Fundamentals of *Total Worker Health®* Approaches

Essential Elements for Advancing Worker Safety, Health, and Well-Being

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

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Jennifer Hall, EdD, MCHES
Formerly of University of Iowa College of Public Health

Deborah L. McLellan, PhD, MHS
Harvard T.H. Chan School of Public Health and the Dana-Farber Cancer Institute

Dede Montgomery, MS, CIH
Oregon Health and Science University

Suzanne Nobrega, MS
University of Massachusetts Lowell

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Eve M. Nagler, ScD, MPH, CHES
Harvard T.H. Chan School of Public Health and the Dana-Farber Cancer Institute

Denisha Porter, MPH, HHS, RS
Cincinnati Health Department

Laura Punnett, ScD, MSc
University of Massachusetts Lowell

Diane Rohlman, PhD
University of Iowa College of Public Health

Lynn Saul, MEd
The Hammond North Condominium

Glorian Sorensen, PhD, MPH
Harvard T.H. Chan School of Public Health and the Dana-Farber Cancer Institute

Background

Total Worker Health program at NIOSH

Since 2003, the National Institute for Occupational Safety and Health (NIOSH) has advocated for the integration of occupational safety and health protection with workplace efforts to promote worker health and well-being. Initial efforts were framed as the Steps to a Healthier U.S. Workforce Initiative, which later became the WorkLife Initiative. In 2011, these efforts evolved in response to partner and stakeholder input to become the NIOSH *Total Worker Health* (TWH) program.

A *Total Worker Health* approach 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.

A TWH approach prioritizes a hazard-free work environment for all workers. It also brings together all aspects of work in integrated interventions that collectively address worker safety, health, and well-being. Worker well-being is an integrative concept that characterizes quality of life with respect to an individual's health and work-related environmental, organizational, and psychosocial factors [Chari et al. 2017]. Some examples of TWH intervention areas are control of physical, biological, and psychosocial hazards and exposures; organization of work; compensation and benefits; built environment supports; and work-life integration.

What is the connection between work and health?

Traditional occupational safety and health protection programs have primarily concentrated on ensuring that work is safe and that workers are protected from the harms that arise from the work itself. TWH builds on this approach by acknowledging that work influences health both in ways that have long been understood as well as ways that are more recently recognized. Job-related factors such as wages [Du and Leigh 2015], hours of work, workload and stress levels, interactions with coworkers, access to paid or unpaid sick leave, and health-enhancing work environments impact the well-being of workers, their families, and their communities. TWH explores opportunities to both protect workers and advance their health and well-being by improving the conditions of work through workplace policies, programs, and practices. An emerging body of evidence now supports what many safety and health professionals, as well as workers themselves, have long suspected: that risk factors in the workplace can contribute to health problems previously considered unrelated to work. For example, there are work-related risk factors for sleep disorders [Caruso 2013], cardiovascular disease [Luckhaupt and Calvert 2014], depression [Arcury et al. 2014; Rayens and Reed 2013; Wulsin et al. 2014], and obesity [Luckhaupt et al. 2014; Nobrega et al. 2015]. The TWH approach focuses on how the workplace environment can both mitigate threats to worker safety and health and enhance overall worker well-being.

What is the historical context of this workbook?

In 2007, NIOSH convened a workshop with key experts to consider the essential components of programs that would embody the TWH concept. The product of this gathering

was published by NIOSH as the Essential Elements of Effective Workplace Programs and Policies for Improving Worker Health and Wellbeing (Essential Elements) [NIOSH 2008]. The *Essential Elements* document identified 20 guiding principles for organizations seeking to develop integrated and comprehensive work-based safety and health solutions. This workbook builds upon the work of the experts in the original workshop with more recent research, resources, and recommendations that reflect the evolution and progression of TWH itself as a concept.

Introduction to the Fundamentals of *Total Worker Health* Approaches

What is this workbook?

Fundamentals of Total Worker Health Approaches is a practical starting point for employers, workers, labor representatives, and other professionals interested in implementing workplace safety and health programs aligned with the Total Worker Health (TWH) approach. The workbook focuses on five Defining Elements of TWH:

Defining Element of TWH 1: Demonstrate leadership commitment to worker safety and health at all levels of the organization.

Defining Element of TWH 2: Design work to eliminate or reduce safety and health hazards and promote worker well-being.

Defining Element of TWH 3: Promote and support worker engagement throughout program design and implementation.

Defining Element of TWH 4: Ensure confidentiality and privacy of workers.

Defining Element of TWH 5: Integrate relevant systems to advance worker well-being.

Descriptions of these Defining Elements of TWH include tips, examples, and links to other tools. Although not all suggestions apply to every organization, they are meant to help in these ways:

- Determine what aspects of your current efforts embody a TWH approach
- Envision how you can help your organization enhance the safety, health, and well-being of the workforce.

How can this workbook help improve the safety, health, and well-being of your workforce?

This workbook will help you develop new TWH initiatives or better align existing workplace interventions with the TWH approach. Because each workplace is unique and the experiences of the people who manage and work in them differ widely, this is not intended as a one-size-fits-all tool for program development. However, this workbook can be used to:

- Provide a baseline "snapshot" of where your organization is on the path to TWH
- Identify initial steps to improve workforce safety, health, and well-being, in line with the TWH approach
- Help you measure your organization's progress.

