

# The NIOSH *Total Worker Health*<sup>®</sup> Program and Opportunities for Promoting Healthy Sleep and Reducing Risks for Fatigue

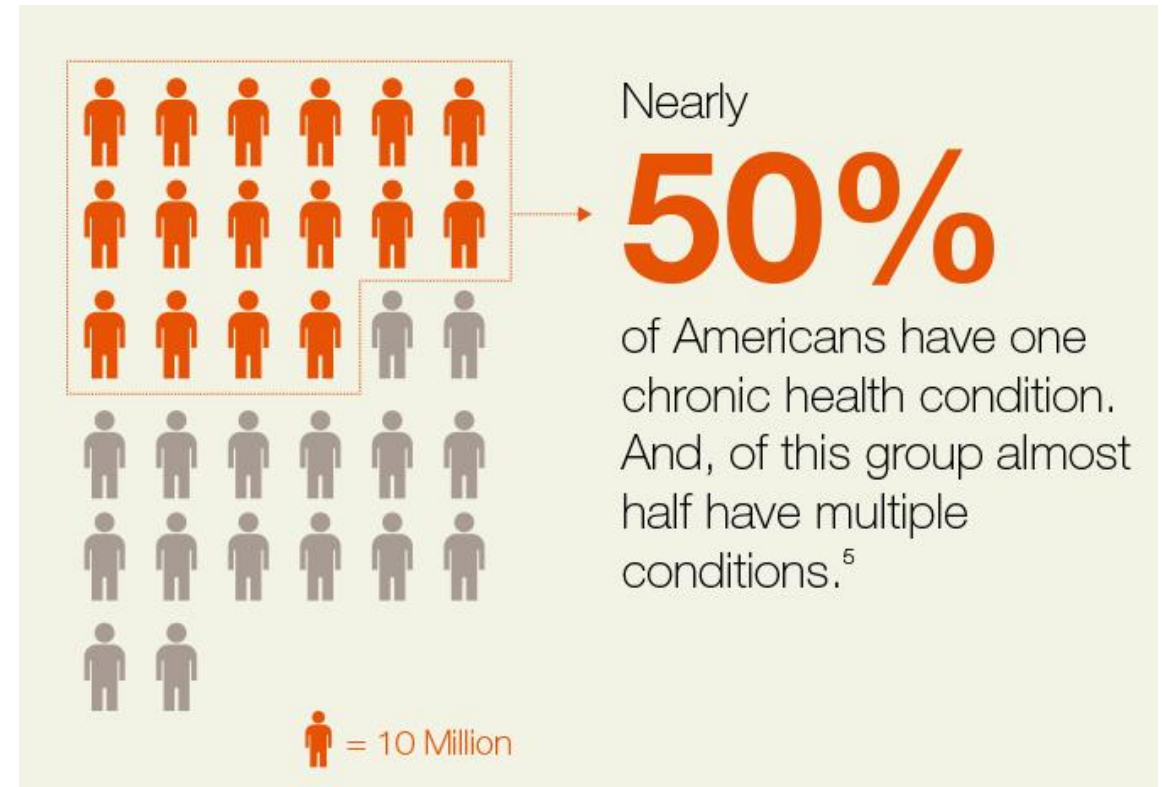
Sara L. Tamers, PhD, MPH; Office for Total Worker Health<sup>®</sup>

National Institute for Occupational Safety and Health  
Centers for Disease Control and Prevention

10<sup>th</sup> International Conference on Managing Fatigue  
San Diego, California  
Tuesday, March 21, 2017

# Health Threats Facing the 21<sup>st</sup> Century Population

1. Heart disease
2. Cancer
3. Chronic lower respiratory disease
4. Accidents (unintentional injuries)
5. Stroke
6. Alzheimer's
7. Diabetes
7. Influenza and pneumonia
9. Kidney disease
10. Suicide



*\*Annually there are around 2,596,993 deaths registered in the U.S. with the leading top 10 causes accounting for nearly 75% of all deaths.*

# OCCUPATIONAL HEALTH

By AMERICAN HEART ASSOCIATION NEWS

Researchers evaluated 5,566 employed workers to determine how many met the ideals for blood pressure, body mass index, total cholesterol, blood sugar, physical activity, smoking and diet quality.

Some of the occupations that registered the worst numbers were:



1.

**Police and firefighters**



2.

**Service occupations**

*(Includes people who prepare food, do building and grounds keeping, cleaning, and deliver personal care—hairstylists, animal care, makeup artists, funeral services, healthcare support, and entertainment.)*



3.

**Sales, office and administrative support**

Some of the occupations that registered the best numbers were:



1.

**Management and professionals**



2.

**Healthcare practitioners**  
*(doctors and nurses)*



3.

