

# Total Worker Health® Research Methodology Workshop



# Workshop Purpose

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To review current methodological approaches and limitations to TWH-related research and explore methods that have the most promise to advance the scientific evidence base.



# Pathways to Prevention (P2P) workshop

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- Evaluate the evidence for integrated programs
- Identify factors that influence effectiveness
- Develop research recommendations



# Main Findings from Executive Summary

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- Literature is sparse and effectiveness is unclear
  - 9 out of 15 studies addressed health and safety outcomes
  - 11 out of 15 addressed intermediary health outcomes
- Information on intervention development, implementation and outcomes was limited
- No studies included a formal analysis of possible variation in intervention effectiveness according to the individual, worksite, organizational or community factors
- Consensus that application of the TWH framework to integrated interventions requires research that extends beyond the lens of individual-level behavioral risk factor reduction (e.g., addressing working conditions and work environments).



# P2P recommendations addressed:

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#3: Develop a core set of measures and outcomes that are incorporated into all integrated intervention studies.

#6: Expand research and evaluation designs options to include range of rigorous methodologies



# #3 Develop a core set of measures and outcomes that are incorporated into all integrated intervention studies

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- Should reflect stakeholders' priorities and be built from a common conceptual framework
- Common measures are needed to determine baseline, intermediate, and long-term effects across studies, including valid and reliable measures of intermediate factors, such as high blood pressure; high cholesterol level; health outcomes; and risk behaviors, such as tobacco use and unhealthy eating.
- Outcome measures, including work-related illness and injury, should be harmonized where possible and limited within domains to reduce heterogeneity in future reviews and provide opportunities to pool findings in meta-analyses.
- Define key domain-specific contextual factors: the policy environment, worker populations, worksite characteristics, employer characteristics, financial context, health care access, and community and neighborhood contexts.



# #6 Expand research and evaluation design options to include a range of rigorous methodologies

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- Rigorous research and evaluation methodology is critical
- Rigorous research is challenging: complexity of the interventions, inability to randomize many of the factors that may affect outcomes, inability to blind participants to study groups, variety of relevant contextual factors, challenges in identifying suitable control groups, and lengthy follow-up time necessary to observe changes in outcomes.
- Randomized, controlled trials will not always be feasible.
  - Explore novel data linkages to facilitate formative research using existing data*
  - New employer-based interventions may offer opportunities for doing quasi-experimental studies*
  - Pragmatic trials may provide ideas for innovative research designs (e.g., novel cluster randomized trial designs)*
- When possible, use factorial designs to explicitly evaluate the added benefit of integration compared with the benefit of the individual health promotion and occupational safety and health components of the intervention



# Case Studies

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Description of the intervention

Integration

Study design

Participants/Setting

Outcome Measures

Confounders/Alternative Methods





# Case Studies: Outcome Measures

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Health and safety outcomes (e.g., mortality, incidence of injuries, cardiovascular disease or cancer; morbidity related to injuries, illness or chronic disease; depression or anxiety; validated measures of functional status; QOL; stress or distress)

Utilization outcomes (e.g., hospitalizations, ED visits, outpatient clinic visits)

Occupational injury and illness surveillance outcomes (e.g., WC claims, injury or illness surveillance outcomes)

Intermediate outcomes (e.g., Tobacco, alcohol or other drug use; weight or BMI; blood pressure; cholesterol; exercise frequency; healthy eating behavior; hazardous work exposures; near misses)

Process outcomes (e.g., participation rates, recruitment methods)

Measures of Integration (e.g., organizational commitment, worker participation, content addressing both safety and health promotion, coordinated activities)



# 3 Reviews of Integrated Interventions

Pronk 2013	Anger et al., 2015	Feltner et al., 2016
<p>Intervention and control or comparison groups and that provide direct evidence on the impact of integrated worker health programs on health-related outcomes and economic indicators</p>	<p>Intervention evaluation studies, analyzed with inferential statistics, published in the peer-reviewed literature, that:</p> <p>(a) employed both traditional occupational safety and/or health (OSH, or health protection) AND wellness and/or well-being (HP) in the same intervention study;</p> <p>(b) reported outcomes relevant to both OSH and HP, whether those results were statistically significant or not</p>	<p>Intervention had to be designed with the dual objective of improving workplace health and safety and overall health, health behaviors, or risk factors for chronic diseases.</p> <p>Must include a <b>component aimed specifically at improving workplace health and safety</b> and a <b>component aimed at improving overall health, health behaviors, or risk factors for chronic diseases</b></p> <p>Only studies with a concurrent control group</p>
<p>N=11</p>	<p>N = 17</p>	<p>N = 15</p>



# Integration / Necessary Components

Indicators of Integrated Approaches (Sorenson)	Fundamentals of TWH Approach (NIOSH)
Organizational leadership and commitment	Leadership committed ... at all levels of the organization
Coordination between health protection and health promotion	Work designed to eliminate or reduce safety and health hazards and promote worker well-being
	Worker engagement promoted and supported throughout program design and implementation
Supportive organizational policies and practices: Coordinated management and employee engagement strategies	
	Confidentiality and privacy of workers ensured
	Relevant systems to advance worker well-being integrated
Supportive organizational policies and practices: Accountability and training Supportive benefits and incentives Integrated evaluation and surveillance	
Comprehensive program content	



# Characteristics of Effective Interventions

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Worker participation informed the development, design, planning or implementation of the intervention

Creation of a joint worker-management advisory board from different departments who planned and implemented intervention

