NATIONAL INSTITUTES OF HEALTH

Pathways to Prevention Workshop:
Total Worker Health—What's Work Got To Do With It?

December 9–10, 2015

EXECUTIVE SUMMARY

Sue Curry, Ph.D.; Cathy J. Bradley, M.P.A., Ph.D.; David C. Grossman, M.D., Ph.D.; Rebecca A. Hubbard, Ph.D., Alexander N. Ortega, Ph.D.

This National Institutes of Health (NIH) workshop was co-sponsored by the Office of Disease Prevention (ODP) and the National Heart, Lung, and Blood Institute at the NIH and the National Institute for Occupational Safety and Health at the Centers for Disease Control and Prevention. A multidisciplinary Content-Area Expert Group developed the workshop agenda, and an Evidence-based Practice Center prepared an evidence report through a contract with the Agency for Healthcare Research and Quality (AHRQ) to facilitate the workshop discussion. During the 1½-day workshop, invited experts discussed the body of evidence, and attendees had opportunities to provide comments during open discussion periods. After weighing evidence from the evidence report, expert presentations, and public comments, an unbiased, independent panel prepared a draft report that identified research gaps and future research priorities. The draft report was posted on the ODP website for public comment. The article below is the preprint version. The final version is published in the Annals of Internal Medicine: http://www.annals.org/article.aspx?doi=10.7326/M16-0626.

From University of Colorado Cancer Center, Denver, Colorado; Group Health Research Institute, Seattle, Washington; University of Pennsylvania and Drexel University, Philadelphia, Pennsylvania; and University of Iowa, Iowa City, Iowa.

Abstract

This National Institutes of Health (NIH) Pathways to Prevention workshop was cosponsored by the NIH Office of Disease Prevention; National Heart, Lung, and Blood Institute; and National Institute for Occupational Safety and Health of the Centers for Disease Control and Prevention. A multidisciplinary working group developed the agenda, and an evidence-based practice center prepared an evidence report through a contract with the Agency for Healthcare Research and

Quality. During the 1.5-day workshop, experts discussed the body of evidence and participants commented during open discussions. After weighing the data from the evidence report, expert presentations, and public comments, an unbiased, independent panel prepared a draft report that identified research gaps and future research priorities. The report was posted on the NIH Office of Disease Prevention Web site for 5 weeks for public comment. This article highlights 8 recommendations critical for advancing the science of integrated interventions to improve the total health of workers.

Nearly 50 years ago (December 1970), the Occupational Safety and Health Act was signed into law to ensure safe and healthful working conditions for men and women in the United States. The subsequent years brought many changes, including distribution of the workforce across various sectors, an aging and increasingly diverse workforce, and progressively porous boundaries between work and home. A growing segment of the population works part-time; many persons hold several jobs, and workers are employed as contractors. According to 2014 data from the Bureau of Labor Statistics, 4679 workers were killed on the job (1). Private industry reported nearly 3 million work-related, nonfatal injuries and illnesses (2), underscoring the need for vigilant workplace safety and protection from exposure to chemical, physical, and biological hazards.

That the relationship between work and health is not unidirectional—that is, that work affects health, and health affects work—is increasingly being recognized. Observational studies show that the average cost of workers' compensation increases substantially for employees with comorbid conditions. Other analyses show an association between workers with chronic health conditions and an increased likelihood of a safety incident or injury occurring on the job. Safety, health, and well-being may benefit from a broad view of the potential role of the workplace—not

only in reducing work-related deaths, injuries, and illnesses, but also in preventing and managing comorbid conditions that reduce workplace productivity and life expectancy.

The Total Worker Health (TWH) concept, defined by the National Institute for Occupational Safety and Health (NIOSH) 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," encompasses this perspective (3). This concept integrates "siloed" (isolated) research and programmatic efforts in occupational safety and health and worksite health promotion, including studies on developing and evaluating worksite initiatives that unite the 2 approaches. In addition, the TWH concept expands the focus of occupational health research to this broader agenda and applies a public health perspective that evaluates contextual (for example, organizational and environmental) and individual determinants of health risk, with the objective of developing a robust, evidence-based approach to improving workplace health and well-being.

