

Healthy Work Design to Advance Worker Well-Being: *Total Worker Health*® Strategies

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National Institute for Occupational Safety and Health (NIOSH)

Mid-Atlantic Regional Conference in Occupational and Environmental Medicine (MARCOEM)

Oct 26, 2024, 1:45-2:30pm Eastern

Baltimore, MD

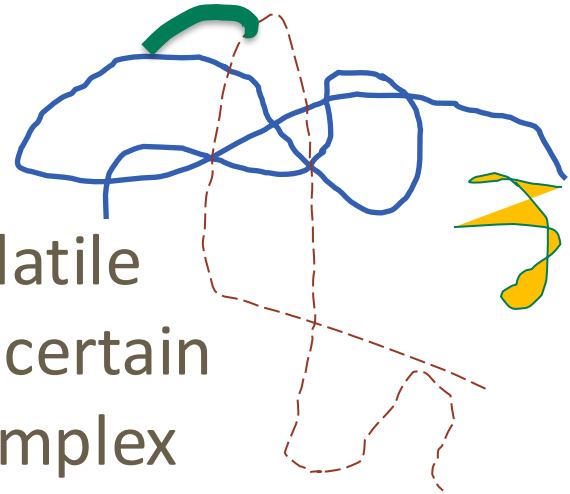
The findings and conclusions in this presentation are those of the authors and do not necessarily represent the official position of the National Institute for Occupational Safety and Health, Centers for Disease Control and Prevention.

Total Worker Health® is a registered trademark of the U.S. Department of Health and Human Services (HHS).

Work as we *knew* it



21st Century Work



Volatile
Uncertain
Complex
Ambiguous

Strategic Foresight & Future of Work



Focus Areas

- Data security
- Mental health
- Partnerships
- Research
- Virtual work

Tamers SL, et al. Envisioning the Future of Work to Safeguard the Safety, Health, and Well-being of the Workforce.

<https://onlinelibrary.wiley.com/doi/10.1002/ajim.23183>.

Felknor SA, Streit JMK, Edwards NT, Howard J. Four Futures for Occupational Safety and Health. IJERPH 2023; 20(5):4333.

<https://doi.org/10.3390/ijerph20054333>

Precarious Employment

The collage features three overlapping screenshots of telehealth-related websites. The top screenshot is from 'enzyme', a purple-themed site with the headline 'Finding a Telehealth Job has Never Been Easier' and a 'Get Started' button. The middle screenshot is from 'Nomad', a light blue site with the headline 'Join 40,000 clinicians and 1,000+ employers on the first marketplace for doctor and nurse jobs.' The bottom screenshot is from 'dr on demand', a dark-themed site with the headline 'The easiest way to see a doctor, 24/7' and a 'Join for free' button. A small 'Healthy Heart, Healthy Life' banner is also visible between the middle and bottom screenshots.

- Little job security
- Minimal advancement
- Health insurance
- Representation
- Populations at high risk

**AMERICAN JOURNAL OF
INDUSTRIAL MEDICINE**
INCORPORATING ENVIRONMENTAL AND OCCUPATIONAL HEALTH

COMMENTARY |  Full Access

Managing workplace AI risks and the future of work

John Howard MD  Paul Schulte PhD

First published: 02 September 2024 | <https://doi.org/10.1002/ajim.23653>

Digital technologies at work and psychosocial risks: evidence and implications for occupational safety and health

Report



Safety and health at work is everyone's concern. It's good for you. It's good for business.

ITU Events

 **AI for Good
Webinar**

Daron Acemoglu:
Can we have pro-worker AI?

In partnership with:  International
Labour
Organization

Wednesday, 19 June 2024



► Int J Environ Res Public Health. 2023 Jun 24;20(13):6221. doi: [10.3390/ijerph20136221](https://doi.org/10.3390/ijerph20136221) 

Occupational Safety and Health Equity Impacts of Artificial Intelligence: A Scoping Review

[Elizabeth Fisher](#)¹, [Michael A Flynn](#)², [Preethi Pratap](#)¹, [Jay A Vietas](#)^{2,*}

