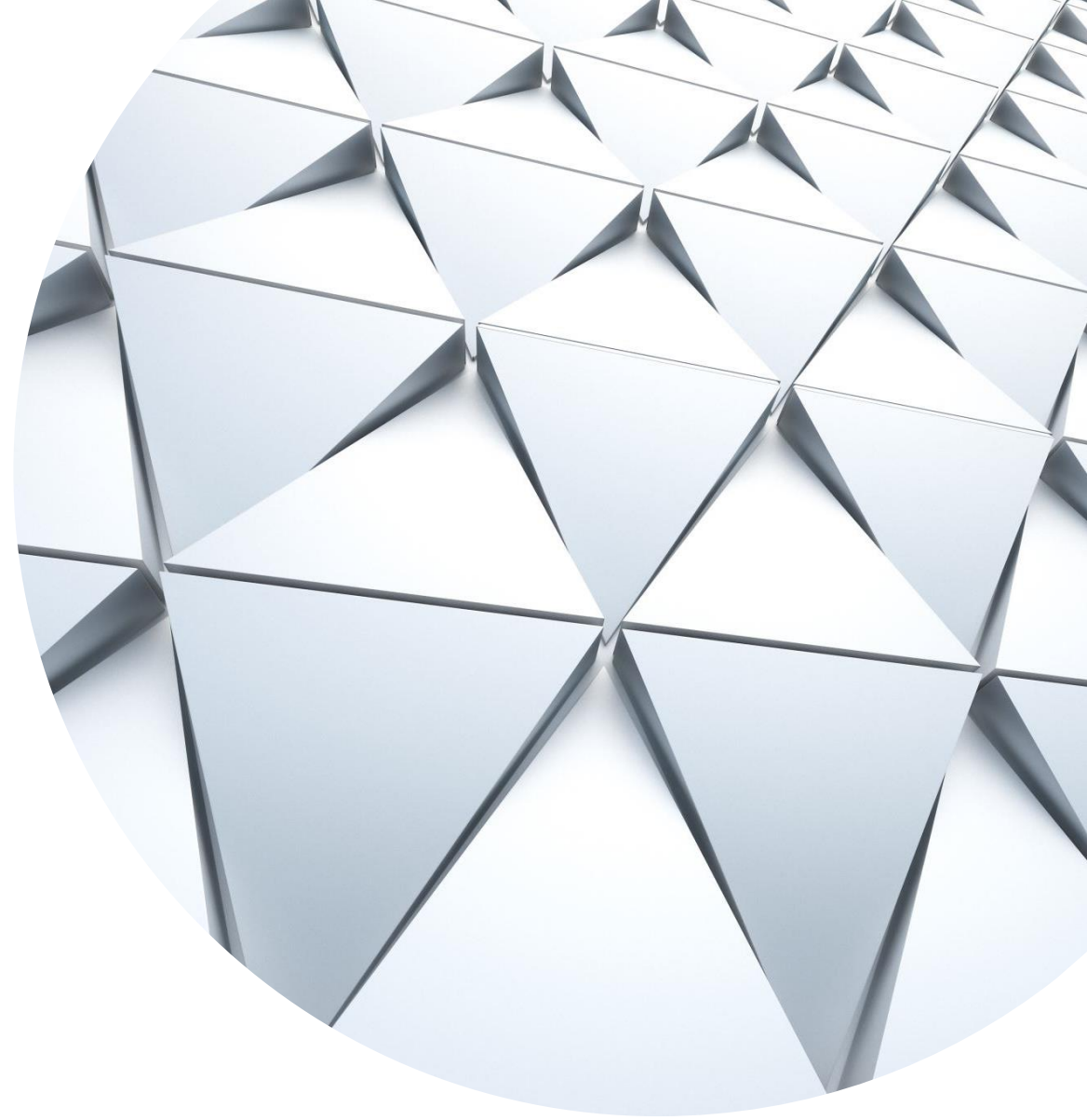
Insecure employment,
new employment
arrangements

Hazardous work and
increased risk of work-
related injury

Wages, working
conditions that can
predispose to chronic
health problems or
pain

Lack of benefits/paid
sick leave

Industry/occupational,
cultural, and
geographic differences



Mental Health Effects of Climate-Related Occupational Hazards

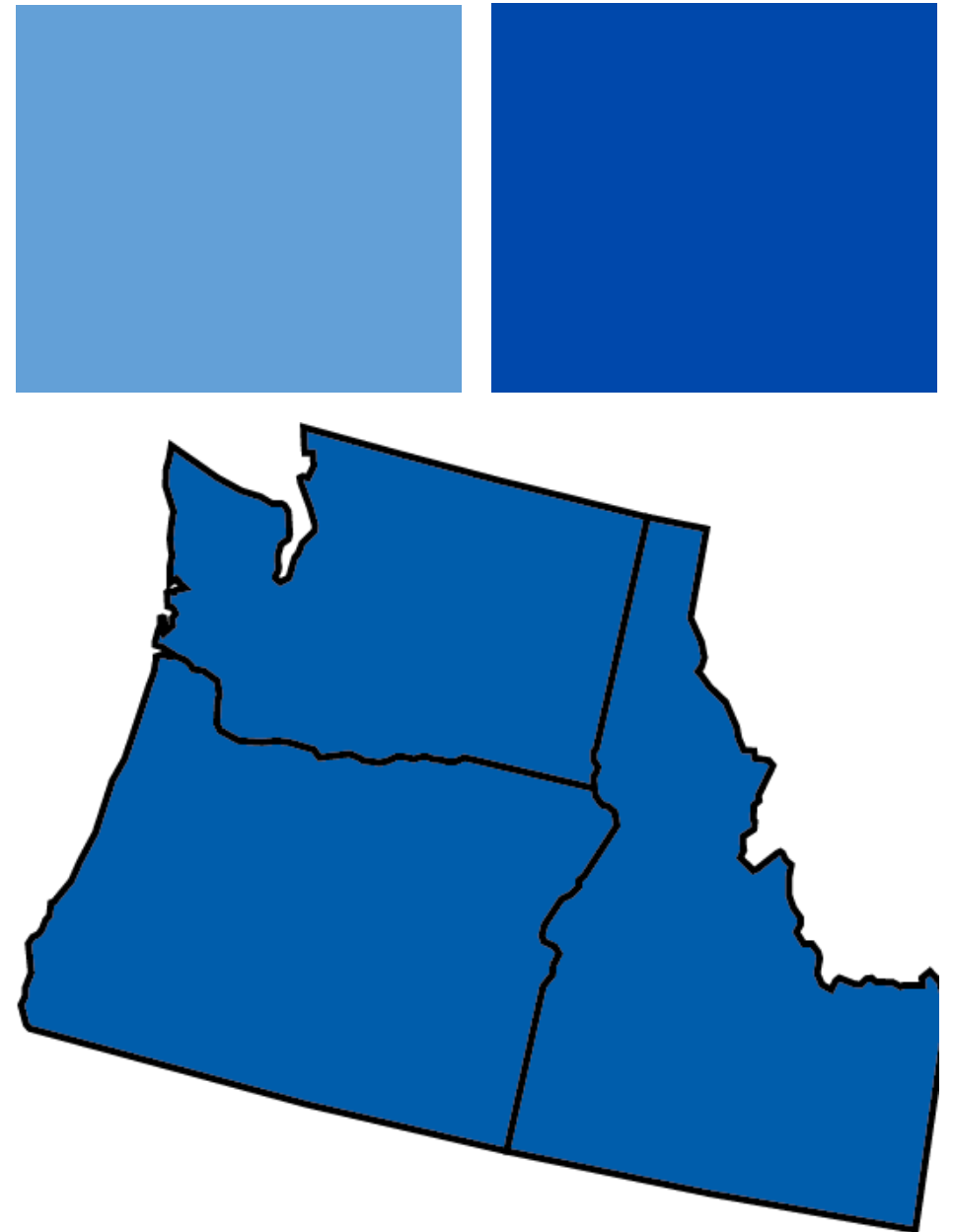
- Combined psychological effects
 - With other hazards (e.g., heat)
 - With personal loss
- Depression
- Post-Traumatic Stress Disorder



Health Impacts of Climate – U.S. Northwest

- Oregon, Washington, and Idaho all rank among the top 10 states in terms of prevalence of mental illness and lowest access to mental health care.
- Populations of Concern
 - Tribes, farmworkers, and low-income populations in urban and rural environments are three sets of frontline communities (those communities likely to experience climate impacts first and worst) in this region.
 - Employers - may not be sufficiently informed or prepared to institute adequate risk management
 - Workers - generally not a specific part of states' climate action plans, especially in forestry, fishing, agriculture, manufacturing, construction, and public safety

https://www.cdc.gov/climateandhealth/effects/docs/Northwest_Regional-Climate-Fact-Sheet-P.pdf





Gender and racial inequalities and lack of protections in our workplaces

- 2.5 Million women left the workforce compared to 1.8 million men
- Mothers, Black and Hispanic women, low-income workers, workers without college-level education, and those in service occupations were highly affected by closures and economic shifts
- Added responsibilities and roles have led to increased burnout and stress and may have long-term effects on women's career trajectories and mental health

Youth Education Losses

- Students lost critical opportunities to learn and thrive.
 - Average scores for age 9 students in 2022 declined 5 points in reading and 7 points in mathematics compared to 2020
 - Black, Hispanic, and low-income students, as well as other vulnerable populations—suffering the most severe impacts.