This workbook offers a user-friendly entry point into TWH. It covers the highlights of a TWH approach ("Defining Elements of TWH") rather than all possibilities. For more in-depth information on a specific aspect of workplace safety and health programs, please refer to the "Select Resources" Appendix on page 20 or links to specific resources in the Defining Elements of TWH.

User Guide

Workbook Format

The Defining Elements of *Total Worker Health*, along with examples and case studies, are listed first. Each of the five Defining Elements of TWH should be present in a workplace that seeks to advance worker safety, health, and well-being with a TWH approach.

Worksheets are included at the end of this workbook to help you evaluate your status and plan improvements:

1. Self-Evaluation of Defining Elements of TWH Worksheet (page 19)
2. TWH Action Plan Worksheet (page 20).

Use the worksheets as prompts for reflection as you go through this workbook. Print and complete them or create similar tables if you need extra room to write. The Appendix, "Select Resources," includes links to materials that will help you design and implement workplace programs.

Assemble Your Team

Create a team of people who know about different policies, programs, and practices in your workplace that impact worker safety, health, and well-being. Draw team members from all levels of the workforce, and consider including the following:

- workers who have requested or participated in changes for safety and health
- safety directors
- human resources representatives
- occupational health nurses or other healthcare practitioners
- workers' compensation professionals
- Employee Assistance Program professionals
- staff responsible for disability management and return-to-work procedures
- health and wellness champions.

Steps for Success

Once you have assembled your team and have decided who will complete the workbook, follow the steps below.

1. Print out the supplement of worksheets at the end (pages 19 and 20) to have on hand as you read through the workbook.
2. Read the descriptions and examples of each Defining Element of TWH.
3. Decide what policies, programs, or practices your workplace already has that support each Defining Element of TWH. Write these in the "Where we are now" column on Worksheet #1.

4. Decide what features your workplace could add or change to better meet each Defining Element of TWH. Write these in the "Where we want to be" column on the Worksheet.

NOTE: Examples of what a Defining Element of TWH might look like in practice are offered in the colored boxes in this workbook. Because every workplace is unique, these are only for illustrative purposes.

5. After you have finished working through all the Defining Elements of TWH, review your "Where we want to be" column. On the basis of the specific areas of improvement you have identified for your organization, answer the questions in the "Action Plan" (Worksheet #2). For each need, think about:

   Who should we involve?

   What obstacles might there be?

   What solutions can we develop for those potential obstacles?

   What steps must we take to make this happen?

The completed workbook can serve as a baseline of your current environment and a roadmap for moving forward. You can revisit these documents on a regular basis to chart progress and address new challenges or opportunities.

For more information on the NIOSH *Total Worker Health* program, including recent research and initiatives, please visit www.cdc.gov/niosh/twh **or** email twh@cdc.gov**.**

For other resources tailored to employers and professionals in safety, worksite health, human resources, and more, please visit our Tools: Let's Get Started website, at www.cdc.gov/niosh/twh/letsgetstarted.html**.**

Defining Elements of *Total Worker Health*

Defining Element 1: Demonstrate leadership commitment to worker safety and health at all levels of the organization

Commitment to worker safety and health throughout all levels of an organization, as reflected in words and actions, is critical [Sorensen et al. 2012]. Organizational leaders should acknowledge and communicate widely the value of workforce safety and health as a core function, and they should prioritize worker safety and health on the same level as quality of services and products.

Additionally, mid-level supervisors and managers should actively participate in efforts that support worker safety, health, and well-being. Middle management is the direct link between workers and upper management and plays a critical role in program success or failure. For example, supervisors often serve as gatekeepers to employee participation in programs, and when program involvement competes with productivity demands, they may discourage employee participation [Linnan et al. 1999; Morris et al. 1999]. In this example, the supervisor is a key resource in communicating safety and health priorities and in overcoming barriers by interacting with more senior management.

Effective programs thrive in organizations that promote respect throughout the organization and encourage active worker participation, input, and involvement. Leaders at all levels of the organization can help set this tone, but everyone (from managers down to front-line workers) plays an important role in contributing to this shared commitment to safety and health. Beyond written policies, stated practices, and implemented programs that endorse safety and health in your workplace, consider the extent to which your organization's spoken and unspoken beliefs and values either support or deter worker well-being [CPWR and NIOSH 2013].

TIP FOR SUCCESS

Before plunging into the process of modifying existing practices, conduct a preliminary needs analysis. Is there a need to change the existing initiative? What is the organization's readiness to change?

More broadly, build accountability into implementation of initiatives. Accountability reflects leadership commitment to improved programs and outcomes and should cascade through an organization, starting at the highest levels of leadership. Reward success in policies, practices, and management styles that prioritize and support the safety, health, and well-being of workers, and adjust or modify initiatives on the basis of established milestones and the results of monitoring and evaluation.

Also, ensure that members of worker groups that are disproportionately vulnerable to safety and health risks are involved in program design and implementation. This means, for example, that night shift workers, off-site staff members (such as drivers and the salesforce), and lower-wage workers (such as housekeeping staff) give input and have access to services and program elements.