From 9 to 10 December 2015, the National Institutes of Health (NIH) convened the Pathways to Prevention workshop "Total Worker Health—What's Work Got to Do With It?" The workshop's goals were to ascertain the scientific evidence related to integrating worksite health promotion with occupational safety and health protection, including factors that influence the effectiveness of an integrated approach (what works and for whom), and develop research recommendations to better understand the effectiveness of integrated interventions. An independent panel considered a commissioned systematic evidence review of the literature in integrated interventions, prepared by the RTI–University of North Carolina Evidence-based Practice Center (4), along with opinions presented by a group of experts and workshop participants. The evidence synthesis and public workshop agenda focused on answering the following key questions: What studies assess

integrated interventions? What are the known benefits and harms of integrated interventions? What are the characteristics of effective integrated interventions and programs? What factors influence the effectiveness of integrated interventions?

This report summarizes the main findings, conclusions, and recommendations for future intervention research about the TWH model. The **Appendix** (available at http://annals.org) lists the participants, panelists, and speakers from the workshop.

State of the Science in Integrated Interventions

What Studies Assess Integrated Interventions? The literature on integrated interventions is sparse, and their effectiveness is unclear. A comprehensive review found 24 studies since 1990, most of which were published before 2011 when NIOSH framed the TWH model (4). The studies examined disparate worksites (for example, manufacturing, health care, and social service), contexts (for example, small vs. large businesses), business sectors (such as health care), and populations (for example, blue vs. white collar) across health outcomes (such as physical activity, worksite injury, diet, and smoking status). The content, approach to implementation, and outcomes are inconsistent across studies.

What Are the Known Benefits and Harms of Integrated Interventions? Fifteen studies met methodological inclusion criteria and assessed intermediate and health and safety outcomes (4). Nine investigated health and safety outcomes, whereas 11 addressed intermediate health outcomes assumed to have long-term health benefits. Health and safety outcomes included workplace safety, quality of life, physical and psychological well-being, self-rated health, health symptoms, and stress. Intermediate outcomes included tobacco cessation, decreased use of alcohol and other drugs, body mass index, weight, blood pressure, cholesterol level, physical

activity, healthy eating behaviors, hazardous work exposures, and near-miss hazard events. Two thirds of the studies had a high risk of bias by using standardized criteria; no studies had a low risk of bias. Outcomes with evidence having a medium risk of bias included quality of life, stress, self-rated health, smoking cessation, healthy eating, and physical activity. Overall, the strength of the evidence about all health and intermediate outcomes was low, meaning that the reviewers had low confidence that the evidence reflected the true effect. No studies addressed health care utilization outcomes (for example, primary care visits, delay in seeking needed health care, hospitalization, or emergency department visits) or potential harms (for example, adverse effects on work or family life or violation of privacy).

What Are the Characteristics of Effective Integrated Interventions and Programs? With so few effective integrated interventions, it is challenging to describe their key characteristics. The information on intervention development, implementation, and outcomes was limited among studies showing benefits (4). Thus, the feasibility, quality, effectiveness, and scalability (ability to implement interventions in work settings of various size) of interventions were difficult to assess. The few reports on scalability highlighted the common feature that workers participated in the planning, design, development, or implementation of the intervention. The potentially effective interventions were multicomponent, complex, and well-disseminated.

What Factors Influence the Effectiveness of Integrated Interventions? Given the variety of contexts in which the TWH model can be implemented and studied—with variation in such factors as employers, work environments, and populations—understanding the factors that influence the effectiveness of integrated interventions is important. Although a handful of studies reported on contextual factors (for example, union membership, health insurance, or co-occurring worksite safety interventions), no studies included a formal analysis of possible

variation in intervention effectiveness according to individual, worksite, organizational, or community factors (4). Thus, no evidence on factors that influence intervention effectiveness and scalability is currently available.

Future Directions and Recommendations

The integrated intervention studies done before 2011, when NIOSH formally articulated the TWH construct, were retrofitted to the TWH model to inform questions about intervention effectiveness. Hence, it is not surprising to find limited evidence and a lack of peer-reviewed empirical studies of the effectiveness of integrated interventions beyond a few studies of medium rigor that show effects on behavioral risk factors (for example, smoking cessation, consumption of fruits and vegetables, and physical activity participation). The current state of the science offers insufficient evidence to determine the overall harms or benefits of integrated interventions. In the absence of this evidence, it is impossible to describe the characteristics of effective integrated interventions or contextual factors that influence effectiveness.