Caregiver Loss, Orphans, and Adverse Childhood Experiences (ACEs)

- One out of every 12 orphans under the age of 18, and in every public school in the United States, on average two children have lost a caregiver
- Nearly 10% of AIAN children have lost a parent or caregiver
- Loss of a parent is among the adverse childhood experiences (ACEs) linked to mental health problems; shorter schooling; lower self-esteem; sexual risk behaviors; and increased risk of substance abuse, suicide, violence, sexual abuse, and exploitation.

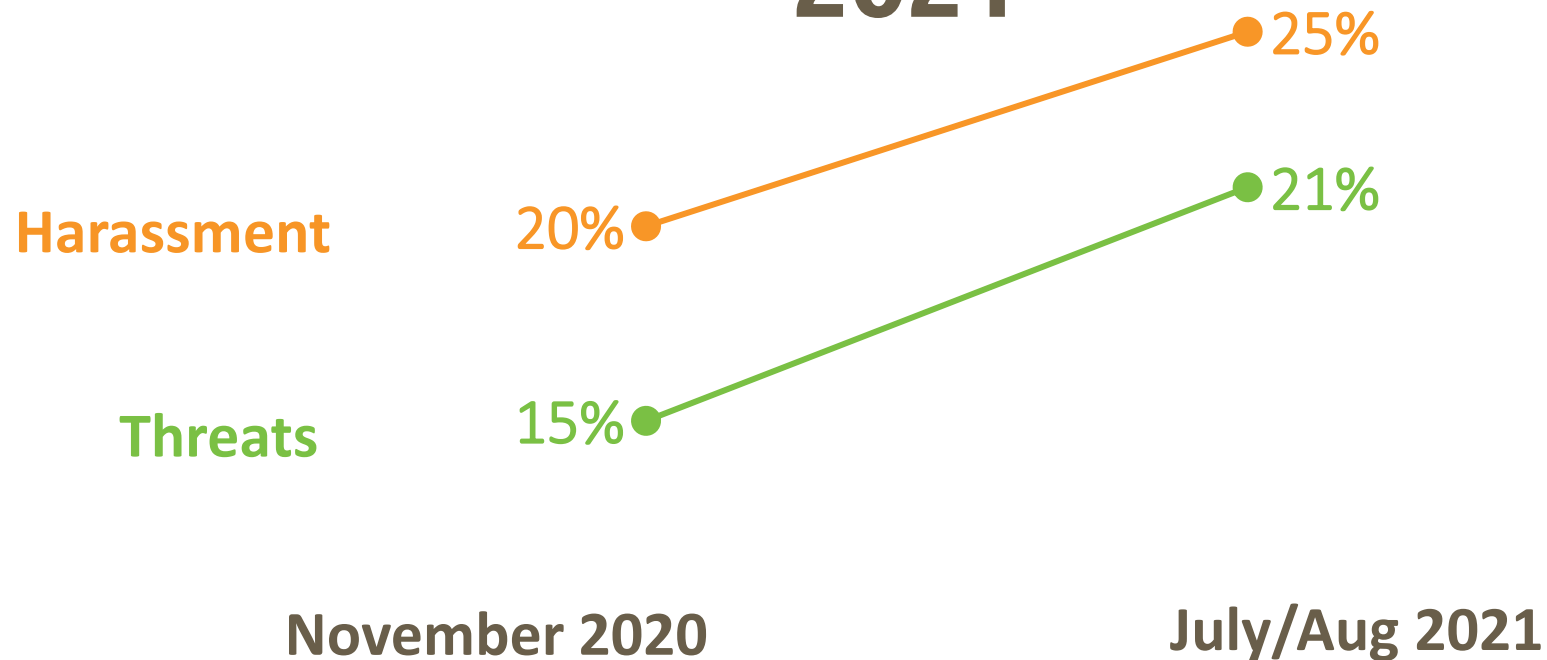
Did the pandemic change the nation's personality?

“There was limited personality change early in the pandemic, but striking changes started in 2021. Of most note, the personality of young adults changed the most, with marked increases in neuroticism and declines in agreeableness and conscientiousness. That is, younger adults became moodier and more prone to stress, less cooperative and trusting, and less restrained and responsible.”

From the online Understanding America Study of >7000 people, comparing pre-pandemic measurements (May 2014 — February 2020) and assessments early (March — December 2020) or later (2021-2022) in the pandemic. A total of 18,623 assessments, or a mean of 2.62 per participant, were analyzed. Participants were 41.2% male and ranged in age from 18 to 109.

Public Health Workers Face Increased Risk of Harassment & Threats

More U.S. adults believed **harassing** and **threatening** public health officials was justified in 2021



**Work conditions put
workers at risk for
poor physical and
mental health
outcomes**



20 Million

US health workers experience

challenging work conditions

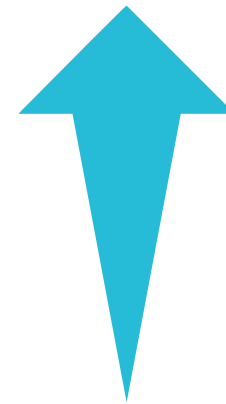


Injury & illness rates increased in 2020



**More injuries
and illnesses in
healthcare &
social assistance
than in any other
industry in the
nation in 2020**

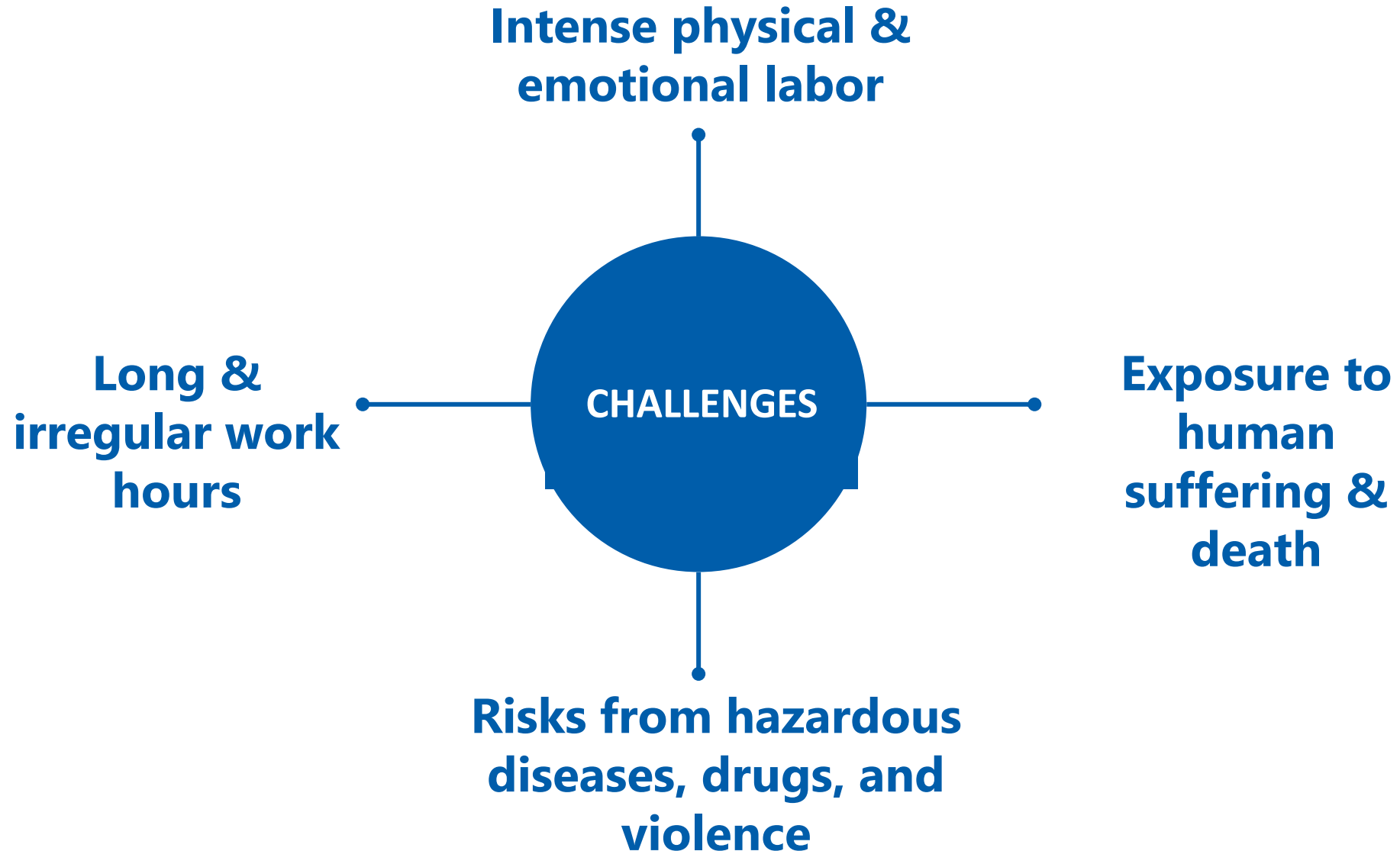
From 2019 to 2020:



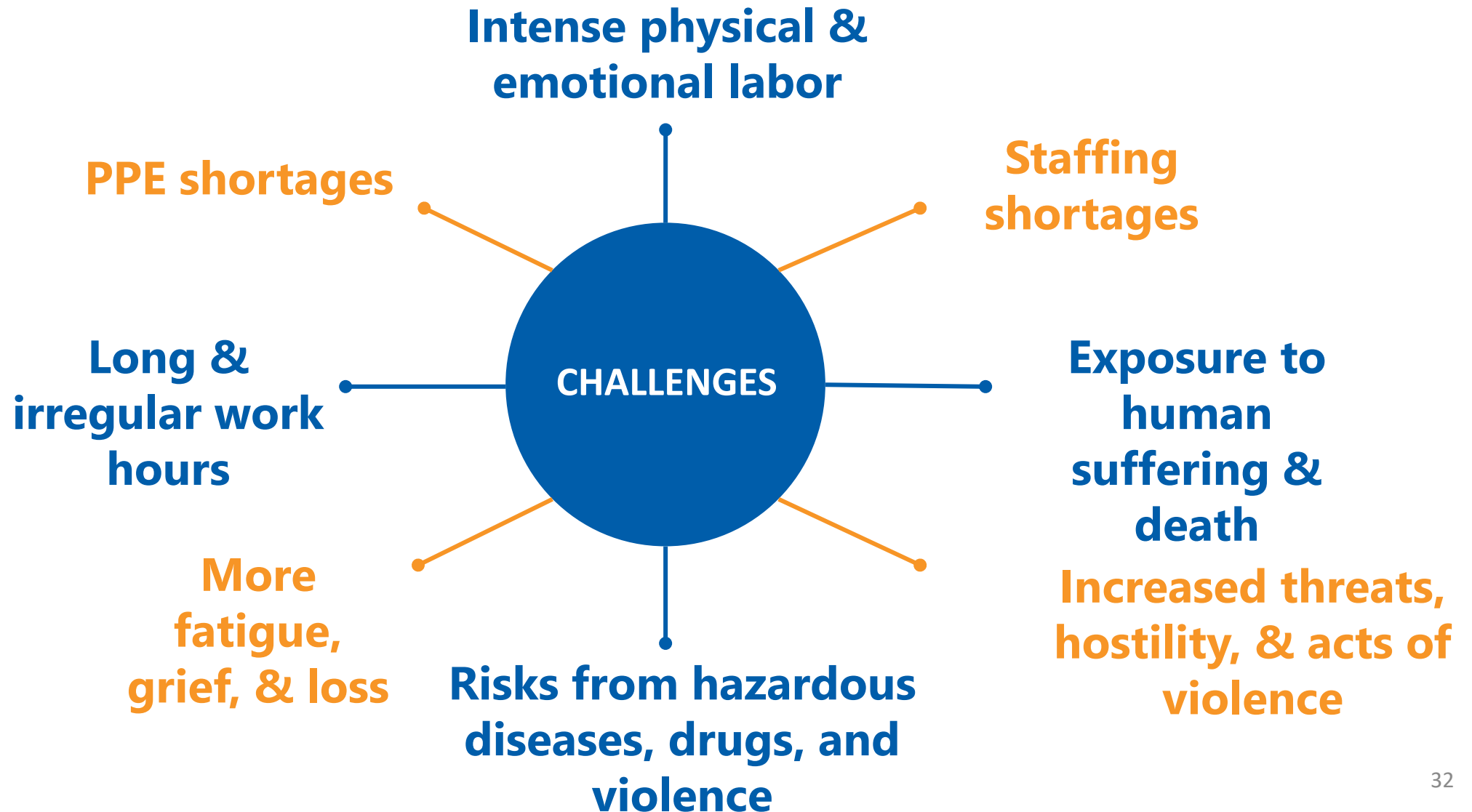
249%

increase in the
injury and illness
rate among U.S.
health workers

Challenging work conditions in healthcare



Challenging work conditions in healthcare





Our Nation's Current Workplace Landscape

Recent surveys suggest...

76%

of U.S. workers reported at least one symptom of a mental health condition.

Source:

[Mind Share Partners' 2021 Mental Health at Work Report](#)

84%

of respondents said their workplace conditions had contributed to at least one mental health challenge.

Source:

[Mind Share Partners' 2021 Mental Health at Work Report](#)

81%

of workers reported that they will be looking for workplaces that support mental health in the future.

Source:

[APA's 2022 Work and Well-being Survey results](#)

Can We Find Some Silver Linings?

- **Heightened awareness** of the importance of mental health to overall well-being and **more comfort** discussing mental health
 - 52% of survey respondents say they have been more open with others about their mental health since the pandemic started
 - Decreasing stigma
- **Remote and hybrid workers:**
 - 56% of employees said their mental health, work-life balance, and physical activity all improved as a result of their hybrid work environment
 - 88% said the flexibility to work from home or the office has increased their job satisfaction
- **Employers:** many are increasing investments, leadership training, supports, benefits, and flexibilities.

Why is Mental Health important for Employers?

WORKERS VALUE EMPLOYER SUPPORT FOR MENTAL HEALTH



% OF WORKERS WHO BELIEVE THEIR EMPLOYER IS MORE CONCERNED ABOUT EMPLOYEES' MENTAL HEALTH THAN THEY WERE IN THE PAST:

71% agree

71%

% OF WORKERS WHO AGREE THAT HOW EMPLOYERS SUPPORT MENTAL HEALTH WILL BE AN IMPORTANT CONSIDERATION FOR THEM WHEN THEY LOOK FOR FUTURE WORK:

81% agree, including 30% who strongly agree

81%

30%

who strongly agree

% OF WORKERS WHO WANT THE FOLLOWING MENTAL HEALTH SUPPORTS FROM THEIR EMPLOYER:

Flexible work hours

41%

Workplace culture that respects time off

34%

Ability to work remotely

33%

Four-day work week

31%

- Nearly 1 in 5 adults in the U.S. reporting a mental illness
- 81% of individuals surveyed said they will be looking for workplaces that support mental health when they seek future job opportunities.
- **Workers are seeking organizational-level mental health supports**



Tomorrow's workers will face risks, hazards, and exposures from work—traditional, new, and yet unknown

Priority Areas and Emerging Issues

- New and existing workplace and work factors impacting new and existing workforce safety, health, and well-being outcomes, on- and off-the-job
 - Psychological, stress, burnout, and other harms from hazardous work schedules, unhealthy supervision, and technological “unintended” consequences
 - Job flexibility, work-life fit “sweet spot” (employer vs. worker preferences)
 - Tailored interventions for highest risk and most vulnerable workers
 - Ethical competencies, training, and standards of practice
 - Growing and post-pandemic issues
 - Physical/mental fatigue; isolation/loneliness; substance misuse/dependency; skills gaps/mismatch; job and economic insecurity; disparities; and chronic diseases, deaths of despair, and healthcare costs



Recovery & Reconstruction Strategies



Examples of Initiatives addressing *Total Worker Health* in a Traumatized Workforce

- U.S. Surgeon General's Framework for Mental Health and Well-being in the Workplace
- Total Worker Health Program
 - NORA Healthy Work Design and Well-being Cross-Sector Council
 - NIOSH Healthy Work Design and Well-being Program
 - NIOSH Future of Work Initiative
 - NIOSH Health Worker Mental Health Initiative
 - NIOSH Framework to Address Opioid Misuse
 - National Center for Productive Aging and Work
- NIOSH Emergency Preparedness and Response Program
- NIOSH Occupational Health Equity Program
- NIOSH Climate and Work

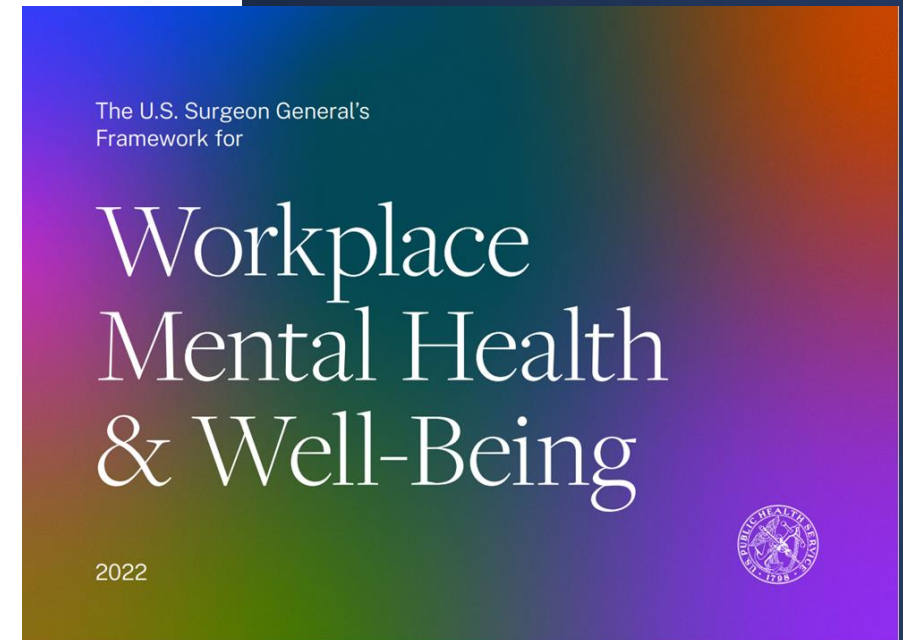
U.S. Surgeon General's Framework for Mental Health and Well-Being in the Workplace

“The pandemic has presented us with an opportunity to rethink how we work. We have the power to make workplaces engines for mental health and well-being. Doing so will require organizations to rethink how they protect workers from harm, foster a sense of connection among workers, show them that they matter, make space for their lives outside work, and support their long-term professional growth.”

-Vivek H. Murthy, M.D., M.B.A.