Center for Health, Work & Environment

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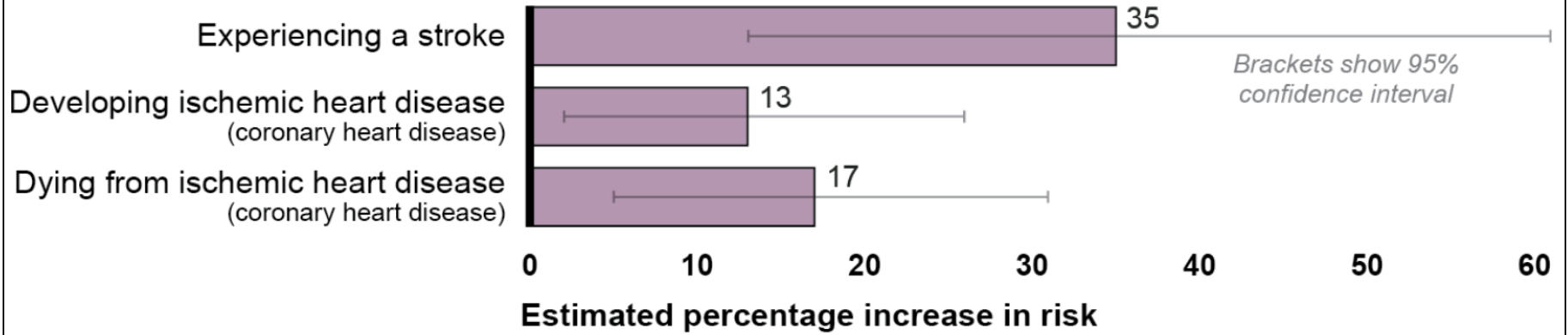


Climate Impacts on Worker Health & Safety Center

Keeping workers and their communities safe, healthy, and productive in the midst of changing work environments.

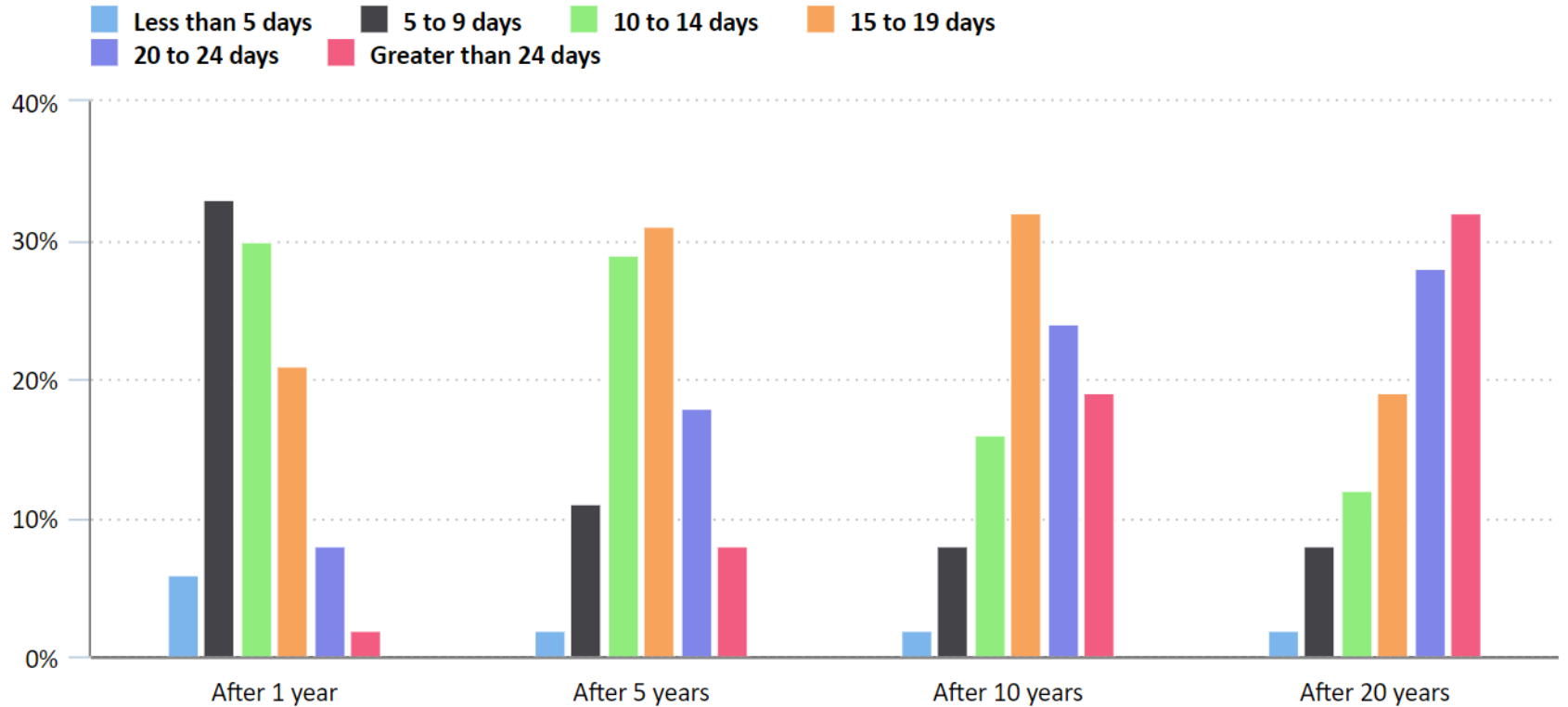
<https://coloradosph.cuanschutz.edu/research-and-practice/centers-programs/chwe/research/ciwhs>