As you work within your organization to improve worker safety, health, and well-being, encourage managers in these ways:

1. Encourage **top leaders** to

- Establish and clearly communicate the principles of the proposed initiative to all levels of the organization; teach managers to value workers' input on safety and health issues.
- Maintain the visibility of the initiative at the organization's highest levels by presenting data that is linked to the program's resource allocations. Promote routine communications between leadership and employees on issues related to safety, health, and well-being.
- Openly support and participate in workplace safety and health initiatives.
- Facilitate participation across all levels of the workforce.
- Add safety- and health-related standards into performance evaluations.
- Build safety and health into the organization's mission and objectives.
- Establish a mechanism and budget for acting on workforce recommendations.
- Emphasize that shortcuts must not compromise worker safety and health.
- Provide adequate resources, including appropriately trained and motivated staff or vendors, space, and time. If necessary, ensure dedicated funding over multiple years, as an investment in your workforce.

2. Encourage **mid-level management** to

- Recognize and discuss the competitive advantage (e.g. recruitment, retention, employee satisfaction, community engagement and reputation, and workforce sustainability) that TWH brings to the long-term sustainability of the organization. For more on Making the Business Case, visit the NIOSH Total Worker Health: Let's Get Started website.
- Highlight examples of senior leadership's commitment to TWH.
- Provide training on how managers can implement and support Total Worker Health–aligned approaches, such as those related to work-life balance.

If you are a manager, show your support for Total Worker Health efforts by

- Encouraging workers' feedback on work conditions and working collaboratively with them to make changes
- Encouraging and rewarding team leaders and employees who take the initiative to improve work processes, reduce work stress, or improve the quality of work life
- Providing recognition for achieving goals or meeting benchmarks in safety and health. [NOTE: Goals and benchmarks must be supportive of the health and protection of workers rather than be designed for under-reporting of safety concerns or incidents.]
- Emphasizing that shortcuts or production demands must not compromise worker safety and health

Relevant Resources

- Video: Management & Employee Involvement
  - Source: University of Iowa Healthy Workforce Center of Excellence
  - http://www.public-health.uiowa.edu/hwcmw/for-the-workplace/videos/management-employee-involvement/
- Printable guidelines: *SafeWell Practice Guidelines, Chapter 1: Providing the Foundation*
  - Source: Harvard T.H. Chan School of Public Health Center for Work, Health, and Well-being
  - http://www.centerforworkhealth.sph.harvard.edu/resources/safewell-resources

Defining Element 2: Design work to eliminate or reduce safety and health hazards and promote worker well-being

A Total Worker Health approach prioritizes a hazard-free work environment for all workers. It applies a prevention approach that is consistent with traditional occupational safety and health prevention principles of the Hierarchy of Controls, as outlined in Figure 1. Eliminating or reducing recognized hazards in the workplace first, including those related to the organization of work itself, is the most effective means of prevention [NIOSH 2013] and thus is foundational to all Total Worker Health principles. Although some hazards can be eliminated from the work environment, others (such as shift work) are more difficult to change. These must be managed through various engineering, administrative, or (as the very last resort) individual-level changes. Workplace programs that adopt a TWH approach emphasize elimination or control of workplace hazards and other contributors to poor safety, health, and well-being. This emphasis on addressing environmental determinants of health is a crucial concept for TWH programs.

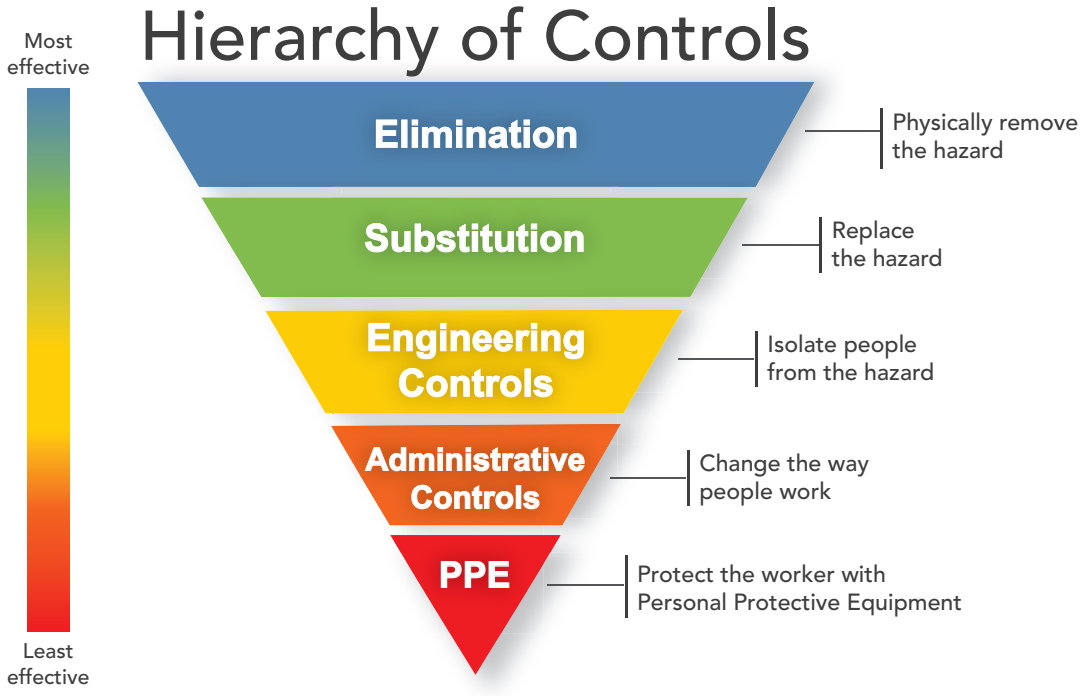

Figure 1. Hierarchy of Controls [NIOSH 2015]