**Arts, entertainment, sports and media**

## Why is Work so Influential?

- 60% of non-institutionalized adults work
  - Up to half of waking hours at work/working
  - At least 90,000 hours at work/working
- Work contributes to “time poverty”
- Work controls policies, norms, built environment, etc. that impact choices/outcomes
  - Leave
    - Sick, family/child, and maternity/paternity leave, and access to vacation
  - Schedules
    - Shift working women have increased risk of breast cancer
    - Shift working men less likely to eat vegetables and fruits, and shift working women derive more energy intake from saturated fat
    - Long work hours and rotating shift work impact sleep and fatigue

## Work AND Sleep and Fatigue

- Organization of work (e.g., scheduling, flexibility, intensification, and autonomy) associated with job stress, which is linked with poor sleep quality and fatigue
- Working 48 + hours/week and/or shift work (~ 1 in 5 U.S. workers) linked to sleep disturbances and excessive sleepiness
- Poor sleep and fatigue due to long work hours and shift work associated with increased risk of:
  - Unhealthy behaviors, Hypertension, Cancer, Heart disease, Diabetes, Obesity, Violence, Psychological stress, Stroke severity...

# Sleep and Fatigue AND Work

- Increased occupational injuries/fatalities
- Increased motor vehicle accidents (leading cause of workplace death: 36%)
- Increased physical and mental illness (absenteeism, presenteeism)
- Reduced productivity
- Fewer health-conscious lifestyle choices made



# Worker Safety, Health, and Well-Being



Workers' risk of disease may be increased by exposure to both occupational hazards and individual risk-related behaviors.<sup>14</sup>

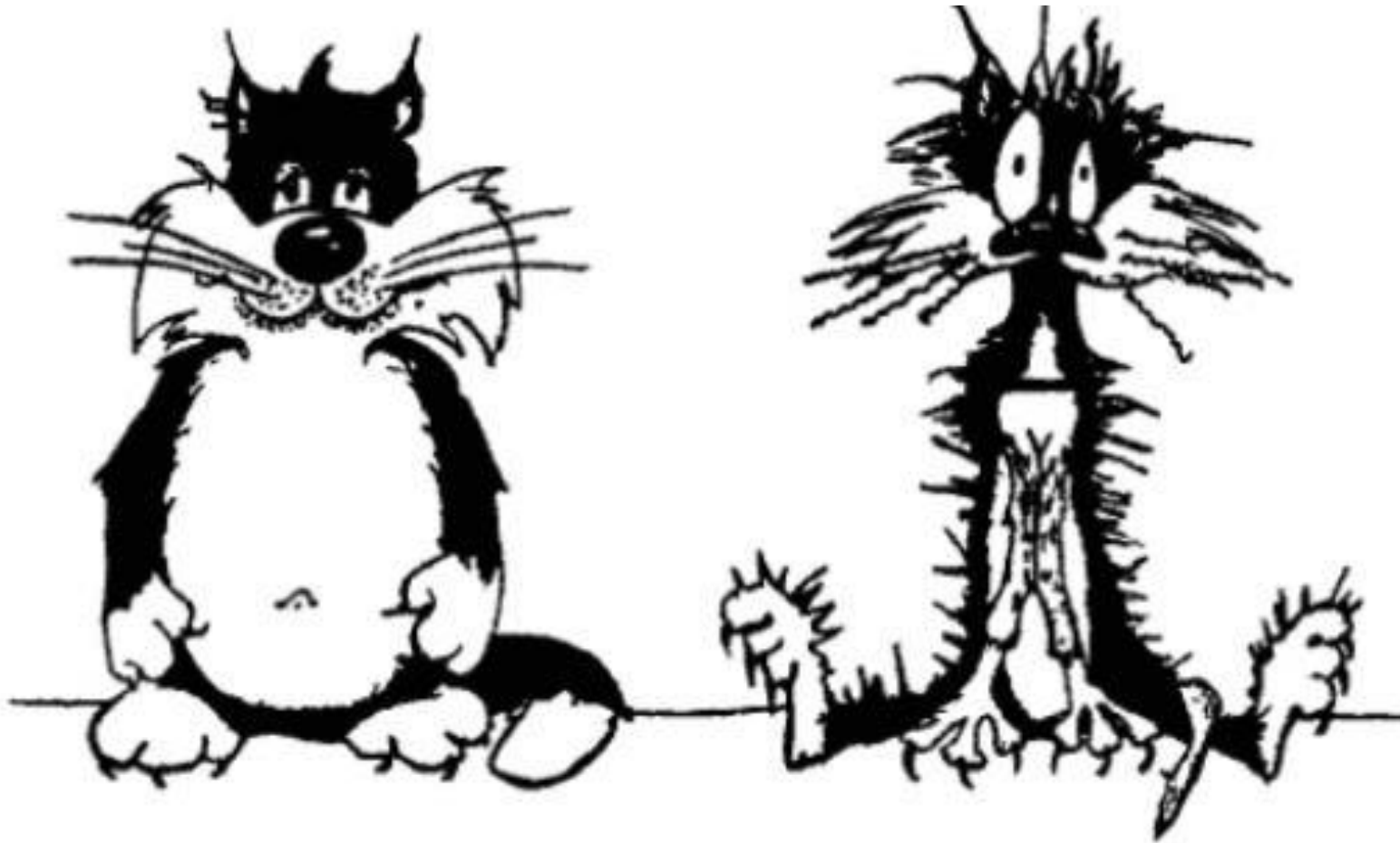
...Individual risk-related behaviors reciprocally impact risk of occupational injuries/illnesses