Although the paucity of evidence may be discouraging (4), the field of TWH research is young and growing. The presentations, comments, and questions showed the passion, commitment, and engagement of researchers, businesses, labor representatives, and federal agencies. The collective goal was to ensure that future evidence-based approaches would optimize the safety and health of U.S. workers. Together, we reached a clear consensus that application of the TWH framework to integrated interventions requires research that extends beyond the lens of individual-level behavioral risk factor reduction. Several experts called for studies about optimizing working conditions (for example, chemical exposures or ergonomic factors) and work environment (for example, psychosocial stressors, job demands and scheduling, and family–work balance) to reduce health risks and promote well-being.

The panel was struck by the similarity among the research needs across the 4 key questions. To accelerate the progress of TWH interventions, we recommend the following overarching strategies:

1. *Convene a meeting of stakeholders to set research priorities for integrated interventions.* The NIH and Centers for Disease Control and Prevention, along with other funders and stakeholders (for example, private-sector organizations and foundations), should engage key stakeholders to identify and prioritize research needs. As part of the strategic planning process to support integrated interventions, a consensus is needed on high-priority research, development, and evaluation efforts. It is essential to identify critical studies and topic areas as a starting point to focus resources and attract interventionists, researchers, worker advocates, and business leaders into collaborating around common research goals. These priorities should define the most urgent studies needed to intensify research efforts and determine effective strategies in worker health and safety improvement. Before convening stakeholders, it is imperative to define consistent terminology, achieve consensus on the intended purpose for engagement, and identify stakeholder groups. Mixed-method approaches, in-person venues, and electronic and Web-based communication can be used to engage stakeholders to prioritize research.

2. *Develop a consensus-based conceptual framework to guide future intervention research.* The lack of theoretical or conceptual models for the effects of TWH interventions is a major limitation. Only about half of the articles in 1 review incorporated a theoretical model and rationale. Future studies should include robust and validated conceptual frameworks that address several levels of influence on worker safety and well-being, avenues for intervention (from policy to individual levels), and a clear set of meaningful

TWH outcomes. A common, multilevel framework will provide an organizing resource to enable consistency in constructs and measures, prioritize research questions, guide study design, and facilitate replication and aggregation of research findings. The presenters shared several conceptual frameworks that could serve as starting points in a consensus meeting.

3. *Develop a core set of measures and outcomes that are incorporated into all integrated intervention studies.* The core set of measures for exposures and outcomes 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.

   Defining important contextual factors is critical for research planning and execution. Precedent exists for consensus-building by professional disciplines to define key domain-specific contextual factors. The evidence review and workshop highlighted several important domains, including the policy environment, worker populations, worksite characteristics, employer characteristics, financial context, health care access, and community and neighborhood contexts.

4. *Use a transdisciplinary and participatory process for intervention development.* Involving a range of experts and stakeholders in the process of intervention development

is a critical component of “designing for dissemination.” Interventions should consider community participation, buy-in, and trust (from workers, employers, human resources, and other stakeholders). Given the interest in improving worker health in the public and private sectors, public–private partnerships could improve implementation. A participatory process can help ensure development of interventions that reduce rather than enhance existing health and safety inequities, and focus groups and intervention mapping can guide this process. Transdisciplinary teams can contribute to a broader range of robust and rigorous approaches to evaluation. Engaging a transdisciplinary team at the start of the design process will facilitate greater alignment between intervention design and evaluation.

5. *Ensure that future intervention studies represent an appropriate range of worker populations and settings.* Given the worksite heterogeneity, the future TWH research portfolio should comprise a reasonably representative cross-section of worker populations. Such factors as baseline risk for occupational exposures or incidence of relevant outcomes may guide population selection. Additional considerations could be the selection of populations based on prospective risk by using modeling (for example, cardiovascular risk scores) or composite risk scores for both lifestyle and occupational safety. Health equity should also drive decisions about population selection. Studies should include diverse populations that reflect not only persons at greatest risk for adverse outcomes, but also those at increased risk based on income, education, race, ethnicity, rurality, and social disadvantage.