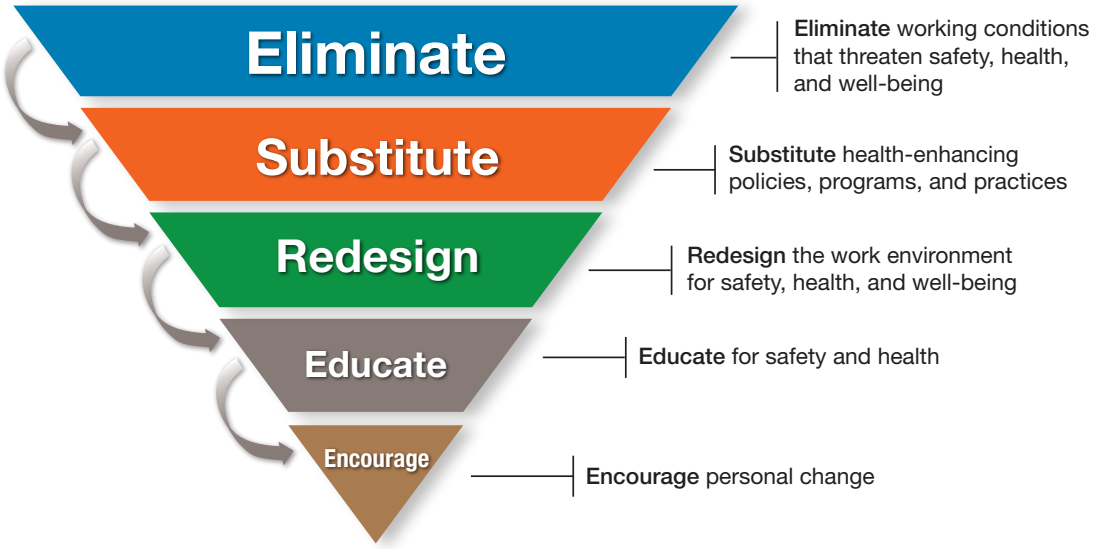

Figure 2. Hierarchy of Controls Applied to NIOSH *Total Worker Health®*

The Hierarchy of Controls Applied to NIOSH *Total Worker Health®* (Figure 2) provides a conceptual model for prioritizing efforts to advance worker safety, health, and well-being. This applied model is based on the traditional Hierarchy of Controls well-known to occupational safety and health professionals. As in the traditional Hierarchy of Controls, controls and strategies are presented in descending order of anticipated effectiveness and protectiveness, as suggested by the cascading arrows. The Hierarchy of Controls Applied to NIOSH *Total Worker Health* expands the traditional hierarchy from occupational safety and health to include controls and strategies that more broadly advance worker well-being. The Hierarchy of Controls Applied to NIOSH *Total Worker Health* is not meant to replace the traditional Hierarchy of Controls, but rather is a companion to this important occupational safety and health model. It serves to illustrate how TWH approaches emphasize organizational-level interventions to protect workers' safety, health, and well-being. To apply this model:

- Begin by eliminating workplace conditions that cause or contribute to worker illness and injury or otherwise negatively impact well-being. These include factors related to supervision throughout the management chain.
- Second, replace unsafe, unhealthy working conditions or practices with safer, health-enhancing policies, programs, and management practices that improve the culture of safety and health in the workplace.
- Next, redesign the work environment, where needed, for safety, health, and well-being. Remove impediments to well-being, enhance employer-sponsored benefits, and provide flexible work schedules.
- Then, provide safety and health education and resources to enhance individual knowledge for all workers.
- Lastly, encourage personal change for improvements to health, safety, and well-being. Assist workers with individual risks and challenges; provide support for healthier choice-making.

To help track progress with this element, measure baseline workplace risks and worker exposures to risks that may harm health. Although optimal evaluation of a program's effectiveness is through the use of relevant, validated measurement instruments, the specific objectives and metrics most relevant to your needs will depend on your organization. Reassess progress periodically to find new opportunities for improvement. Recognize, though, that the total value of your initiative targeting worker well-being may not be determinable in the short run. Success requires a long-term commitment.

Using the Hierarchy of Controls Applied to NIOSH *Total Worker Health*, a program targeting reductions in musculoskeletal disorders could consist of the following:

1. Reorganizing or redesigning the work to minimize repetitive movement, excessive force, and awkward postures
2. Providing ergonomic consultations to workers to improve job and workstation design and interface, along with training in ergonomic principles and opportunities for workers to participate in design efforts
3. Evaluating the age profile and health needs of the workforce to provide education on self-management strategies (including preventive exercise) for arthritis or other musculoskeletal conditions that impact physical ability

Similarly, a TWH program reducing work-related stress might consider the following:

1. Implementing organizational and management policies that give workers more flexibility and control over their work and schedules, as well as opportunities to identify and eliminate root causes of stress
2. Providing training for supervisors on approaches to address stressful working conditions
3. Providing skill-building interventions for stress reduction for all workers and providing access to Employee Assistance Programs

Relevant Resources

- Web page: Hierarchy of Controls
  - Source: National Institute for Occupational Safety and Health
  - http://www.cdc.gov/niosh/topics/hierarchy/default.html
- Web page: Stress at Work
  - Source: National Institute for Occupational Safety and Health
  - http://www.cdc.gov/niosh/topics/stress/

Defining Element 3: Promote and support worker engagement throughout program design and implementation

Ensure that workers involved in daily operations as well as supervisory staff are engaged in identifying safety and health issues, contributing to program design, and participating in all aspects of program implementation and evaluation. Letting workers be involved in workplace safety, health, and well-being, instead of being just recipients of services, nurtures a shared commitment to Total Worker Health, as presented in the first Defining Element.