*Because employers design work practices that affect safety and health, and workers spend over 1/3 of their day on average at work, the worksite is an effective place to conduct interventions that aim to reduce risks for fatigue and poor sleep quality.*



# What Is (Often) Done?



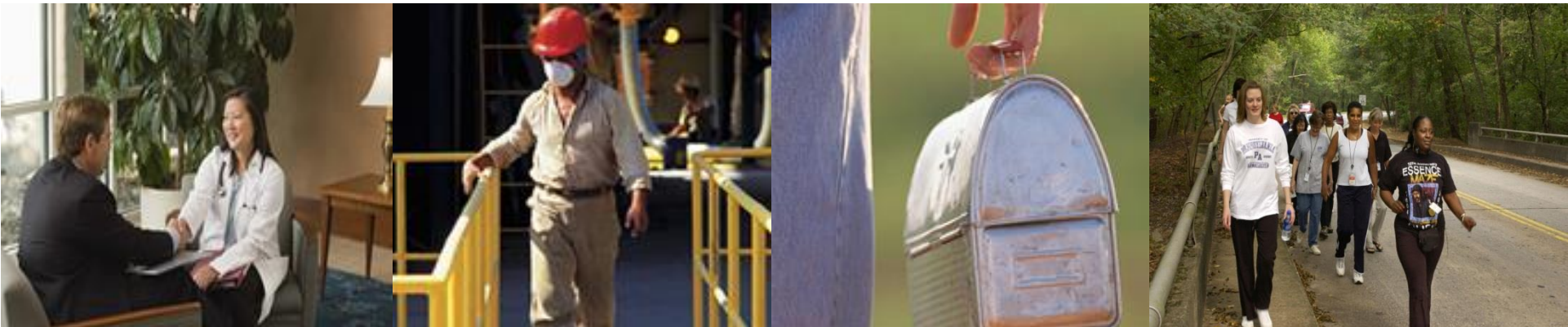


**Before Work**

**After Work**

# What Can Be Done About It? Total Worker Health®

Policies, programs, & practices that integrate protection from work-related safety & health hazards with promotion of injury & illness prevention efforts to advance worker well-being