Vice Admiral, U.S. Public Health Service

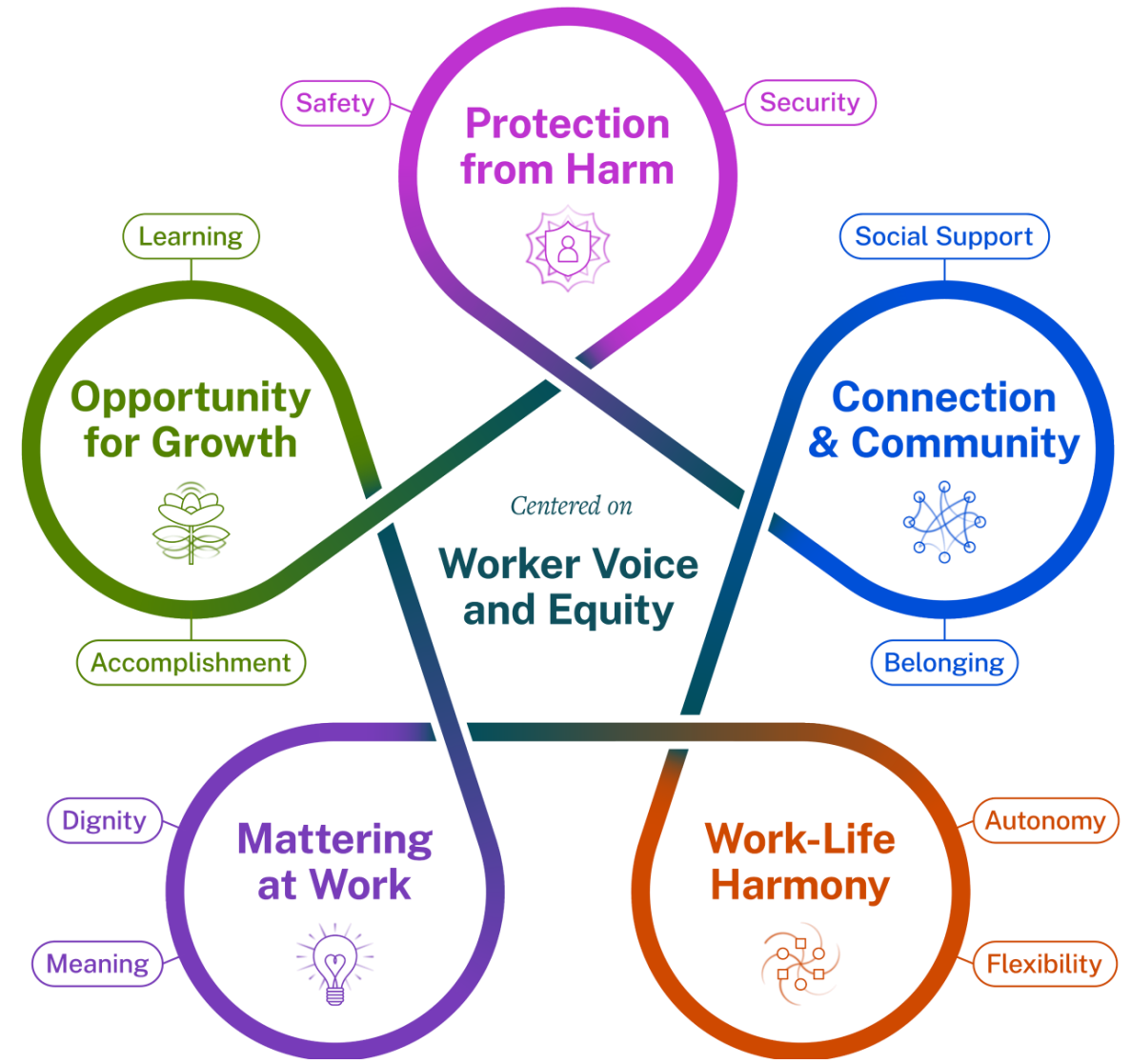
Surgeon General of the United States



Five Essentials

for creating workplaces as engines of well-being

- Centered on worker's voice and equity
- Grounded on two human needs



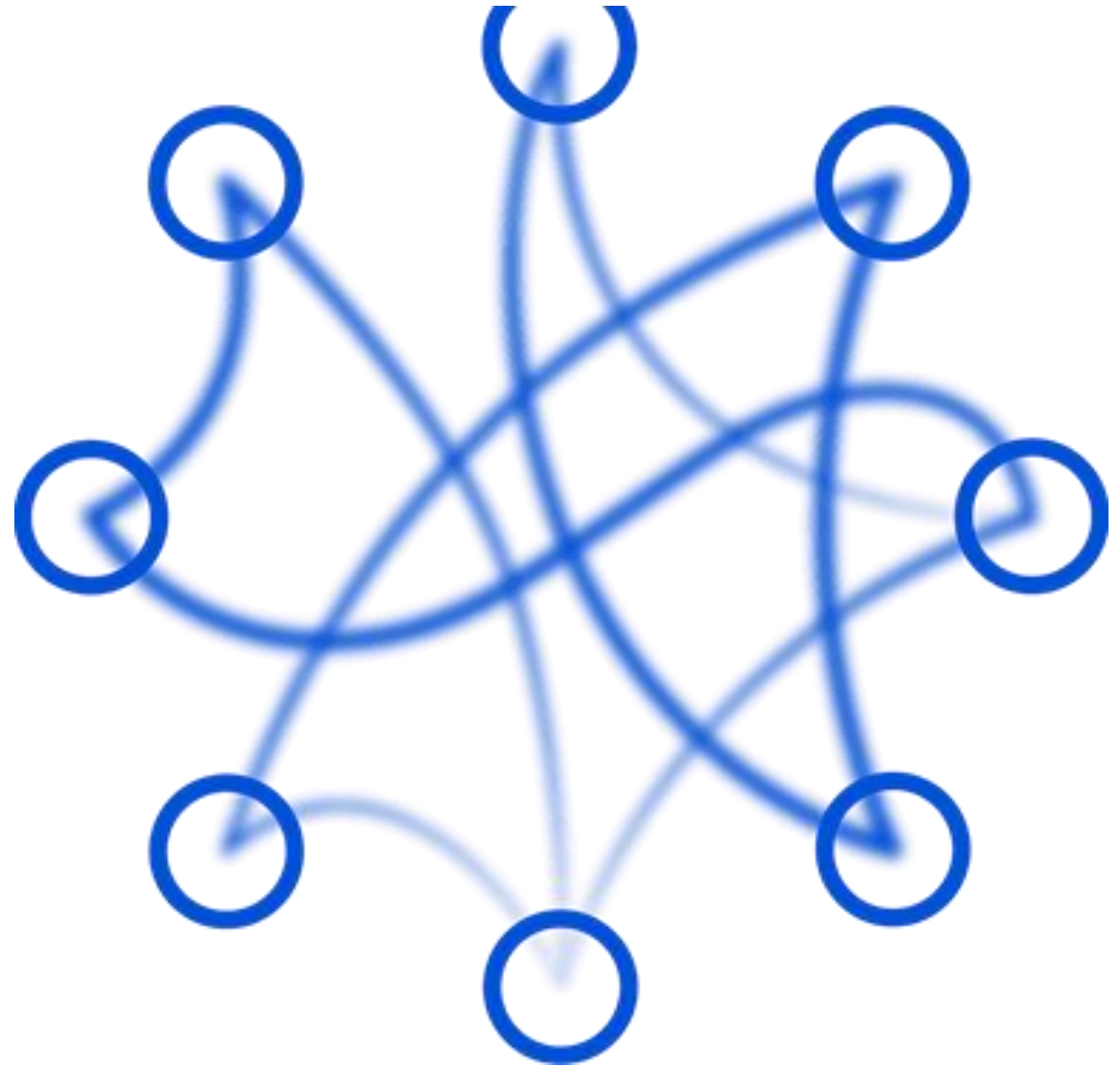
Protection from Harm

- Human needs: Safety and Security
- Key Components:
 - Prioritize workplace physical and psychological safety
 - Enable adequate rest
 - Normalize and support mental health
 - Operationalize diversity, equity, inclusion and accessibility norms, policies, and programs