Employee advisory boards gave input on components

Intervention designed based on input from workers/union members

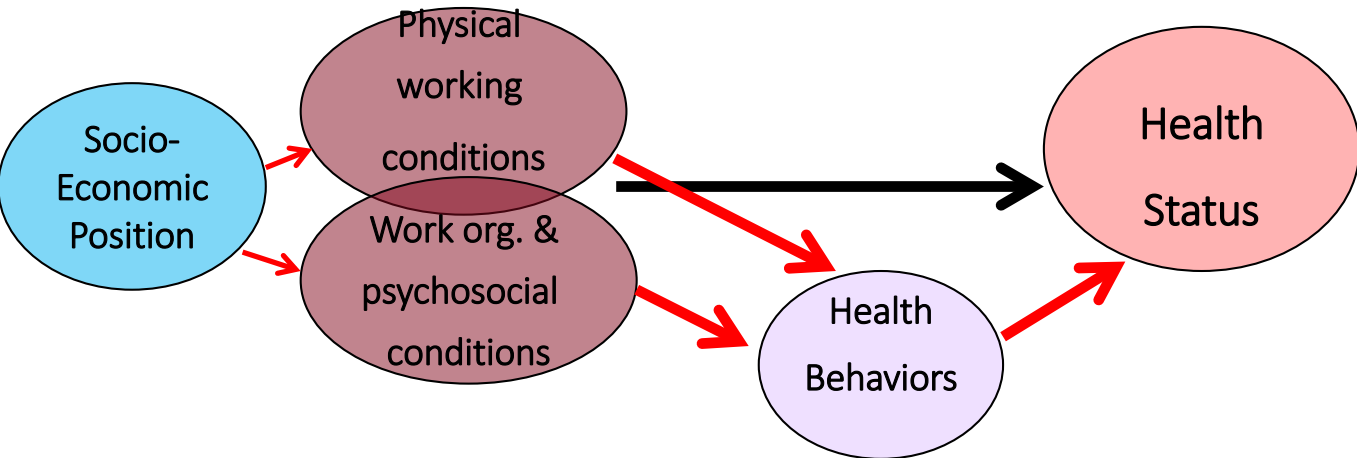
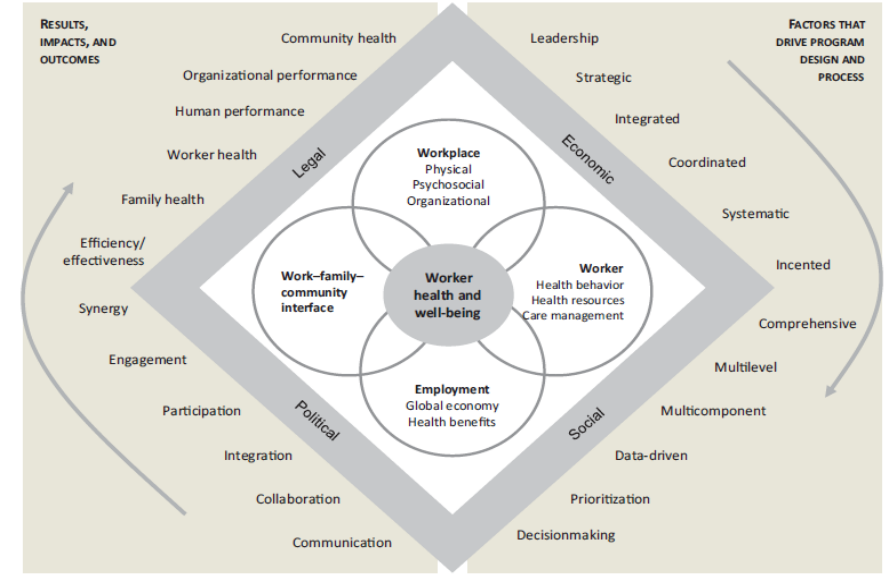
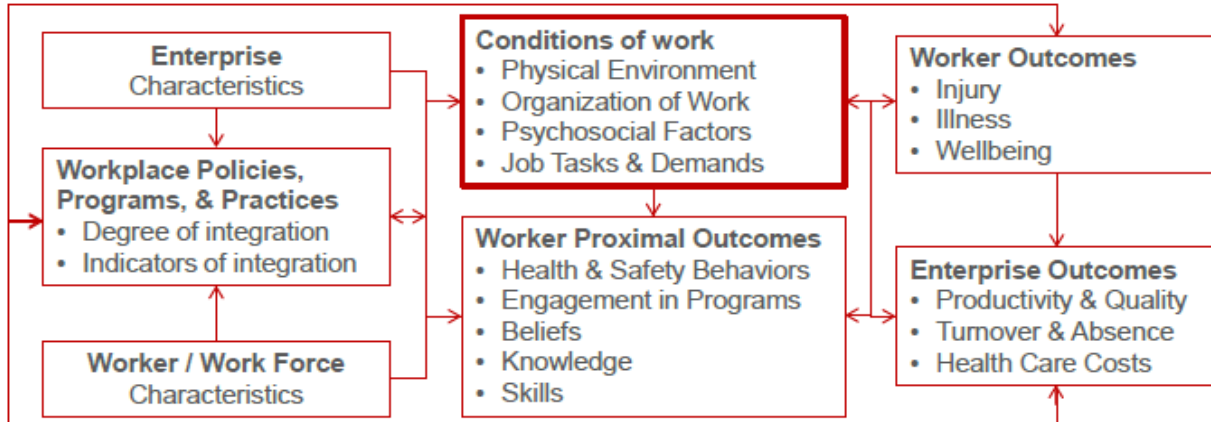
Intervention components were tailored to cultural/social aspect of worker population

Multicomponent interventions that reinforced messages about safety/health through multiple levels of influence or multiple delivery methods over time

(Feltner et al., 2016)



# Potential Frameworks for Outcome Measures?



Sorensen et al., Prev Med, 2016