   Although worksites and worker population composition can be highly correlated, separate consideration should be given to worksite features. Small businesses are severely

underrepresented in the TWH literature and should be included in future studies. Worksites can be highly centralized or decentralized or involve mobile workers; the effectiveness of the TWH model should be tested in each of these settings. Individual industry type (for example, manufacturing, construction, or service) may be tied to a diverse set of risk exposures and potential outcomes. Ultimately, the selection of a combination of worksites and their worker populations should yield information about a diverse set of exposures and outcomes.

6. *Expand research and evaluation design options to include a range of rigorous methodologies.* Rigorous research and evaluation methodology is critical to establishing the harms and benefits of integrated interventions. In the literature, study design has been a stumbling block in the assessment of integrated interventions. Doing rigorous research to evaluate integrated interventions is challenging for various reasons, including the 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. In this setting, randomized, controlled trials will not always be feasible.

   The panel recommends considering various options to rigorously assess the effectiveness of integrated interventions that reach beyond randomized, controlled trials. Researchers should explore novel data linkages to facilitate formative research using existing data. New employer-based interventions for health promotion and occupational safety and health may offer opportunities for doing quasi-experimental studies using various rigorous analytic techniques.

The growing literature on pragmatic trials provides ideas for innovative research designs, including novel cluster randomized trial designs, which may benefit the study of integrated interventions. When possible, future studies should also use factorial designs that allow for explicit evaluation of the added benefit of integration compared with the benefit of the individual health promotion and occupational safety and health components of the intervention.

7. *Develop effective strategies for timely dissemination of findings to a wide variety of stakeholders.* Research on how new information informs policy and practice shows that active and well-planned dissemination of new knowledge is the most effective method. Findings from integrated interventions should maximize the use of knowledge generated by research among various stakeholders, including the research, business, policy, and worker communities. Dissemination and implementation research is increasingly recognized as an important function of community intervention research and is linked to 1 of the goals included in the strategic plan of the U.S. Department of Health and Human Services, which is to identify key factors influencing the scaling up of research-based evidence across large networks of such service systems as businesses, primary care groups, social services, and community organizations.

The panel also found a growing interest in mechanisms linking researchers and policymakers in efforts to improve the evidence base for worker health and safety policy. Given the growing importance of translating research into practice and policy, as well as research that results in improved population health (T4 translational research), dissemination should include well-developed knowledge transfer and diffusion strategies

beyond traditional, passive ways of sharing (for example, peer-reviewed scientific publications or conference presentations). The TWH research should identify innovative and effective ways of amplifying outreach to various stakeholders who are relevant to improving worker health and safety as well as the scalability and translation of integrated interventions.

8. *Make investments in research infrastructure and assets to develop population-based laboratories for TWH research.* Given the complexities of TWH research design and implementation, foundational investments are needed to enable a quantum leap in the quality and volume of research. These investments could help to build population-based "laboratories" that enable longitudinal and experimental trial research with long-term follow-up.

   Similar to the NIH-funded Health Care Systems Research Collaboratory in which health systems are linked to provide robust research infrastructure, data, and populations, the TWH field could convene a novel network of employers, unions, insurers, health systems, and others. This group could then assemble linked data sets for retrospective studies and find populations eligible to participate in pragmatic intervention trials and cohort studies. This network, which would leverage existing NIOSH and NIH investments to support centers devoted to studying injury and health outcomes, could be uniquely positioned to address salient questions raised in this report.

Conclusions

Based on the evidence review (4) and workshop presentations, the panel could not determine the effectiveness of integrated interventions. Our recommendations plot a course to support

continued development of the science of integrated interventions in TWH research. Included in these recommendations is the critical need for investment in infrastructure to support the development of a seminal body of research.

The future of TWH-integrated intervention research builds on a long and rich tradition of workplace intervention research. As noted in the evidence review and at the workshop, existing studies of workplace wellness and occupational safety and health extend beyond the scope of the evidence review.

Although the TWH concept is broad and the research challenges are substantial, the existing research portfolio is an opportunity to create partnerships among academics, employers, workers, and organized labor to ensure wide stakeholder participation in further development of this important area of inquiry. Moreover, highly skilled researchers, along with passionate and committed representatives of a diverse workforce, are willing to acknowledge and engage difficult questions to further TWH research.