Research Results: Increased Risk of Stroke and Heart Disease Associated with Working 55 or More Hours Per Week, Relative to Working 35-40 Hours Per Week



Source: GAO review of selected research: Descatha, A. et al (2020) and Li, J. et al (2020). | GAO-24-106772

Chart 1. Percentage of private industry workers with number of annual paid vacation days by service requirement, March, 2024



Brain Health and Work

- Job stress
 - Headache
 - Sleep disturbance
 - Concentration, cognitive performance
 - Risk of cardiovascular disease
 - Anxiety, depression
 - Reduced exercise, poor dietary habits
- Sleep
- Social interaction
- Cognitive functioning



Health Workers Mental Health

- **Poor mental health days** each month: 2018 (3.3 days) → 2022 (4.5 days)
- Feeling burnout **very often**: 11.6% → 19.0%
- Harassment at work: 6.4% → 13.4%
- 45.6%: Feeling burnout **often or very often** in 2022
- 44.2%: **somewhat/very likely** to look for a new job in 2022



How Can Work *Contribute* to Well-Being?

SIRM

Membership Credentials ▾ Topics & Tools ▾ Events & Education ▾ Business Solutions

Topics & Tools > Employment Law & Compliance > What Ted Lasso Can Teach Us About Mental Health in the Workplace

NEWS

What Ted Lasso Can Teach Us About Mental Health in the Workplace

March 29, 2023 | Leah Shepherd



Saul Loeb / AFP via Getty Images

<https://www.shrm.org/topics-tools/employment-law-compliance/ted-lasso-can-teach-us-mental-health-workplace>

The Value of Worker Well-Being

Public Health Reports
2019, Vol. 134(6) 583-586
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DOI: 10.1177/0033354919878434
journals.sagepub.com/home/phr



On average, employed US adults spend more than half of their waking lives working or engaging in work-related activities.¹ The time spent at the workplace, the tasks performed there, and the work environment all affect overall health.^{2,3} We know many colleagues for whom their job is a great source of joy and fulfillment. They are passionate about their work and derive from it a strong sense of purpose and connection to others. However, we have also seen people working long hours under stressful conditions, which makes it difficult for them to spend time with their families and friends, balance work and non-work commitments, and pursue hobbies and other interests. Many are fatigued and some are burned out, which, in the



Jerome M. Adams, MD, MPH
Vice Admiral, US Public Health Service
US Surgeon General

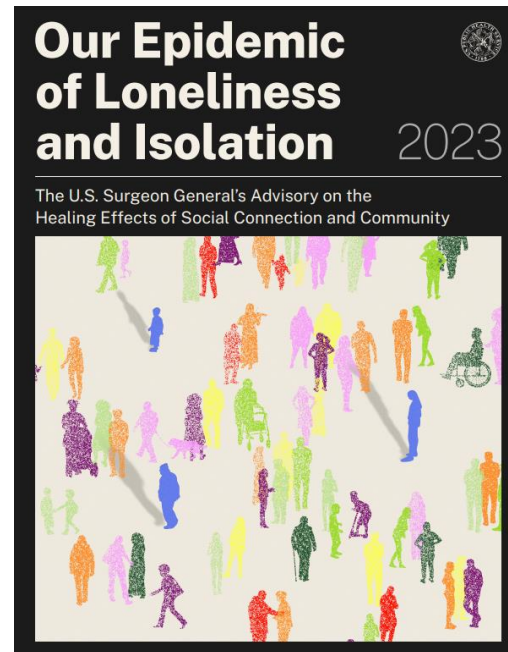
other health indicators, including physical activity and diet quality.^{13,14} Work environment can also influence employees' mental health and stress levels.^{3,15} Work-related factors that affect worker well-being include job demands and pressures, degree of autonomy and flexibility, quality of interactions with supervisors and coworkers, frequency of shift work, and length of the workday.¹⁶⁻²⁰

The nature of work is changing, and some changes may have a considerable effect on worker well-being. On the one hand, new practices that are being adopted to promote employee well-being (eg, non-standard employment arrangements) can also foster team member engagement and improved perfor-

Workplace Mental Health and Well-Being is a Priority



<https://www.hhs.gov/surgeongeneral/priorities/workplace-well-being/index.html>



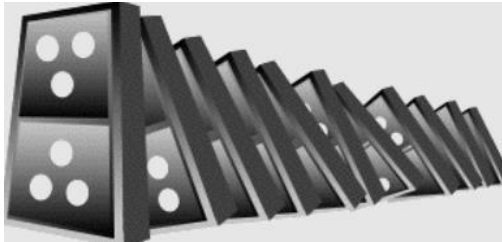
<https://www.hhs.gov/sites/default/files/surgeon-general-social-connection-advisory.pdf>