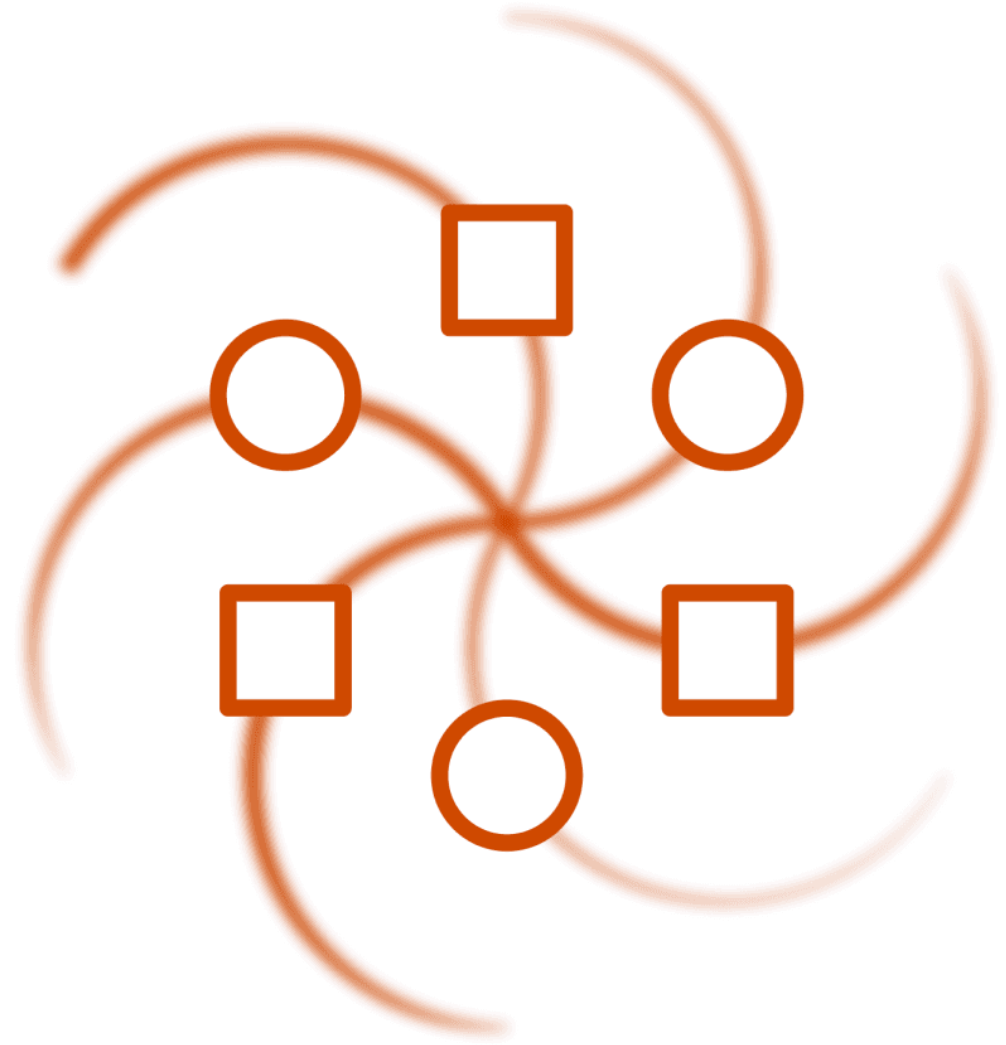
Connection & Community

- Human needs: Social Support and Belonging
- Key Components:
 - Create cultures of inclusion and belonging
 - Cultivate trusted relationships
 - Foster collaboration and teamwork



Work-Life Harmony

- Human needs: Autonomy and Flexibility
- Key Components
 - Provide more autonomy over how work is done
 - Make schedules as flexible and predictable as possible
 - Increase access to paid leave
 - Respect boundaries between work and nonwork



Mattering at Work

- Human Needs: Dignity and Meaning
- Key Components
 - Provide a living wage
 - Engage workers in workplace decisions
 - Build a culture of gratitude and recognition
 - Connect individual work with organizational mission



Opportunities for Growth

- Human Needs: Learning and Accomplishment
- Key Components:
 - Offer quality training, education, and mentoring
 - Foster clear, equitable pathways for career advancement
 - Ensure relevant, reciprocal feedback



Total Worker Health

- Defined as policies, programs, and practices that integrate protection from work-related safety and health hazards with promotion of injury and illness-prevention efforts to advance worker well-being.
- www.cdc.gov/niosh/twh

CDC Centers for Disease Control and Prevention
CDC 24/7. Saving Lives. Protecting People™

The National Institute for Occupational Safety and Health (NIOSH)

Promoting productive workplaces through safety and health research **NIOSH**



NIOSH Total Worker Health® Program

How can a holistic approach to worker well-being assist in improving the safety and health of workers?

Total Worker Health® is defined as policies, programs, and practices that integrate protection from work-related safety and health hazards with promotion of injury and illness-prevention efforts to advance worker well-being. The Total Worker Health (TWH) approach seeks to improve the well-being of the U.S. workforce by protecting their safety and enhancing their health and productivity. Using TWH strategies benefits workers, employers, and the community.

What is Total Worker Health?	Frequently Asked Questions	Let's Get Started
Symposium to Advance TWH	Research Program	NIOSH Worker Well-Being Questionnaire
 Centers of Excellence for TWH The Centers advance knowledge by building the scientific evidence base through research and practice.	 TWH Webinar Series Live and recorded webinars provide the latest research and case studies and offer continuing education.	 TWH in Action! eNewsletter This quarterly email newsletter provides the latest news and research from the TWH program

Integration, Integration, Integration...

**Keep
Workers Safe**



**Establish
Workplace Policies,
Programs, and
Practices to Advance
Health**



Example of *Total Worker Health*® Approach for Sleep and Fatigue Among Shift Workers

Safe
Staffing



Health-
Supportive
Policies



Physical
Environment



Sleep
Education



The Promise of *Total Worker Health*®

- Reduction in workplace injuries and illnesses
- Improved worker job satisfaction and meaningful work
- Value-added health opportunities and outcomes
- More informed decision-making
- Enhanced organizational culture of trust, safety, health
- Better organizational performance
- Gains for employers, workers (and their families), community, and society

The NIOSH WellBQ

A new measure of worker well-being

<https://www.cdc.gov/niosh/twh/wellbq/default.html>

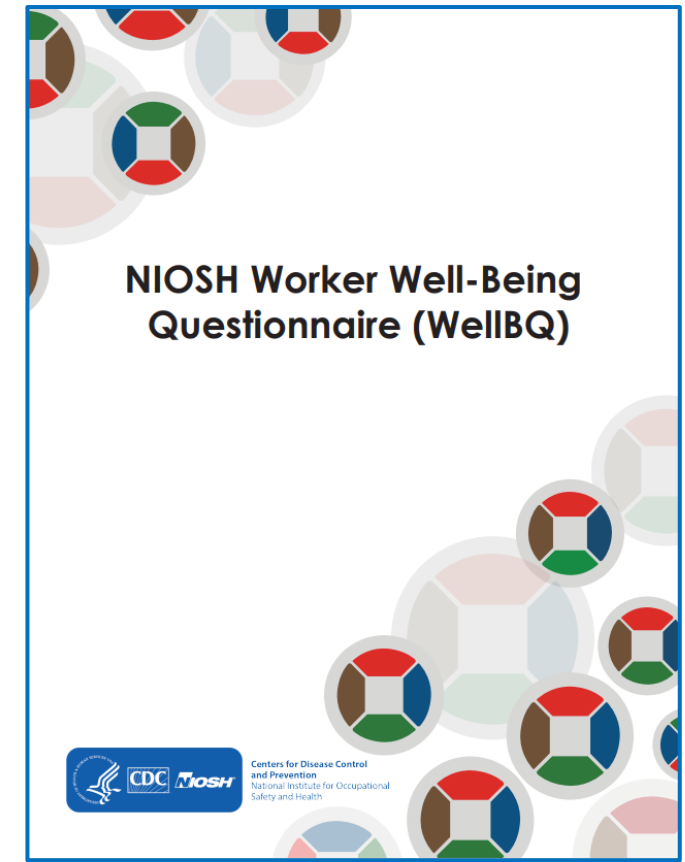
Chari R, Chang CC, Sauter S, Petrun Sayers EL, Cerully JL, Schulte P, Schill AL, Uscher-Pines LI. Expanding The Paradigm of Occupational Safety And Health: A New Framework For Worker Well-Being. JOEM 2018, 60(7):589-593 [10.1097/JOM.0000000000001330](https://doi.org/10.1097/JOM.0000000000001330)

Chari R, Sauter S, Petrun Sayers EL, Huang W, Fisher GG, Chang CC. Development of the NIOSH Worker Well-Being Questionnaire (WellBQ). JOEM 2022. [10.1097/JOM.0000000000002585](https://doi.org/10.1097/JOM.0000000000002585)



NIOSH Worker Well-Being Questionnaire (WellBQ)

- First-ever survey (68 items, 15 minutes) to comprehensively measure worker well-being
- Free for public use
- Characterizes quality of life by
 - Health status
 - Work-related physical environment/safety climate
 - Work evaluation and expertise, psychosocial factors
 - Workplace policies and culture
 - Home, community, society
- Can be used for intervention development, to accumulate and share data, create benchmarks, set policy, further knowledge...



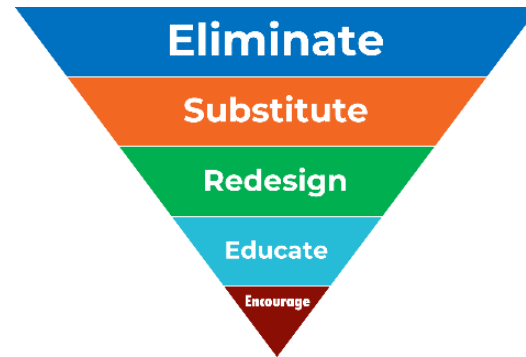
CDC/NIOSH Mental Health Strategies

Total Worker Health®

Optimizing the work experience

Increase worker well-being

Work/life/family fit



Healthy Work Design & Well-Being Cross-Sector

Better work design

Psychosocial health research and partnerships



Work Organization & Stress Research Program

Evaluate and improve work environments

Work stress prevention



Mental Health of Health Workers

National campaign to safeguard and improve mental health

Healthcare partnerships



National Occupational Research Agenda (NORA)

Healthy Work Design & Well-being Cross-Sector Council

- Focuses on protecting and advancing worker safety, health, and well-being by improving the design of work, management practices, and the physical and psychosocial work environment.
- NORA HWD Objectives
 1. Worker demographics
 2. Non-standard work arrangements
 3. Safety and health implications of advancing technology
 4. Work organization-related chronic health conditions
 5. Shift work, long hours of work, and sleep deficiency
 6. Healthy work design and better organizational practices
 7. Sustainable work-nonwork interface
- <https://www.cdc.gov/nora/councils/hwd/default.html>



Healthy Work Design and Well-Being Program

Healthy Work Design and Well-Being Program

Updated March 21, 2022

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[Workplace Safety & Health Topics](#)



The mission of the Healthy Work Design and Well-Being Cross-Sector Program is to protect and advance worker safety, health, and well-being by improving the design of work, management practices, and the physical and psychosocial work environment.