Participatory approaches are a key tenet of the TWH model for designing safer and healthier jobs. Encouraging workers to participate in a structured process for identifying issues and concerns and for developing, implementing, and evaluating programs [Robertson et al. 2013] helps to

- Identify safety and health issues that are most important to front-line employees
- More effectively identify potential barriers to program use and effectiveness
- Improve the long-term sustainability of initiatives
- Increase employee buy-in and participation in policies and other interventions.

TIP FOR SUCCESS

Design programs with a long-term outlook to ensure sustainability. Short-term approaches have short-term value. Programs aligned with the core values of the organization endure. These should be flexible enough to be responsive to changes in workforce and market conditions, workplace hazards and exposures, and the needs of individual workers. A participatory approach can help in this regard, but keep sustainability in mind for the bigger picture.

To help encourage worker engagement, communicate strategically; everyone with a stake in worker safety and health (workers, their families, supervisors, etc.) must know what you are doing and why. Tailor your messages and how they are delivered, and make sure they consistently reflect the values and direction of the initiative.

Whether workers are willing to engage in workplace safety and health initiatives, however, may depend on their perceptions of whether the work environment truly supports safety and health. For example, one study found that blue collar workers who smoke are more likely to quit and stay quit after a worksite tobacco cessation program if workplace dusts, fumes, and vapors are controlled and workplace smoking policies are in place [Sorensen et al. 2002].

In a project led by the Center for Promotion of Health in the New England Workforce at a New Hampshire hospital, a participatory approach was piloted to address patient handling issues in the Medical/Surgical Unit. The nurse manager championing the effort at the hospital identified staff to help serve on two committees. The first committee, comprising front-line nurses, had to identify root causes of injuries and come up with a range of potential solutions to those causes. Key concerns that emerged included equipment issues, irregular meal breaks, lack of exercise, and (as a surprise to many) inadequate sleep.

The committee proposed three interventions to be evaluated by hospital safety and health leaders (who would then fund, support, and guide implementation):

- increasing the use of patient handling equipment
- providing adequate staffing and required breaks
- promoting workers' personal health and well-being.

"We had no clue about the scheduling, the amount of sleep people get—that these guys don't actually schedule breaks and coverage for breaks. We didn't know that at all. I mean, that turned out to be the biggest issue we need help with, which was a surprise to everyone."

— Program Facilitator

Relevant Resources

- Web-based Toolkit: Healthy Workplace Participatory Program Toolkit
  - Source: Center for Promotion of Health in the New England Workforce
  - https://www.uml.edu/Research/Centers/CPH-NEW/Healthy-Work-Participatory-Program/default.aspx

Defining Element 4: Ensure confidentiality and privacy of workers

Designing and enforcing appropriate privacy protections goes beyond ensuring that only authorized personnel have access to sensitive safety and health information. Observe all relevant local, state, and national laws regarding privacy of personally identifiable information and health-related information by taking appropriate steps. For instance, de-identify participant data and use encrypted systems with strong passwords. In accordance with Defining Element 3 (Promote and support worker engagement throughout program design and implementation), ensure that employers and workers work together on developing surveys and planning group meetings focused on improving workforce safety, health, and well-being. Promote open communication about the potential uses of worker data and the protections that are in place for that data.

Recognize the particular risks related to collecting and tracking personally identifiable information in the context of the workplace—even the type of data collection that may be legally permissible at the time. The possibility of sensitive individual worker data being abused by those in positions of power within the organization could lead to stigma, discrimination, and financial repercussions, such as loss of employment or reduced future career opportunities [Basas 2014]. The Total Worker Health strategy is inclusive of data-driven approaches to understanding and intervening to improve worker well-being, but not data collection that comes at a cost to individual worker well-being. Integrating data systems, for instance, can simplify measurement and monitoring but also merits special consideration about privacy implications.

Note that workplace policies that discriminate against or penalize workers for their individual health conditions or create disincentives for improving health are inconsistent with the TWH approach. Rather, the TWH approach recommends that employers and workers collaborate to design safe and healthy workplaces that support all workers, regardless of individual or legal differences (e.g., employees vs. contractors, temporary workers, or contingent workers), in both their professional and personal health goals.