Total Worker Health[®] Approach



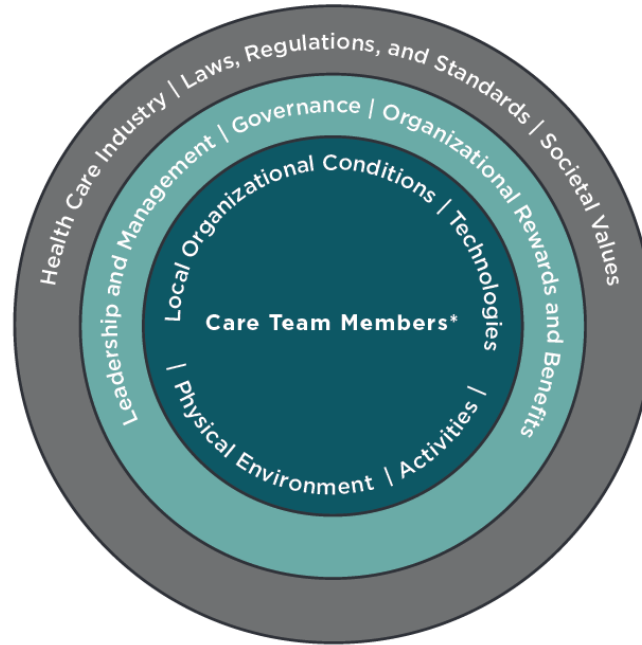
Create Worker Well-Being

Total Worker Health® Approach to Well-Being



- Health in all policies
- Socio-ecologic model
- Social determinants of health
- Root cause analysis
- Macro- and cognitive ergonomics
- Systems engineering