# Total Worker Health<sup>®</sup>



Keep Workers Safe

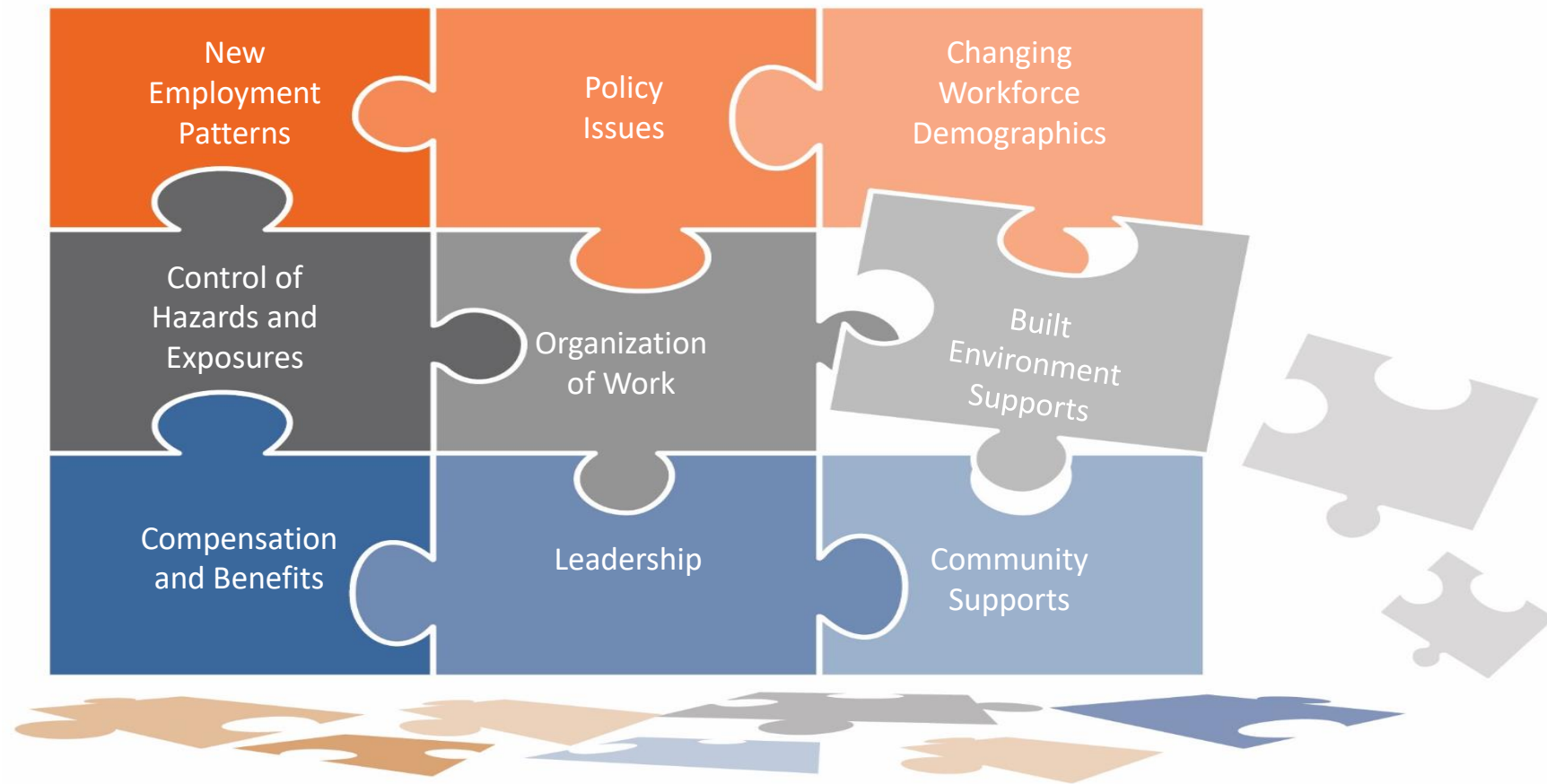


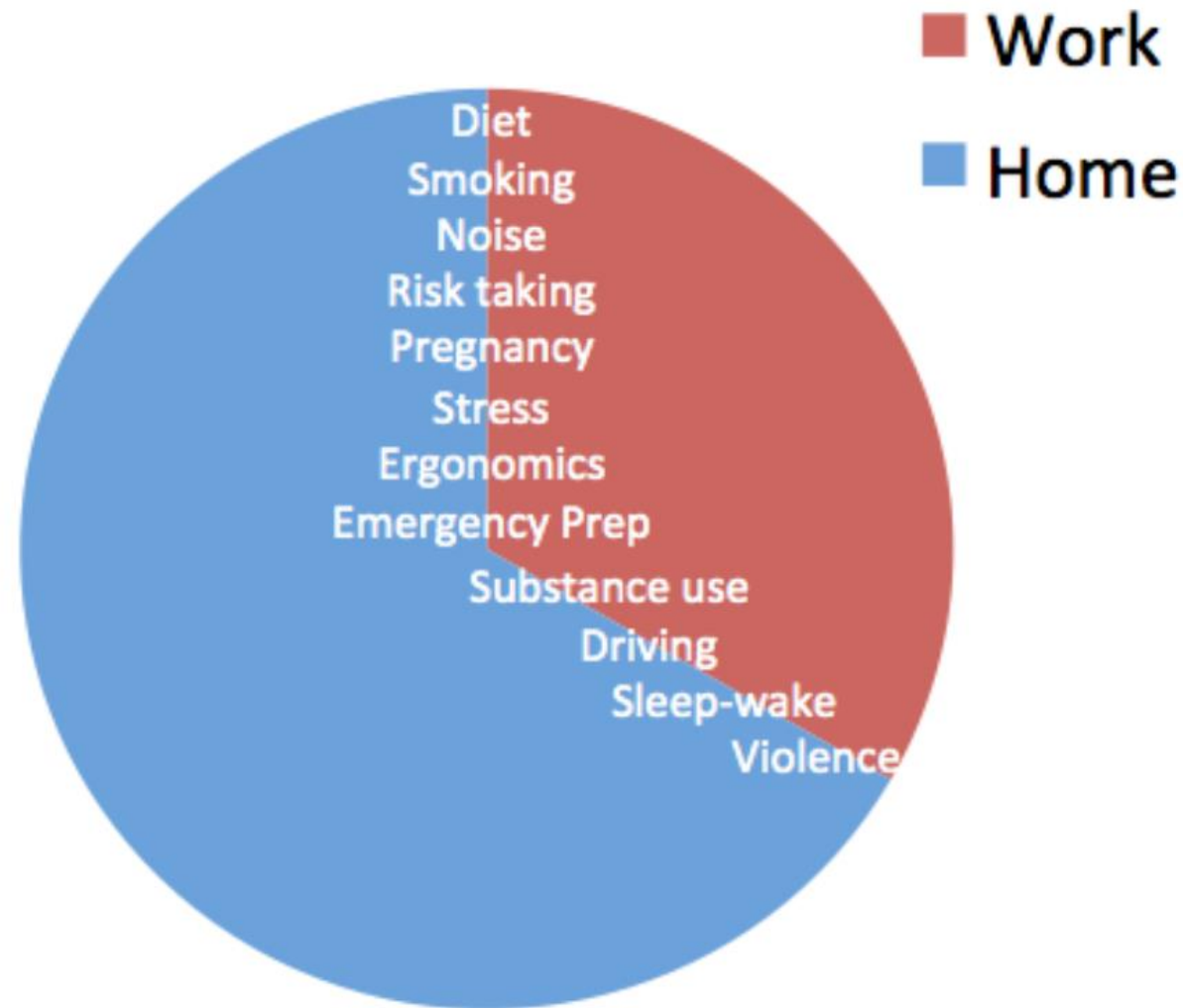
Establish Workplace Policies, Programs, and Practices that Grow Health