Data sources that require confidentiality considerations and/or protections

- Health risk assessments
- Electronic health records
- Management systems
- Program evaluation data
- Self-reported survey data

Privacy precautions

- Rigorous de-identification of records
- Destruction of personally identifiable information as appropriate
- Hiring a third party to handle certain aspects of the program to reduce employee fear of retribution or penalty
- Using group or population-level data rather than individual data

Defining Element 5: Integrate relevant systems to advance worker well-being

Total Worker Health emphasizes the role that organizations have in shaping worker safety and health outcomes, recognizing that a multilevel perspective that includes policy, environmental, organizational, and social concerns may be best for tackling complex challenges to worker safety, health, and well-being [Best 2011]. Additionally, coordinating efforts within an organization can help save time and money and can increase effectiveness [Sorensen et al. 2013]. Integrating data systems across programs and among vendors, for instance, can simplify monitoring and evaluation while also enabling both tracking of results and continual program improvement [NIOSH et al. 2008].

Consider ways to integrate relevant systems within your organization:

1. Conduct an initial assessment of existing workplace policies, programs, and practices relevant to safety, health, and well-being and determine how they relate to one another.

   Note: for some larger organizations, this may seem like an overwhelming task. To assist in helping to focus this step, consider, at a minimum, these factors:

   - Human resources or personnel policies on issues such as health insurance, paid sick leave, family leave, vacation benefits, retirement, and disability.
   - Safety and health policies and procedures for identifying hazards, reporting work-related injuries and illnesses, and filing workers' compensation claims.
2. Identify obvious areas of overlap with existing efforts, and note opportunities for future coordination.
3. Purposefully and regularly bring together leaders and teams with overlapping or complementary responsibilities for planning and priority setting. For example, hold joint meetings of safety committees and occupational health staff, human resources, and wellness committees.

TIP FOR SUCCESS

Be willing to start small and scale up. Starting with modest targets is often beneficial if they are recognized as first steps in a broader initiative. For example, target reduction in one indicator, such as injury rates. Implement these Elements in phases if adoption of all of them at once is not feasible. Use (and evaluate) efforts before scaling up. Be willing to abandon initial attempts that fail.

Questions to Consider Asking Yourself or Your Team

- Do we regularly seek the input of our workers on the selection and design of our offered benefits?
- How can we change or adjust management policies or programs to more effectively support improved safety and health?

- How does the everyday physical work environment affect workers' safety and health?
- Beyond our workplace policies or programs that may be targeting safety and health, what influence do our workplace or organizational norms have on worker safety and health outcomes?
- How do our efforts feed into the community at large? What sorts of resources outside the workplace, such as community support, would be useful in helping to reinforce and support our safety and health programs?

Understanding the connections between various systems and levels of an individual worker's experience may be helpful in designing creative, well-rounded approaches to safety and health challenges. Figure 3 offers a glimpse of the diverse issues included in NIOSH's vision of shaping the Total Worker Health approach.

At a medium-sized manufacturing firm in the Upper Midwest, the SafeWell project (created by the Harvard T. H. Chan School of Public Health Center for Work, Health, and Well-being) gathered those responsible for safety, health, and well-being. The goal was for them to work together on how each could use their roles and functions to improve worker safety and health. They began to share the initiatives on which they were working and see where they overlapped. The result? Working together saved time and helped them understand and support each other's initiatives.

One program coordinator noted, "It was a light-bulb moment for me...this is exactly what we should be doing. Couldn't believe we weren't doing it already."

Issues Relevant to Advancing Worker Well-being Through Total Worker Health®

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

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CDC NIOSH TOTAL WORKER HEALTH

Figure 3. Issues Relevant to Advancing Worker Well-Being Through *Total Worker Health®*

To view and download a larger version of Figure 3. Issues Relevant to Advancing Worker Well-Being Through Total Worker Health®, please visit https://www.cdc.gov/niosh/twh/pdfs/twh-issues-4x3_10282015_final.pdf.

Select Resources

- Printable tool: Indicators of Integration
  - Source: Harvard T.H. Chan School of Public Health Center for Work, Health, and Well-being
  - http://centerforworkhealth.sph.harvard.edu/resources/indicators-integration
- Printable guidelines: SafeWell Practice Guidelines, Chapter 3: Implementation
  - Source: Harvard T.H. Chan School of Public Health Center for Work, Health, and Well-being
  - http://www.centerforworkhealth.sph.harvard.edu/resources/safewell-resources

Worksheet 1: Self-Assessment of Defining Elements of *Total Worker Health*

HOW TO USE: Consider printing out this sheet and completing as you think about your current workplace initiatives relative to the Defining Elements of *Total Worker Health* outlined on pages 7–18. If you need more space, continue writing on your own paper.

- In the "Where we are now" column, summarize your current practices relative to a Defining Element of TWH.
- In the "Where we want to be" column, consider how your existing programs, policies, and practices could be adjusted or expanded to more effectively address Total Worker Health in your organization.

Defining element of TWH	Where we are now/What we do well	Where we want to be/ What must be improved
Demonstrate leadership commitment to worker safety and health at all levels of the organization		
Design work to eliminate or reduce safety and health hazards and promote worker well-being		
Promote and support worker engagement throughout program design and implementation		
Ensure confidentiality and privacy of workers		
Integrate relevant systems to advance worker well-being		

Worksheet 2: Action Plan

HOW TO USE: Consider printing out this sheet and completing after Worksheet 1. For each Defining Element of TWH of interest to your organization, use the content in the "Where we want to be" column on Worksheet 1 to help populate "Needs identified." For each need identified, continue working from left to right, answering the questions in each column as you go. If you need more space, continue writing on your own paper.