Featured Items

3rd International Symposium to Advance *Total Worker Health*®

The [3rd International Symposium to Advance Total Worker Health®](#)  will bring together an audience of safety and health professionals, employers, researchers, policymakers, labor representatives, and members of the academic

NIOSH Healthy Work Design and Well-being Program

<https://www.cdc.gov/niosh/programs/hwd/default.html>

NIOSH Health Worker Mental Health Initiative

Generate Awareness

Understand HW Burden

Identify and Adapt Tools

Assimilate Evidence

Partner for Impact

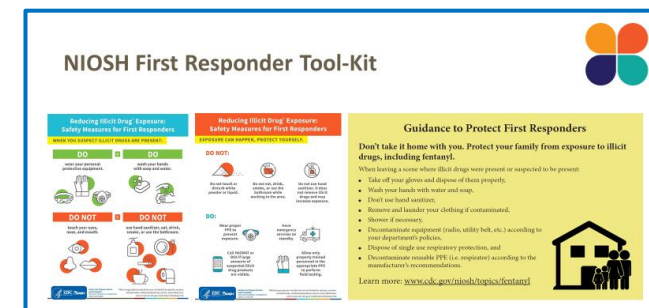
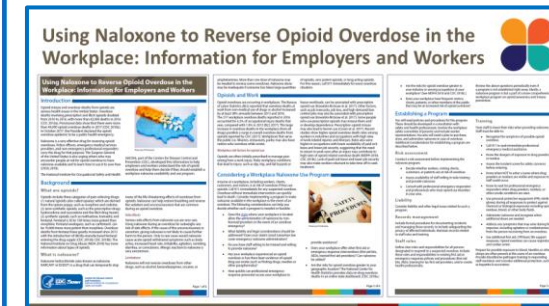


As Employers, Protecting and Improving the Mental Health of Workers More Vital than Ever

- Focus first on primary prevention: improve *the conditions of work*
- ... but also offer secondary and tertiary services
- Establish organizational goals to measure, understand, and improve MH
- Encourage social connections at work; value peer-led interventions
- Invest in/improve training of front-line leaders/managers
- Provide a seamless connectivity to care when needed
- Use operational measures and metrics to gauge and act upon challenges
- Ensuring privacy and confidentiality remain vital

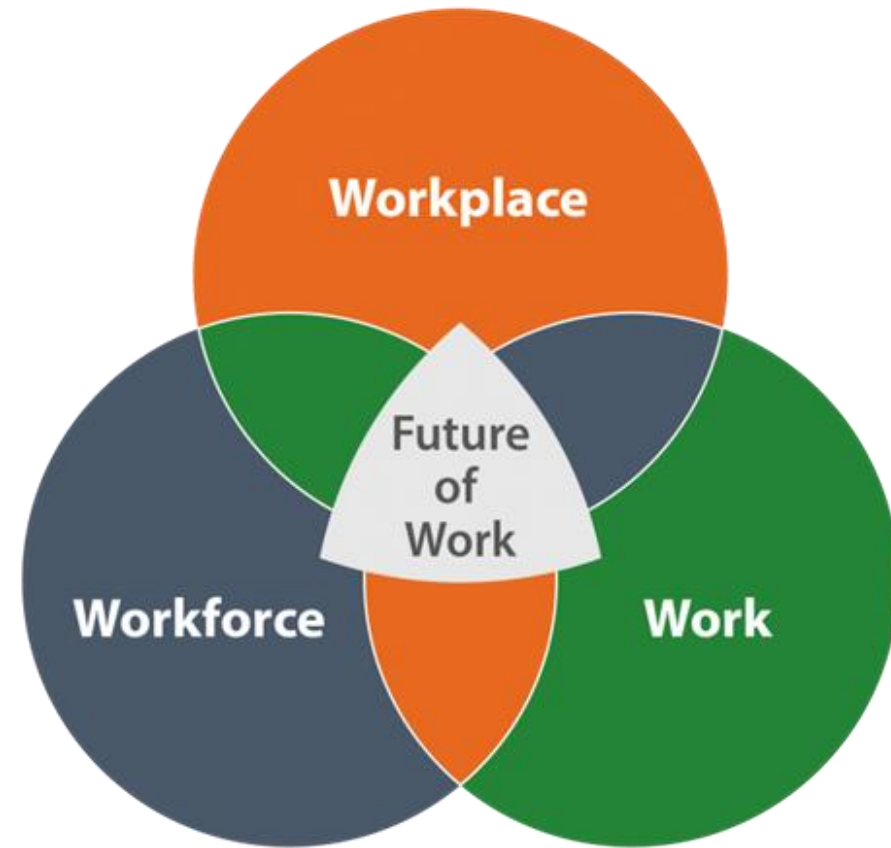
Opioids and the *Total Worker Health*® Approach

The NIOSH Framework to Address Opioid Misuse Using the *Total Worker Health*® Approach



NIOSH Future of Work Initiative

- Vision: Prepare workers for a safer, healthier, and more productive future.
- *Total Worker Health* approach applied through principles that encourage collaboration across the spectrum of organizational policies, programs, and practices
- Collaborative effort of multi/transdisciplinary research, communications, and partnerships throughout NIOSH, other gov't agencies, and organizations
- <https://www.cdc.gov/niosh/topics/future-of-work/default.html>



Why the *Total Worker Health*® Approach is Ideal for the Future of Work

Builds on Traditional Occupational Safety and Health Efforts

- Broadens worker safety and health efforts to include other factors influencing well-being risks, on- and off-the-job
- Offers holistic, comprehensive opportunities in safer work, higher quality work, and better designed work
- Confronts spectrum of workplace and work risks, hazards, and exposures impacting workforce safety, health, and well-being
- Provides evidence-based research and practical solutions that can inform policy and capacity-building for healthier organizations, improved worker well-being, and beyond

CDC/NIOSH Future of Work Initiative Priority Topics

Issues that Impact Workplace, Work, and Workforce

Emergency and Disaster Preparedness and Response • Exposures and Hazards • Extreme Weather Conditions • Globalization • Industry 4.0 • OSH 4.0 • Policies • Politics • Resources • Social Disruption

WORKPLACE

ORGANIZATIONAL DESIGN	Autonomy • Burnout and Stress Prevention • Healthy Leadership • Job Flexibility • Leave Systems • Scheduling • Social and Corporate Responsibility • Workplace Built Environment • Workspace • Work-Life Fit
TECHNOLOGICAL JOB DISPLACEMENT	Automation • Digitalization • Job Quantity and Quality • Occupational Polarization • Productivity Enhancement and Quality Improvement through Automated Manufacturing • Stable, New, and Redundant Work
WORK ARRANGEMENTS	Alternative • App-Based • Contingent • Contractual • Direct Hire • Distributed • Free-Lancer • Job Sharing • Non-Standard • On-Call • On-Demand • Part-Time • Platform • Precarious • Seasonal • Single vs. Multi-Employers • Temporary

WORK

ARTIFICIAL INTELLIGENCE	Deep Learning • Machine Learning • Neural Networks
ROBOTICS	Autonomous, Collaborative, Industrial, Managerial, Service, and Social Robots • Autonomous Vehicles • Human-Machine Interaction • Unmanned Aerial Systems • Wearable Exoskeletons and Exosuits
TECHNOLOGIES	Additive and Smart Manufacturing, and 3D Printing • Advanced, Cloud, and Quantum Computing • Bio-Manufacturing • Bio-Technology • Clean and Green Technologies • Digitalization • Information and Communication Technologies • Internet-of-Things • Nanotechnology and Advanced Materials • Sensors • Sensor Surveillance • Smart Personal Protective Equipment

WORKFORCE

DEMOGRAPHICS	Diversity and Inclusivity • Multi-Generational • Productive Aging • Vulnerable
ECONOMIC SECURITY	Adequate Wages • Equitable and Commensurate Compensation and Benefits • Minimum Guaranteed Hours
SKILLS	Continual Education, Learning, and Training • Re-Skilling and Up-Skilling

Special Issue "Worker Safety, Health, and Well-Being in the USA"

- [Print Special Issue Flyer](#)
- [Special Issue Editors](#)
- [Special Issue Information](#)
- [Keywords](#)
- [Published Papers](#)

A special issue of *International Journal of Environmental Research and Public Health* (ISSN 1660-4601). This special issue belongs to the section "Occupational Safety and Health".

Deadline for manuscript submissions: **closed (31 August 2021)**.

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Special Issue Editors

Dr. Sara L. Tamers [E-Mail](#) [Website](#) [SciProfiles](#)

Guest Editor

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Keywords

- future of work
- *Total Worker Health*®
- healthy work design and well-being
- organizational design
- technological job displacement
- work arrangements
- artificial intelligence
- technology
- robotics
- demographic shifts
- economic security
- skills
- prevention and control of hazards and exposure
- built environment supports
- community supports
- compensation and benefits
- healthy leadership
- policies
- work organization-related chronic health conditions, including substance use disorders
- occupational stress



Draft NIOSH Climate and Work Initiative Strategic Plan

Research Priorities

Determine interactions between climate, occupational hazards, and other factors.