Healthcare: Three levels of systems

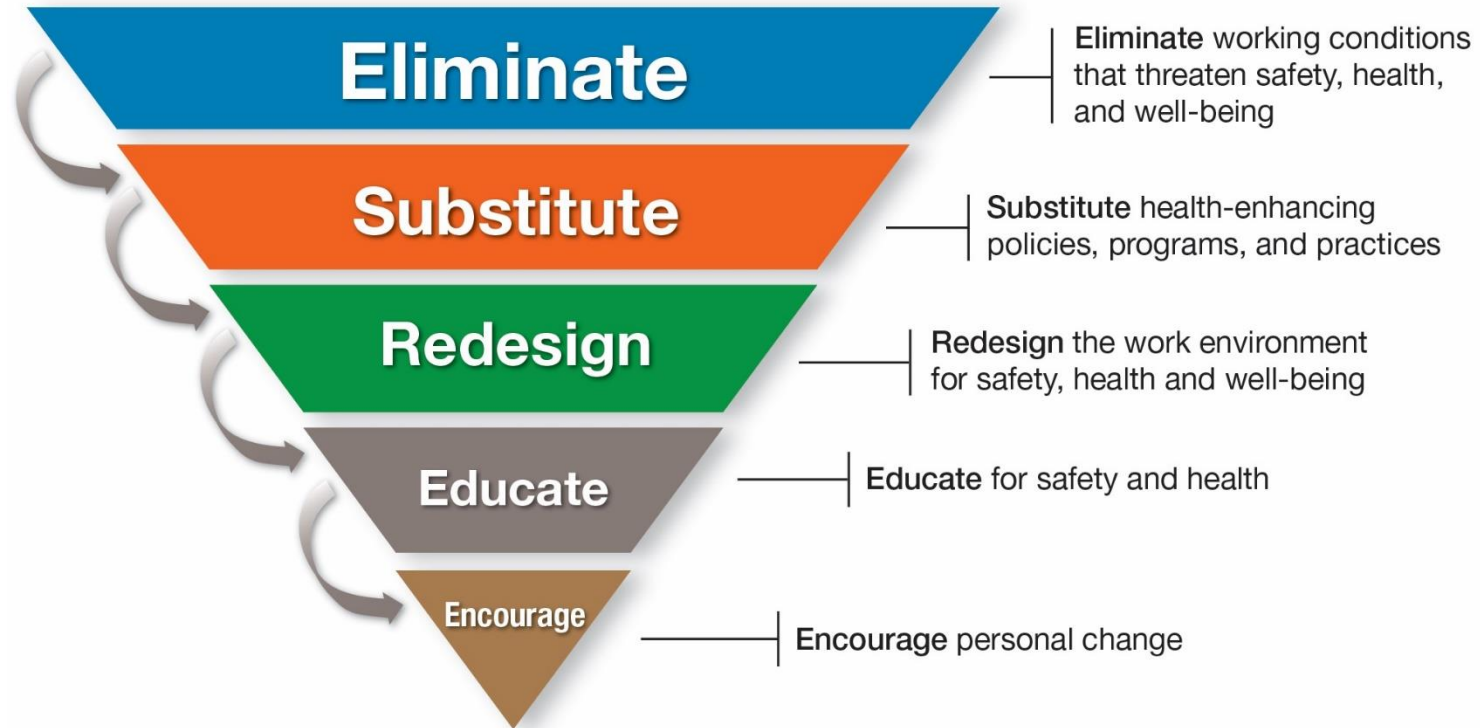


● | Frontline Care Delivery ● | Health Care Organization ● | External Environment

*Note: Care team members include clinicians, staff, learners, patients, and families.

National Academies of Sciences, Engineering, and Medicine 2019. Taking Action Against Clinician Burnout: A Systems Approach to Professional Well-Being. Washington, DC: The National Academies Press. <https://doi.org/10.17226/25521>

Hierarchy of Controls Applied to TWH



Trust and communication



Safe work



Supportive policies and benefits



**Example of Integrated Approach:
Substance Use and
Mental Health**

Health education



Safe staffing



**Health-
supportive
policies**

**Example of
Integrated
Approach:
Sleep and Fatigue**

**Physical
environment**



Sleep education



Total Worker Health[®] Key Tenets

What it is...

- ✓ A *Total Worker Health* (TWH) approach examines how the work organization and work itself can holistically influence worker safety, health, and well-being
- ✓ TWH embraces voluntary, participatory interventions
- ✓ TWH programs protect workers' rights and privacy

What it is NOT...

- ✗ TWH does not “blame the worker”
- ✗ TWH is not consistent with workplace policies that discriminate against or penalize workers for their individual health conditions or create disincentives for improving health
- ✗ TWH is not a wellness/health promotion program that has been implemented without simultaneously providing safe and healthful working conditions

Issues Relevant to Advancing Worker Well-being

Using *Total Worker Health*[®] Approaches

Prevention and Control of Hazards and Exposures

- Biological Agents
- Chemicals
- Ergonomic Factors
- Physical Agents
- Psychosocial Factors
- Risk Assessment and Management

Built Environment Supports

- Accessible and Affordable Health Enhancing Options
- Clean and Equipped Breakrooms, Restrooms, and Lactation Facilities
- Healthy Workspace Design and Environment
- Inclusive and Universal Design
- Safe and Secure Facilities

Community Supports

- Access to Safe Green Spaces and Pathways
- Healthy Community Design
- Safe and Clean Environment (Air and Water Quality, Noise Levels, Tobacco-Free)
- Safe, Healthy, and Affordable Housing Options
- Transportation and Commuting Assistance

Compensation and Benefits

- Adequate Wages and Prevention of Wage Theft
- Affordable, Comprehensive, and Confidential Healthcare Services
- Chronic Disease Prevention and Management Programs
- Continual Learning, Training, and (Re-)Skilling Opportunities
- Disability Insurance (Short- and Long-Term)
- Employee Assistance and Substance Use Disorder Programs
- Equitable Pay, Performance Appraisals, and Promotions
- Minimum Guaranteed Hours
- Paid Time Off (Sick, Vacation, Caregiving, Parental)
- Prevention of Healthcare Cost Shifting to Workers
- Retirement Planning and Benefits
- Work-Life Programs
- Workers' Compensation Benefits

Healthy Leadership

- Collaborative and Participatory Environment
- Corporate Social Responsibility
- Responsible Business Decision-Making
- Supportive Managers, Supervisors, and Executives
- Training
- Worker Recognition, Appreciation, and Respect

Organization of Work

- Adequate Breaks
- Comprehensive Resources
- Fatigue, Burnout, Loneliness, and Stress Prevention
- Job Quality and Quantity
- Meaningful and Engaging Work
- Safe Staffing
- Work Intensification Prevention
- Work-Life Fit

Policies

- Elimination of Bullying, Violence, Harassment, and Discrimination
- Equal Employment Opportunity
- Family and Medical Leave
- Human and Natural Resource Sustainability
- Information Privacy
- Judicious Monitoring of Workers and Biomonitoring Practices
- Optimizing Function and Return-to-Work
- Prevention of Stressful Job Monitoring Practices
- Reasonable Accommodations
- Transparent Reporting Practices
- Whistleblower Protection
- Worker Well-Being Centered
- Workplace Supported Recovery Programs