Defining element of TWH	Needs identified	Who should we include?	What obstacles might we encounter?	What are some solutions to those obstacles? What resources outside the workplace could we pull in to help?	What steps must we take to make this happen?

Appendix: Select Resources

Total Worker Health–specific

- **CPH-NEW Healthy Workplace Participatory Program**

Source: Center for Promotion of Health in the New England Workforce

http://www.uml.edu/Research/Centers/CPH-NEW/Healthy-Work-Participatory-Program/default.aspx

The Healthy Workplace Participatory Program is a field-tested tool centered around a structured process for intervention planning; it engages workers at all levels of the organization.

- **Indicators of Integration Scorecard**

Source: Harvard T.H. Chan School of Public Health Center for Work, Health, and Well-Being

http://centerforworkhealth.sph.harvard.edu/sites/default/files/safewell_guidelines/IndicatorsOfIntegration.pdf

This validated tool can be used by employers and researchers to assess the extent of implementation of an integrated approach to sustain and improve worker health.

- **Planning, Assessment, and Evaluation Resources**

Source: Various, but compiled by the National Institute for Occupational Safety and Health, Office for Total Worker Health

http://www.cdc.gov/niosh/twh/tools.html

This page lists planning, assessment, and evaluation resources to help your organization create and sustain a culture of Total Worker Health.

- **SafeWell Practice Guidelines: An Integrated Approach to Worker Health**

Source: Harvard T.H. Chan School for Public Health Center for Work, Health, and Well-Being

http://www.centerforworkhealth.sph.harvard.edu/resources/safewell-resources

The SafeWell Practice Guidelines provide organizations with a framework for implementing a comprehensive worker health program, along with specific strategies pertaining to the details of implementation.

- **Total Worker Health Essentials Video Series**

Source: University of Iowa Healthier Workforce Center of Excellence

http://www.public-health.uiowa.edu/hwcmw/for-the-workplace/videos/

This series of eight short videos features business industry leaders' experiences with designing, implementing, and evaluating Total Worker Health policies, programs, and practices.

General Program Planning

- **Essential Elements of Effective Workplace Programs and Policies for Improving Worker Health and Wellbeing**

Source: National Institute for Occupational Safety and Health, WorkLife Initiative

http://www.cdc.gov/niosh/docs/2010-140/pdfs/2010-140.pdf

This resource was developed by the National Institute for Occupational Safety and Health with substantial input from experts and interested individuals. It is intended as a guide for employers and employer-employee partnerships in establishing workplace programs that sustain and improve worker health.

- **CDC Worksite Health ScoreCard**

Source: Centers for Disease Control and Prevention, Division of Population Health, National Center for Chronic Disease Prevention and Health Promotion

http://www.cdc.gov/workplacehealthpromotion/initiatives/healthscorecard/index.html

This tool helps employers assess whether they have implemented science-based interventions in their worksites to prevent heart disease, stroke, and related health conditions such as hypertension, diabetes, and obesity.

- **CDC Workplace Health Program website**

Source: Centers for Disease Control and Prevention, Division of Population Health, National Center for Chronic Disease Prevention and Health Promotion

http://www.cdc.gov/workplacehealthpromotion/index.html

This online suite of resources provides information on how to design, implement, and evaluate effective workplace health programs, with an emphasis on health promotion.

For updated lists of select resources and guidelines, visit the Total Worker Health website: http://www.cdc.gov/niosh/twh/.

Glossary

Below are commonly used terms and their associated meanings as they relate to the overall content of the document.

Built environment: includes our homes, schools, workplaces, parks/recreation areas, business areas, and roads. It extends overhead in the form of electric transmission lines, underground in the form of waste disposal sites and subway trains, and across the country in the form of highways. The built environment encompasses all buildings, spaces, and products that are created or modified by people. It impacts indoor and outdoor physical environments (e.g., climatic conditions and indoor/outdoor air quality), as well as social environments (e.g., civic participation, community capacity, and investment), and subsequently our health and quality of life. *Source:* National Institutes of Health

Conditions of work: workplace factors that shape the way workers perform their jobs. These factors include interpersonal interactions at work, such as supervisor-employee interactions, co-worker interactions, and customer interactions. Other factors include hours of work, rest periods, work schedules, physical work environment, physical demands, job strain associated with stress, and on-the-job hazards. *Source:* NIOSH

Health: a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity. *Source:* World Health Organization

Hierarchy of controls: a theoretical framework (sometimes represented as an inverted pyramid) that can assist in determining how to implement feasible and effective hazard control solutions. Control methods at the top of the pyramid are potentially more effective and protective than those at the bottom. Following this hierarchy normally leads to the implementation of inherently safer systems, where the risk of illness or injury has been substantially reduced. *Source:* NIOSH

Hierarchy of Controls Applied to NIOSH Total Worker Health: a conceptual model for prioritizing efforts to advance worker safety, health, and well-being. It expands the traditional hierarchy from occupational safety and health to include controls and strategies that more broadly advance worker well-being, such as eliminating workplace conditions that cause or contribute to worker illness and injury and redesigning the work environment to include health-enhancing organizational policies. *Source:* NIOSH

Organization of work: involves the work process (the way jobs are designed and performed) and the organizational practices (management and production methods and accompanying human resource policies) that influence job design. Also included in this concept of organization of work are external factors, such as the legal and economic environment and technological factors that encourage or enable new organizational practices. *Source:* NIOSH

Total Worker Health: 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. *Source:* NIOSH

Worker well-being: an integrative concept that characterizes quality of life with respect to an individual's health and work-related environmental, organizational, and psychosocial factors. It is the experience of positive perceptions and the presence of constructive conditions at work and beyond that enable workers to thrive and achieve their full potential. *Source:* NIOSH; RAND Corporation

References

Arcury T, Gryzwacz J, Chen H, Mora DC, Quandt SA [2014]. Work organization and health among immigrant women: Latina manual workers in North Carolina. Am J Public Health *104*(12):2455–2452.