Identify susceptible subpopulations.

Assess surveillance needs for identifying climate-related hazards and risks to workers.

Investigate the effectiveness of controls.

Investigate the economic impact of workers exposed to hazards related to climate.

Climatologic Conditions, Chronic Disease and Work: Emerging Evidence and Implications

- assess the risks for climate-related hazards in all job assignments and settings routinely;
- adapt effective approaches to the traditional hierarchy of controls;
- revise workplace designs and establish key protocols;
- develop well-established protocols for early warning systems and post-exposures;
- have a clear procedure for return-to-work after extreme exposures;
- provide worker training;
- have a strong surveillance procedure for early identification of illnesses and symptoms;
- develop effective communication strategies; and
- offer considerations for workers diagnosed with chronic conditions.

NIOSH Occupational Health Equity Program

<https://www.cdc.gov/niosh/programs/ohe/default.html>

- Seeks to eliminate avoidable work-related injury, illness, and death that are closely linked with social, economic, or environmental disadvantage
- Promotes research to identify, understand, and eliminate occupational health inequities closely linked with social, economic, and environmental disadvantage
- Integrates inclusive research practices to reflect societal diversity and account for differing experiences of social conditions.
- Improves understanding of how work as a social determinant of health contributes to the inequitable distribution of illness, injury, mortality, and well-being.



NIOSH Emergency Preparedness and Response Program

<https://www.cdc.gov/niosh/programs/epr/default.html>

- NIOSH Disaster Science Responder Research Program COVID-19 Research Agenda
- Research Priority Areas Include:
 - Economics;
 - Engineering Controls;
 - Epidemiology/Surveillance;
 - Mental Health;
 - Occupational Environmental/Exposure Assessment;
 - Occupational Violence;
 - Personal Protective Equipment;
 - Transmission/Occupational Health; and,
 - Zoonosis



Other Opportunities to Address Gaps in Research and Practice

- Investigate the Consequences of Disaster Exposure for Workers and Organizations
- Further Examine Resource Investment After Disaster Events
- Consider What Methods Are Best Employed to Study Disasters
- Expand the Study of Disasters to More Inclusive Samples and Be Ethical

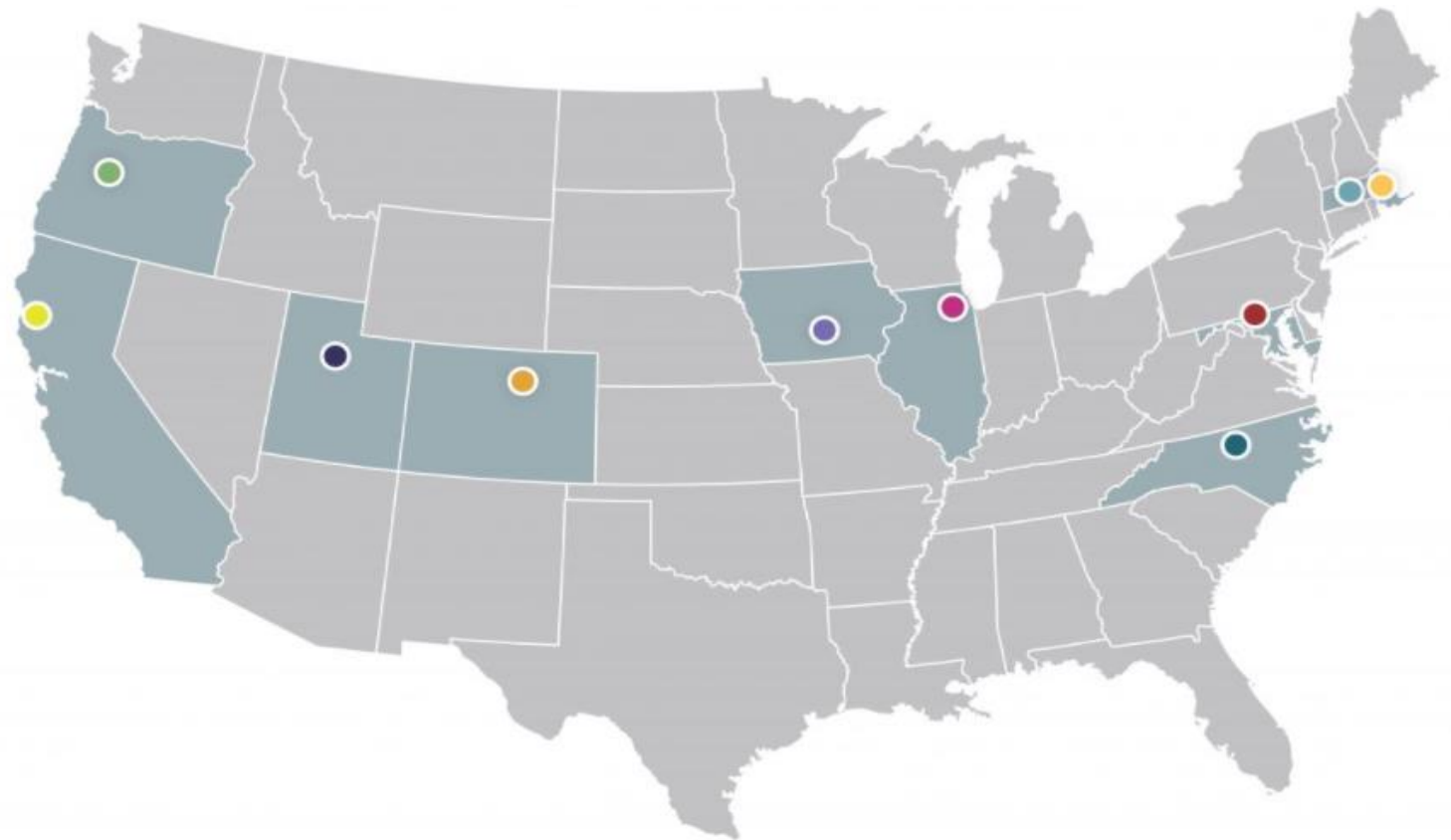
Sources: Gregg et al., 2022; NIOSH, 2021; Silver, Holman, Garfin, 2021



Key Take Aways

- Future disasters will undoubtedly occur – Americans are proven to be resilient and capable of transformation time and time again
- Emotional and behavioral responses to cascading collective traumas will be multidetermined but not random
- There is no one-size-fits-all response
- Recovery is not a straight path and takes time
- Numerous resources are available to assist workers and organizations
- Research, practice, policy efforts are and will benefit from key threads uncovered time and time again (i.e., healthy leadership, active worker participation, multiple and flexible safe and healthy options, and proactive and collaborative steps involving multidisciplinary partners)

NIOSH Centers of Excellence for *Total Worker Health*®



● California Labor Laboratory (CALL Center)

● Carolina Center for *Total Worker Health*® and Well-being

● Center for Health, Work & Environment

● Center for the Promotion of Health in the New England Workplace (CPH-NEW)

● Healthier Workforce Center of the Midwest

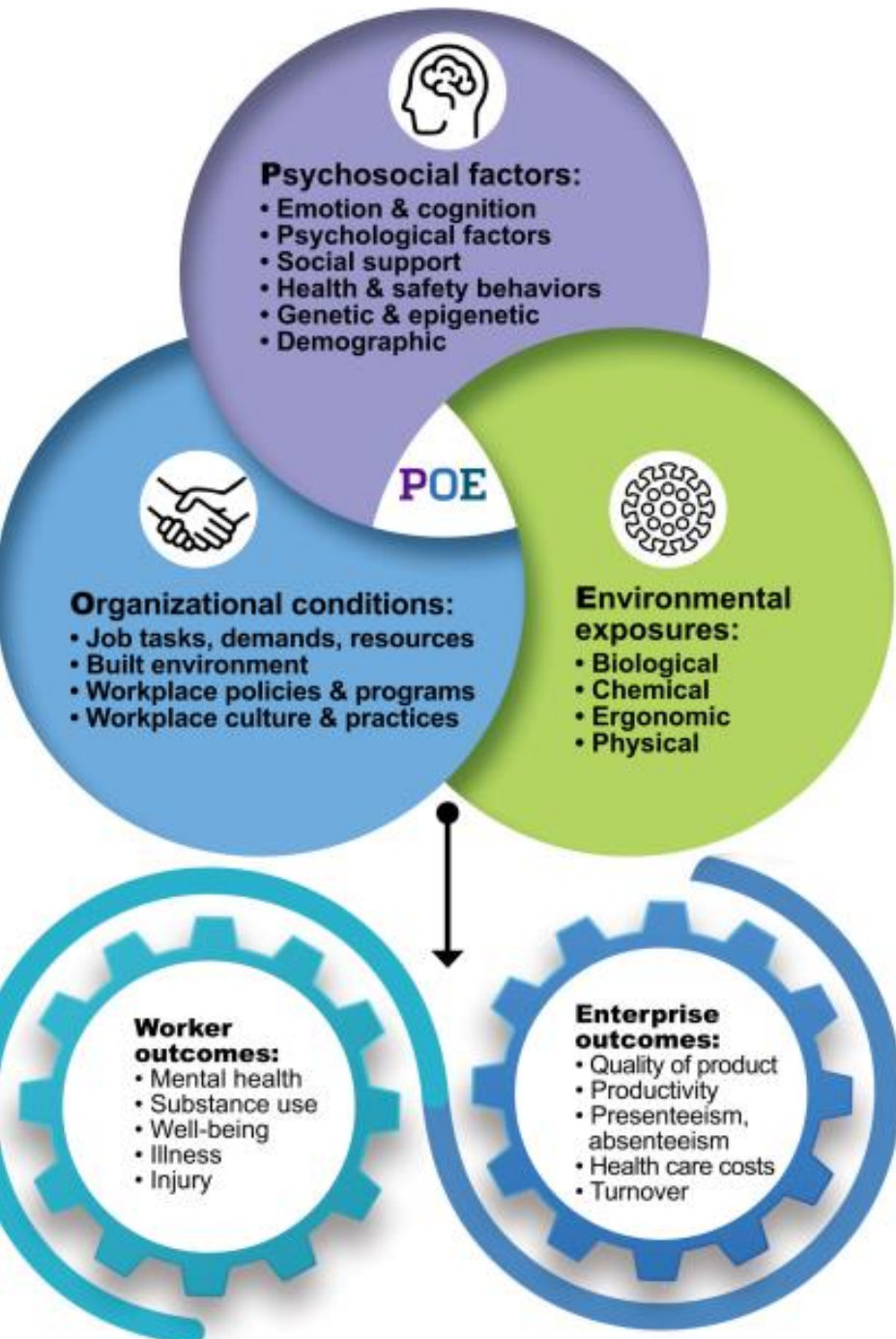
● Johns Hopkins P.O.E. *Total Worker Health*® Center in Mental Health (POE Center)