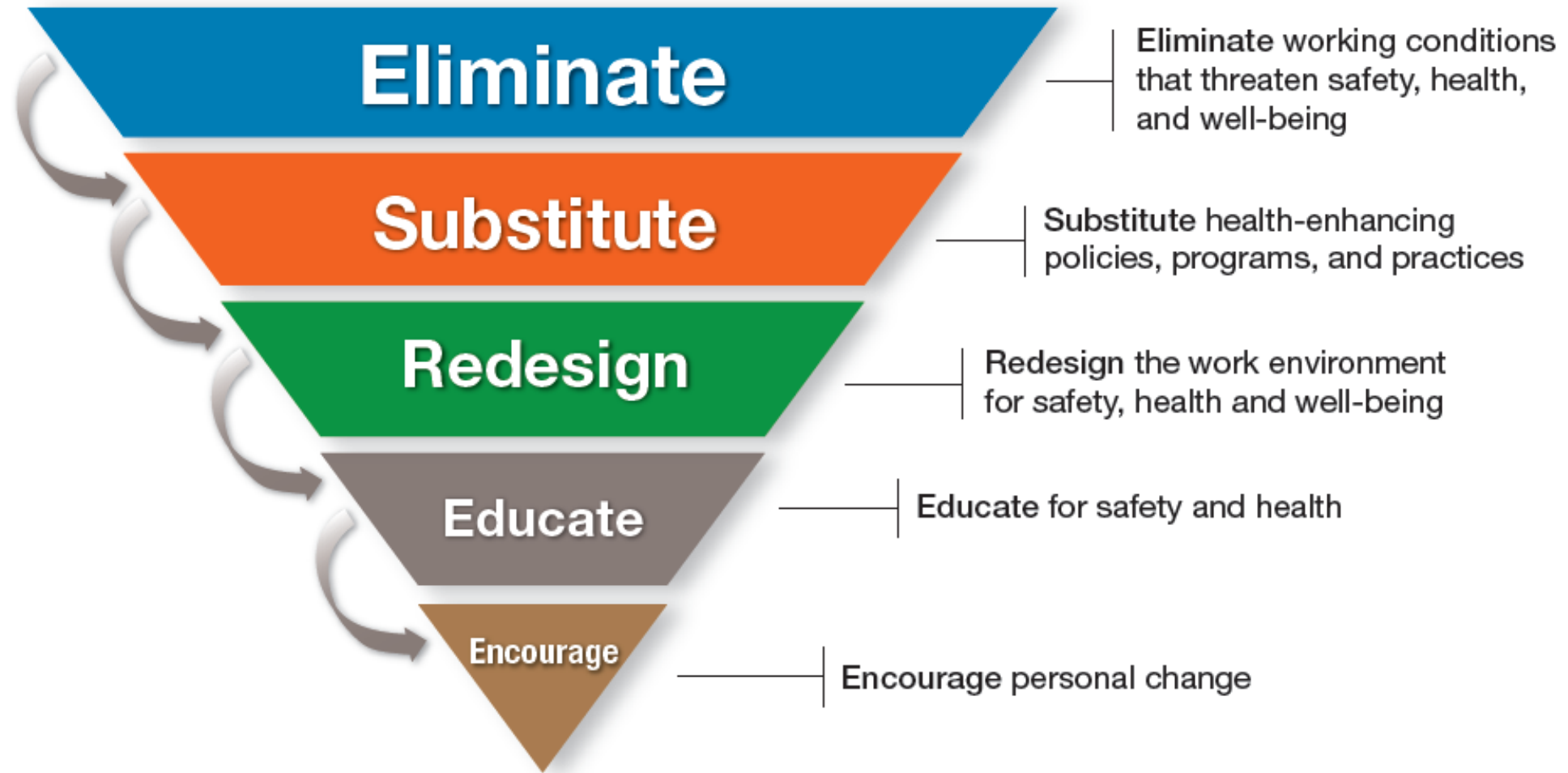
Create Worker







# Hierarchy of Controls Applied to Total Worker Health®



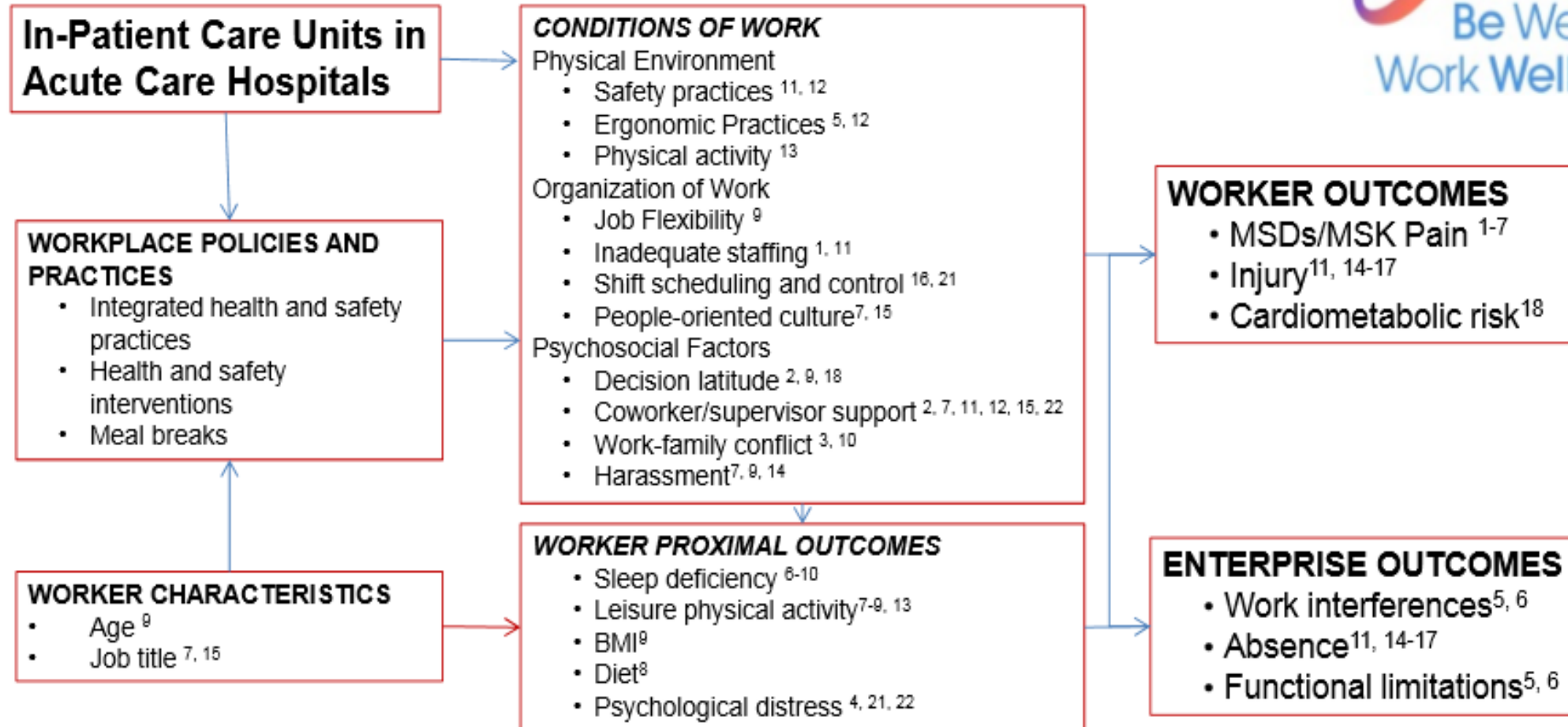
# Total Worker Health® Opportunities for Promoting Healthy Sleep and Reducing Risks for Fatigue

- Consider work risks AND employee needs
- Address organizational and individual-levels
  - Provide advance notice of changes, modify schedules, offer rest breaks (organizational)
  - Control other work-related risks
  - Demonstrate leadership support at all levels
  - Offer sleep training (individual)





# Framework for Total Worker Health®



# Example of Integrated Approach: Sleep and Fatigue

Reorganizing  
work



Risk and need  
consultations



Sleep self-management  
strategies



# Total Worker Health<sup>®</sup> Impact: Evidence-based Studies

- Reduction in workplace injuries
- Enhanced organizational culture (trust, safety, health)
- Improved worker job satisfaction
- Happier, less stressful, and more prosperous business environment
- Improved health decisions and reduction in health care costs
- Community gains
- \*Synergistic risks addressed (i.e., workers at highest risk for exposures to hazardous working conditions most likely to engage in risk behaviors at work and home, and live in higher risk communities)
- \*Increased intervention participation (i.e., workers who participate in worksite health protection programs more likely to participate in worksite wellness programs)
- **Safer, healthier, and more productive workers**

# Issues Relevant to Advancing Worker Well-being Through Total Worker Health<sup>®</sup>

## Control of Hazards and Exposures

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

## Organization of Work

- Fatigue and Stress Prevention
- Work Intensification Prevention
- Safe Staffing
- Overtime Management
- Healthier Shift Work
- Reduction of Risks from Long Work Hours
- Flexible Work Arrangements
- Adequate Meal and Rest Breaks

## Built Environment Supports

- Healthy Air Quality
- Access to Healthy, Affordable Food Options
- Safe and Clean Restroom Facilities
- Safe, Clean and Equipped Eating Facilities
- Safe Access to the Workplace
- Environments Designed to Accommodate Worker Diversity

## Leadership

- Shared Commitment to Safety, Health, and Well-Being
- Supportive Managers, Supervisors, and Executives
- Responsible Business Decision-Making
- Meaningful Work and Engagement
- Worker Recognition and Respect