Technology

- Artificial Intelligence
- Robotics
- Sensors

Work Arrangements

- Contracting and Subcontracting
- Free-Lance
- Global and Multinational
- Multi-Employer
- Non-Standard
- Organizational Restructuring, Downsizing, and Mergers
- Precarious and Contingent
- Small- and Medium-Sized Employers
- Temporary
- Unemployment and Underemployment
- Virtual

Workforce Demographics

- Diversity and Inclusivity
- Multigenerational
- Productive Aging across Lifecourse
- Vulnerable Workers
- Workers with Disabilities



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
- Chari R, Sauter SL, Petrun Sayers EL, Huang W, Fisher GG, Chang C-C. Development of the National Institute for Occupational Safety and Health Worker Well-Being Questionnaire. J Occup Environ Med. 2022;64(8):707-717. DOI: 10.1097/JOM.0000000000002585

Workplace Physical Environment & Safety Climate



ISO 45003:2021

Occupational health and safety management — Psychological health and safety at work — Guidelines for managing psychosocial risks

Workplace Policies and Culture



SMART Model of Work Design

Stimulating

Mastery

Agency

Relational

Tolerable demands

- Task, skill variety
- Problem solving requirements
- Job feedback
- Role clarity
- Timing, method
- Decision-making
- Task significance
- Social support, beneficiary contact
- Low role overload
- Low work-family conflict

Worker Evaluation & Experience



- Supportive supervision
 - Sleep
 - Job satisfaction
 - Well-being
 - Physical health
- Skill utilization - Employee health
- Job insecurity – Engagement

Health Status

- Insomnia
- Sleepy at Work
- Cognitive Functioning & Work Limitations
- Work-related Injury, Injury Consequence



Home, Community, & Society

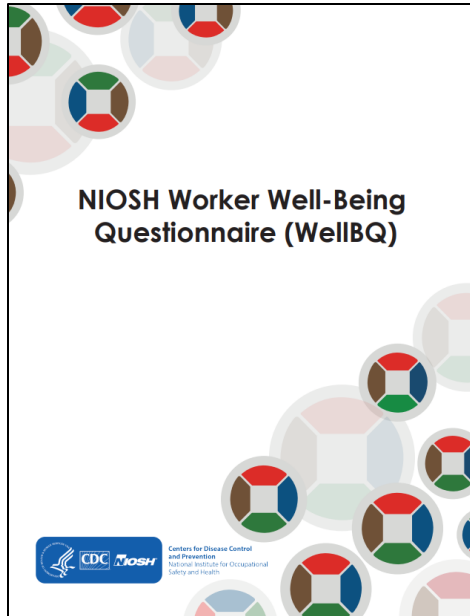
- Family members impacted by worker injuries
 - More likely for hospitalization, musculoskeletal disease
- Life satisfaction -> occupational injury
- Financial insecurity
- Emotion and social support





NIOSH WellBQ

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



- Free for public use
- Approximately 15 minutes
- 68 items
- Available in Spanish and Italian*
- HERO Clearinghouse

*Fontana L, et. al . JOEM 2023 doi: 10.1097/JOM.0000000000002835

Putting the NIOSH WellBQ into Practice



- ✓ Examine changes over time
- ✓ Assess impact of interventions
- ✓ Compare between groups
- ✓ Link to organizational data:
 - Scorecards
 - Management systems
 - Turnover
 - Healthcare costs, etc

Fundamentals of TWH Approaches



Demonstrate leadership commitment



Eliminate hazards and promote well-being



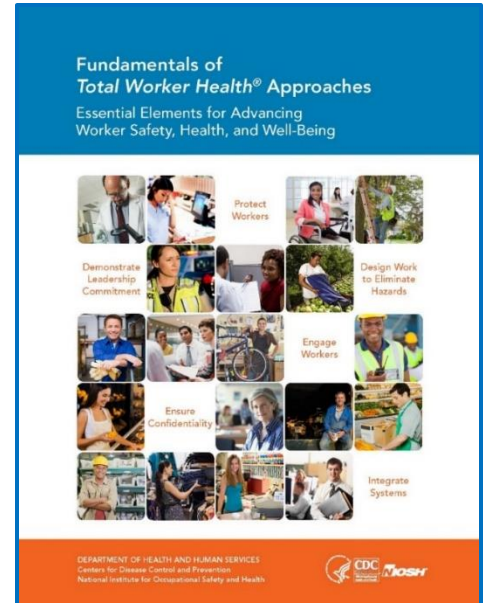
Engage workers in program design, delivery



Ensure confidentiality and privacy




Integrate systems effectively



Fundamentals of Total Worker Health® Approaches
Essential Elements for Advancing Worker Safety, Health, and Well-Being

- Protect Workers
- Design Work to Eliminate Hazards
- Engage Workers
- Ensure Confidentiality
- Integrate Systems
- Demonstrate Leadership Commitment