● Oregon Healthy Workforce Center (OHWC)

● The Harvard T.H. Chan School of Public Health Center for Work, Health & Well-being

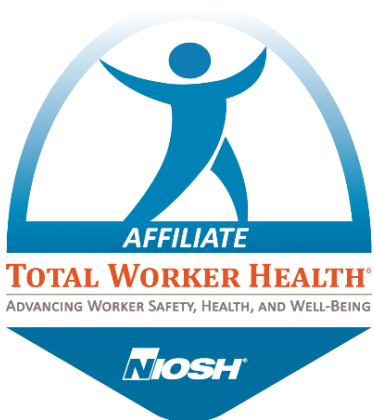
● UIC Center for Healthy Work

● Utah Center for Promotion of Work Equity (U-POWER)



NIOSH Launches 1st TWH Center Dedicated to Workplace Mental Health: John Hopkins University Psychosocial, Organizational, and Environmental (POE) Center

- 2021: Established the first NIOSH Total Worker Health® Center dedicated to improving mental health of the nation's workforce
- Focused on broad cohorts of healthcare, essential, and frontline workers
- Research will also focus on workplace mental health during and after a crisis, such as the COVID-19 pandemic



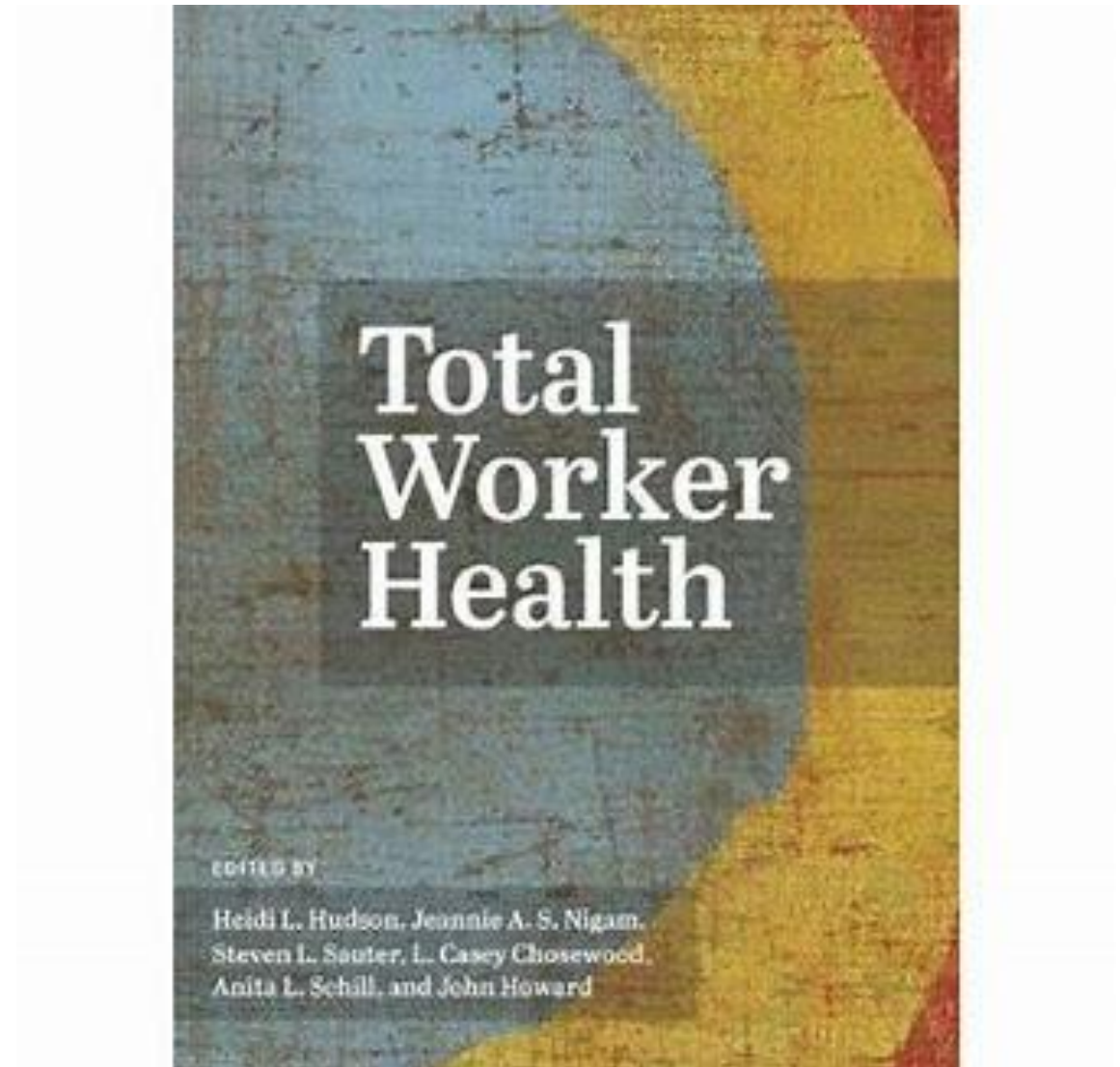
NIOSH *Total Worker Health*® Affiliates

Can your organization become the next NIOSH *Total Worker Health* Affiliate?

NIOSH Total Worker Health® Affiliates	
AgriSafe Network	Mental Health America
American Association of Occupational Health Nurses	Miami Occupational Research Group, U of Miami
American College of Occupational and Environmental Medicine	Mount Sinai Entities
American College of Preventive Medicine	National Aeronautics and Space Administration
American Industrial Hygiene Association	National Association of Worksite Health Centers
American Society of Safety Professionals	National Institutes of Health
Association of Occupational Health Professionals in Healthcare	National Oceanic and Atmospheric Administration (NOAA) Office of Marine and Aviation Operations
Center for Intelligent Environments (CENTIENTS)	National Park Service
Centers for Disease Control and Prevention	National Safety Council
Center for Social Epidemiology	Nebraska Safety Council
City of Eugene, OR	Northern Kentucky University
City of Plano, TX	Ohio Bureau of Workers' Compensation
Dartmouth Hitchcock Medical Center	SAIF Corporation
Dr. James F. McNeil Vocational Consulting Services	Society for Occupational Health Psychology
Eastern Kentucky University	St. Louis Area Business Health Coalition
Eskenazi Health	St. Luke's Health System (Idaho)
Eugene Water & Electric Board	University of Alabama
HealthPartners Institute	University of Buffalo
Institute on Disability, U of New Hampshire	University of California –Davis
Interdisciplinary Center for Healthy Workplaces, U of CA –Berkeley	University of California –Los Angeles
International Brotherhood of Boilermakers	University of Georgia
ISSA—The Worldwide Cleaning Industry Association	University of North Carolina --Greensboro
Kentucky Injury Prevention and Research Center	University of Michigan
Labor Occupational Health Program, U of CA –Berkeley	University of Rochester
Laborers' Health & Safety Fund of North America	University of Texas Health Science Center at Houston
Madison County, NY	Western Kentucky University

Edited Volume on *Total Worker Health*

- 350-page, 10-chapter culmination of the state of the science and practice of integrated safety, health and well-being with contributions from over 30 international thought leaders
- Published in 2019 by APA
- Heidi Hudson, Jeannie Nigam, Steve Sauter, Casey Chosewood, Anita Schill, and John Howard



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NIOSH Total Worker Health Group
<https://www.linkedin.com/groups/4473829/>



TWH in Action! eNewsletter

<http://www.cdc.gov/niosh/TWH/newsletter/>



www.cdc.gov/niosh/twh

TWH@CDC.GOV

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- Health Worker Mental Health Initiative
- Future of Work Initiative
- Opioids and Substance Use Disorders at Work Initiative
- Climate and Work Program
- Occupational Health Equity Program
- Emergency Preparedness and Response Program

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