Basas CG [2014]. What's bad about wellness? J Health Politics Pol Law *39*(5):1035–1066.

Best A [2011] Systems thinking and health promotion. Am J Health Promo *25*(4):eix–ex.

Caruso C [2013]. Negative impacts of shiftwork and long work hours. Rehab Nursing *39*(1):16–25.

Chari R, Chang C-C, Sauter SL, Schill A, Schulte PA, Sayers EP, Cerully J, Uscher-Pines L [2017]. Expanding the paradigm of occupational safety and health: a new model for worker well-being. Manuscript in preparation.

CPWR, NIOSH [2013]. Examining safety culture/climate: a workshop report, http://www.elcosh.org/document/3693/d001231/Examining%2BSafety%2BCultureClimate%253A%2BA%2BWorkshop%2BReport.html?show_text=1.

Du J, Leigh JP [2015]. Effects of wages on smoking decisions of current and past smokers. Ann Epidemiol *25*(8):575–582, e571.

Linnan L, Fava JL, Thompson B, Emmons K, Basen-Enqquist K, Probart C, Hunt MK, Heimendinger J [1999]. Measuring participatory strategies: instrument development for worksite populations. Health Educ Res *14*(3):371–386.

Luckhaupt S, Cohen M, Li J, Calvert G [2014]. Prevalence of obesity among U.S. workers and associations with occupational factors. Am J Prevent Med *46*(3):237–248.

Luckhaupt S, Calvert G [2014]. Prevalence of coronary heart disease or stroke among workers aged <55 years, United States, 2008–2012. MMWR *63*(30):645–649.

Morris W, Conrad K, Marcantonio R, Marks B, Ribisl K [1999]. Do blue-collar workers perceive the worksite health climate differently than white-collar workers? J Health Promo *13*(6):319–324.

NIOSH [2008]. Essential elements of effective workplace programs and policies for improving worker health and wellbeing, http://www.cdc.gov/niosh/docs/2010-140/pdfs/2010-140.pdf.

NIOSH [2013]. The state of the national initiative on prevention through design. 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 No. 2014–123.

NIOSH [2015]. Hierarchy of controls, http://www.cdc.gov/niosh/topics/hierarchy/default.html.

Nobrega S, Champagne N, Abreu M, Goldstein-Gelb M, Montano M, Lopez I, Arevalo J, Bruce S, Punnett L [2016]. Obesity/overweight and the role of working conditions: a qualitative, participatory investigation. Health Promo Pract 17(1): 127–136, http://journals.sagepub.com/doi/pdf/10.1177/1524839915602439.

Rayens M, Reed D [2013]. Predictors of depressive symptoms in older rural couples: the impact of work, stress and health. J Rural Health *30*(1):59–68.

Robertson M, Henning R, Warren N, Nobrega S, Dove-Steinkamp M, Tibirica L, Bizarro A, CPH-NEW Research Team [2013]. The intervention design and analysis scorecard: a planning tool for participatory design of integrated health and safety interventions in the workplace. J Occup Environ Med, http://journals.lww.com/joem/Fulltext/2013/12001/The_Intervention_Design_and_Analysis_Scorecard___A.16.aspx.

Sorensen G, Barbeau E [2012]. Steps to a healthier U.S. workforce: integrating occupational health and safety and worksite health promotion: state of the science. In: NIOSH. Research compendium. The NIOSH Total Worker Health program: seminal research papers. Presented at the Steps to a Healthier U.S. Workforce symposium, http://www.cdc.gov/niosh/docs/2012-146/pdfs/2012-146.pdf.

Sorensen G, Stoddard AM, LaMontagne AD, Emmons K, Hunt MK, Youngstrom R, McLellan D, Christiani DC [2002]. A comprehensive worksite cancer prevention intervention: behavior change results from a randomized controlled trial (United States). Cancer Causes Control *13*:493–502.

Sorensen G, Linnan L, Hunt MK [2004]. Worksite-based research and initiatives to increase fruit and vegetable consumption. Prevent Med, http://www.sciencedirect.com/science/article/pii/S0091743504000088.

Sorensen G, McLellan D, Dennerlein JT, Pronk NP, Allen JD, Boden LI, Okechukwu CA, Hashimoto D, Stoddard A, Wagner GR [2013]. Integration of health protection and health promotion: rationale, indicators, and metrics. J Occup Environ Med *55*(12):S12-S18, http://doi.org/10.1097/JOM.0000000000000032.

Wulsin L, Alterman T, Bushnell T, Li J, Shen R [2014]. Prevalence rates for depression by industry: a claims database analysis. Soc Psych Psych Epidemiol *49*(11):1805–1821.

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