DEPARTMENT OF HEALTH AND HUMAN SERVICES
Centers for Disease Control and Prevention
National Institute for Occupational Safety and Health



Workplace Supported Recovery: Recommendations for Reducing Stigma



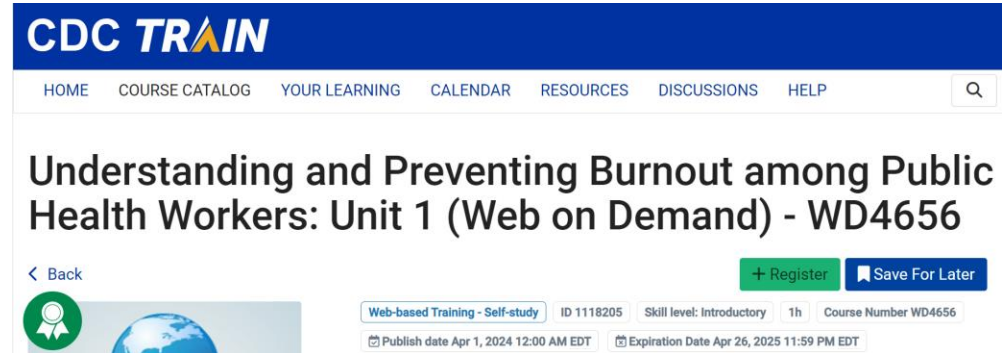
- **Provide training:** misunderstanding, bias
- **Adopt health-promoting policies**
- **Eliminate imprecise and derogatory terms**
Health perspective, health conditions (e.g., “person with substance use disorders”)
- **Ensure** that all policies are informed by science and supported by data

Training Resources



TOTAL WORKER HEALTH® TOOLKIT
Safety & Health Improvement Program (SHIP)

IMPROVING EMPLOYEE SAFETY,
HEALTH AND WELL-BEING
THROUGH SUPERVISOR SUPPORT AND TEAM EFFECTIVENESS





CDC TRAIN

HOME COURSE CATALOG YOUR LEARNING CALENDAR RESOURCES DISCUSSIONS HELP

Understanding and Preventing Burnout among Public Health Workers: Unit 1 (Web on Demand) - WD4656

< Back + Register Save For Later

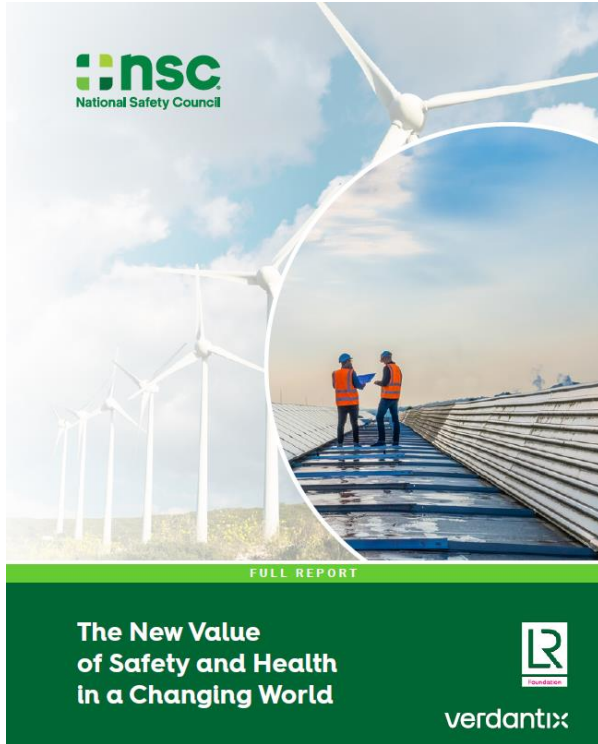
 

Web-based Training - Self-study ID 1118205 Skill level: Introductory 1h Course Number WD4656

Publish date Apr 1, 2024 12:00 AM EDT Expiration Date Apr 26, 2025 11:59 PM EDT

<https://www.yourworkpath.com/totalworkerhealth-casestudies>
<https://www.train.org/cdctrain/course/1118205/details>

Accountability and Organizing Initiatives



- TWH
- ESG (environment, social, governance)
- Human & organizational performance

National Safety Council. The new value of safety and health in a changing world. 2023
<https://www.nsc.org/workplace/resources/new-value-of-safety>