## Compensation and Benefits

- Adequate Wages and Prevention of Wage Theft
- Equitable Performance Appraisals and Promotion
- Work-Life Programs
- Paid Time Off (Sick, Vacation, Caregiving)
- Disability Insurance (Short- & Long-Term)
- Workers' Compensation Benefits
- Affordable, Comprehensive Healthcare and Life Insurance
- Prevention of Cost Shifting between Payers (Workers' Compensation, Health Insurance)
- Retirement Planning and Benefits
- Chronic Disease Prevention and Disease Management
- Access to Confidential, Quality Healthcare Services
- Career and Skills Development

## Community Supports

- Healthy Community Design
- Safe, Healthy and Affordable Housing Options
- Safe and Clean Environment (Air and Water Quality, Noise Levels, Tobacco-Free Policies)
- Access to Safe Green Spaces and Non-Motorized Pathways
- Access to Affordable, Quality Healthcare and Well-Being Resources

## Changing Workforce Demographics

- Multigenerational and Diverse Workforce
- Aging Workforce and Older Workers
- Vulnerable Worker Populations
- Workers with Disabilities
- Occupational Health Disparities
- Increasing Number of Small Employers
- Global and Multinational Workforce

## Policy Issues

- Health Information Privacy
- Reasonable Accommodations
- Return-to-Work
- Equal Employment Opportunity
- Family and Medical Leave
- Elimination of Bullying, Violence, Harassment, and Discrimination
- Prevention of Stressful Job Monitoring Practices
- Worker-Centered Organizational Policies
- Promoting Productive Aging

## New Employment Patterns

- Contracting and Subcontracting
- Precarious and Contingent Employment
- Multi-Employer Worksites
- Organizational Restructuring, Downsizing and Mergers
- Financial and Job Security

# "Managing Fatigue to Improve Safety, Wellness, and Effectiveness"

- Measuring fatigue and fatigue risk
- Scheduling systems and policies
- Training and education
- Fatigue risk management programs
- Sleep health
- Fatigue detection and management technologies
- Operator workload, including distraction and drowsiness
- Cognitive and other performance effects, work accidents/incidents and commuting crashes
- Health effects
- Effects on life outside work: family life, social life
- Intervention studies
- Surveillance studies

# Connect with Total Worker Health®

## Email:

[TWH@cdc.gov](mailto:TWH@cdc.gov)

## Website:

<http://www.cdc.gov/niosh/twh>

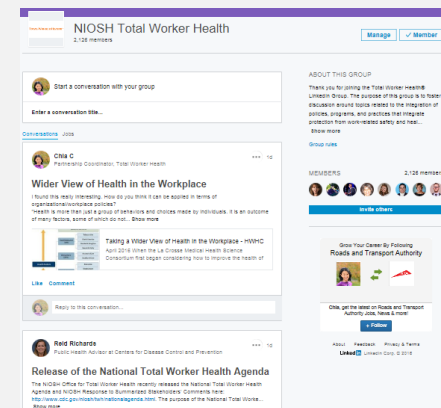


## Twitter

([@NIOSH\\_TWH](https://twitter.com/NIOSH_TWH))