Human Resources



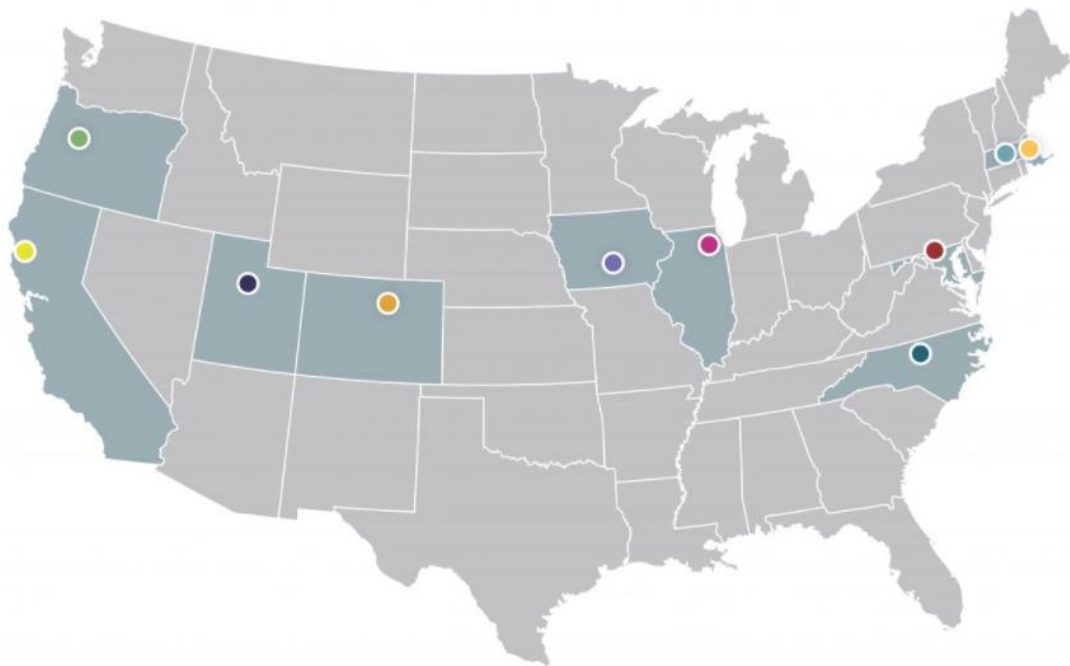
- Proactive rest: Paid time off (PTO) before high-demand periods
- Allotted wellness time
- Manager goals for team taking PTO
- Control over work schedule
- Stability in work schedule



Supportive People Managers

- Encourage fair and effective management practices
- Provide management training
- Include shared decision-making in performance evaluations
- Encourage mentorship

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 Total Worker Health[®] Affiliates

<https://www.cdc.gov/niosh/twh/partner/affiliates.html>

NIOSH Total Worker Health [®] Affiliates	
AgriSafe Network	National Association of Worksite Health Centers
American Association of Occupational Health Nurses	National Safety Council
American College of Occupational and Environmental Medicine	Nebraska Safety Council
American College of Preventive Medicine	Northern Kentucky University
American Industrial Hygiene Association	Ohio Bureau of Workers' Compensation
American Physical Therapy Association	SAIF Corporation
American Society of Safety Professionals	Society for Occupational Health Psychology
Association of Occupational Health Professionals in Healthcare	St. Louis Area Business Health Coalition
Center for Intelligent Environments	St. Luke's Health System (Idaho)
Center for Social Epidemiology	Three Rivers Manufacturers' Association
City of Eugene, OR	University of Alabama
City of Plano, TX	University of Buffalo
Dartmouth Hitchcock Medical Center	University of California –Berkeley
David Lynch Foundation	University of California –Davis
Eastern Kentucky University	University of California –Los Angeles
Eskenazi Health	University of California –Santa Cruz
Eugene Water & Electric Board	University of Georgia
Giovanni Lorenzini Medical Foundation	University of Michigan
Health Enhancement Research Organization (HERO)	University of North Carolina --Greensboro
HealthPartners Institute	University of Rochester Medical Center
Institute on Disability, U of New Hampshire	University of Texas Health Science Center at Houston
Interdisciplinary Center for Healthy Workplaces, U of CA –Berkeley	U.S. Centers for Disease Control and Prevention
International Brotherhood of Boilermakers	U.S. Department of Homeland Security
ISSA—The Worldwide Cleaning Industry Association	U.S. Department of Labor
Kentucky Injury Prevention and Research Center	U.S. National Aeronautics and Space Administration
Labor Occupational Health Program, U of CA –Berkeley	U.S. National Institutes of Health
Laborers' Health & Safety Fund of North America	U.S. National Environmental Satellite, Data, and Information Service
Madison County, NY	U.S. National Park Service
Massachusetts Coalition for Safety and Health	UsAgainstAlzheimer's
Mental Health America	Western Kentucky University
Miami Occupational Research Group, U of Miami	Yolo County Public Health Department (CA)
Mount Sinai Entities	



After Work



Before Work

Thank You!
cuc8@cdc.gov