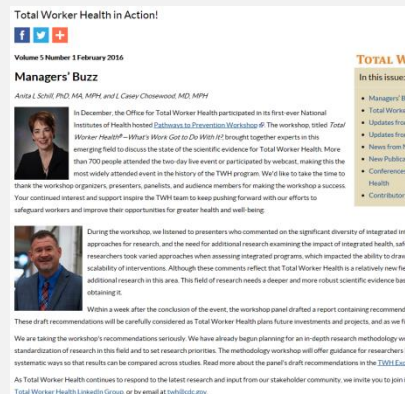


## LinkedIn (Search “NIOSH Total Worker Health”)



## TWH in Action! e-Newsletter

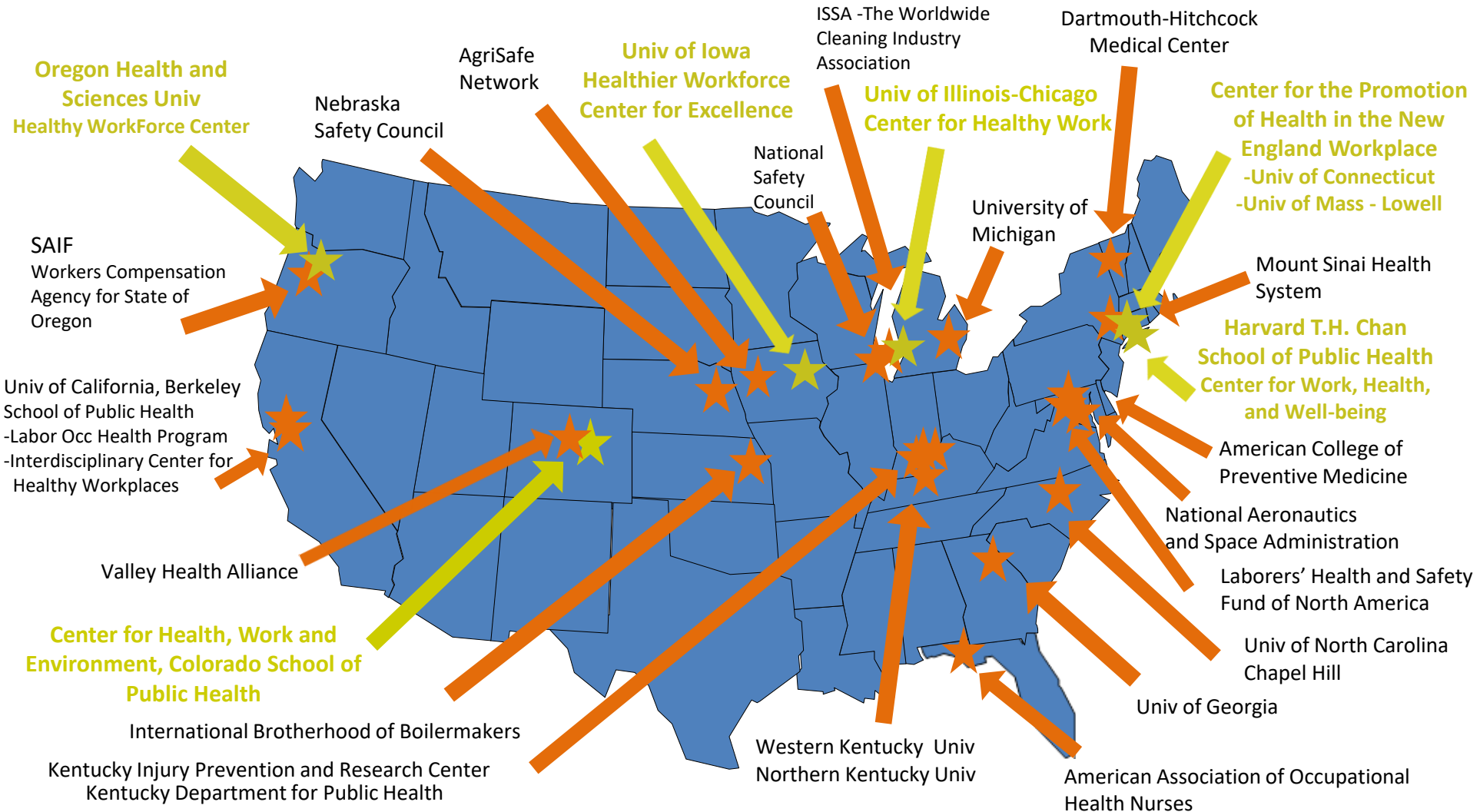
<http://www.cdc.gov/niosh/twh/newsletter/>



**Thank you!**  
**Sara Tamers**  
**stamers@cdc.gov**

# Auxiliary Slides

# Centers of Excellence and TWH Affiliates





# National Total Worker Health® Agenda

The National Institute for Occupational Safety and Health (NIOSH)

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**National Occupational Research Agenda (NORA), National Total Worker Health® Agenda (2016-2026): A national agenda to advance Total Worker Health® research, practice, policy, and capacity.**

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Providing National and World Leadership  
to Prevent Workplace Illnesses and Injuries



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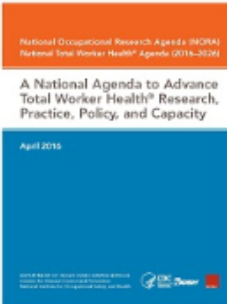
DHHS (NIOSH) Publication Number 2016-114
April 2016

The National Institute for Occupational Safety and Health (NIOSH) of the Centers for Disease Control and Prevention (CDC) announces its publication of a National Agenda on Total Worker Health®. This Agenda is meant to stimulate innovative research, practical applications, policy guidance, and capacity-building of Total Worker Health practitioners to improve workplace practices as they relate to Total Worker Health. 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.

**Suggested Citation**

NIOSH [2016]. National occupational research agenda (NORA)/national Total Worker Health® agenda (2016–2026): A national agenda to advance Total Worker Health® research, practice, policy, and capacity, April 2016. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication 2016–114.

[National Total Worker Health Agenda](#)  [PDF - 1 MB]



# 2<sup>nd</sup> International Symposium to Advance Total Worker Health<sup>®</sup>

Providing National and World Leadership  
to Prevent Workplace Illnesses and Injuries



## Total Worker Health® - What It Is and Is Not

- TWH examines how the work itself can influence safety, health, and well-being outcomes, holistically
  - TWH embraces voluntary, participatory health interventions
  - TWH programs protect workers' rights and privacy
- 
- TWH does not “blame the worker”
  - TWH is not about healthcare/health insurance cost-shifting based on underlying health conditions or health habits
  - TWH is not a “typical workplace wellness program”

# Individually-Focused Behavior Change Interventions **Not** Enough

“It is unreasonable to expect people to change their behavior when the social, cultural and physical environments around them fully conspire against them...” Sir Michael Marmot



# Fundamentals of Total Worker Health®



1. Design work to eliminate or reduce safety and health hazards and promote worker well-being

**Safety comes first**



2. Integrate relevant systems to advance worker well-being

**Privacy protection**



3. Demonstrate leadership at all levels of management

**Long-term culture-building**

4. Promote and support worker engagement throughout program design and implementation

**Equal access to all employees**

**Voluntary**