The NIH and Centers for Disease Control and Prevention took an important step toward creating a high-impact TWH research program by convening this workshop and panel. The panel identified 8 priority recommendations relevant to moving the field forward. What remains is the need to transform these research recommendations into investments and actions.

Disclosures:

Authors have disclosed no conflicts of interest. Forms can be viewed at https://www.acponline.org/authors/icmje/ConflictOfInterestForms.do?msNum=M16-0740.

Requests for Single Reprints:

Susan J. Curry, PhD, Department of Health Management and Policy, College of Public Health, University of Iowa, 145 Riverside Drive, 100 CPHB S153A , Iowa City, IA 52242; e-mail, sue-curry@uiowa.edu.

Current Author Addresses:

Dr. Bradley: University of Colorado Cancer Center, 13001 East 17th Place, Campus Box F434, Aurora, CO 80045.

Dr. Grossman: Group Health Research Institute, 1730 Minor Avenue, Suite 1600, Seattle, WA 98101.

Dr. Hubbard: Center for Clinical Epidemiology and Biostatistics, Department of Biostatistics and Epidemiology, University of Pennsylvania, 604 Blockley Hall, 423 Guardian Drive, Philadelphia, PA 19104.

Dr. Ortega: Drexel University Dornsife School of Public Health, Nesbitt Hall, 3215 Market Street, Room 335, Philadelphia, PA 19104.

Dr. Curry: Department of Health Management and Policy, College of Public Health, University of Iowa, 145 Riverside Drive, 100 CPHB S153A , Iowa City, IA 52242.

Author Contributions:

Conception and design: C.J. Bradley, A.N. Ortega, S.J. Curry.

Analysis and interpretation of the data: C.J. Bradley, D.C. Grossman, S.J. Curry.

Drafting of the article: C.J. Bradley, D.C. Grossman, R.A. Hubbard, A.N. Ortega, S.J. Curry.

Critical revision of the article for important intellectual content: C.J. Bradley, D.C. Grossman, R.A. Hubbard, A.N. Ortega, S.J. Curry.

Final approval of the article: C.J. Bradley, D.C. Grossman, R.A. Hubbard, A.N. Ortega, S.J. Curry.

Statistical expertise: D.C. Grossman.

Collection and assembly of data: C.J. Bradley, S.J. Curry.

References

1. Bureau of Labor Statistics. National census of fatal occupational injuries in 2014 (preliminary results) [press release]. 17 September 2015. Accessed at http://www.bls.gov/news.release/pdf/cfoi.pdf on 28 March 2016.
2. Bureau of Labor Statistics. Employer-reported workplace injuries and illnesses—2014 [press release]. 29 October 2015. Accessed at http://www.bls.gov/news.release/pdf/osh.pdf on 28 March 2016.
3. Centers for Disease Control and Prevention. Total Worker Health. 2016. Accessed at http://www.cdc.gov/niosh/twh on 28 March 2016.
4. Feltner C, Peterson K, Weber RP, Cluff L, Coker-Schwimmer E, Viswanathan M, et al. The effectiveness of Total Worker Health interventions: a systematic review for a National Institutes of Health Pathways to Prevention workshop. Ann Intern Med. 2016. [Epub ahead of print]. doi:10.7326/M16-0626

National Institutes of Health (NIH) Pathways to Prevention Workshop:
Total Worker Health®—What's Work Got to Do With It?

Panel Roster

Workshop & Panel Chair: Sue Curry, Ph.D.
Dean
College of Public Health
Distinguished Professor
Department of Health Management and Policy
University of Iowa

Cathy J. Bradley, Ph.D., M.P.A.
Associate Director
University of Colorado Comprehensive Cancer Center
Department of Health Management, Systems, and Policy
University of Colorado

David C. Grossman, M.D., M.P.H.
Senior Investigator
Group Health Research Institute
Medical Director, Population and Purchaser Strategy
Group Health Cooperative

Rebecca A.Hubbard, Ph.D.
Associate Professor
Department of Biostatistics and Epidemiology
Perelman School of Medicine
University of Pennsylvania

Alex Ortega, Ph.D.
Professor and Chair
Department of Health Management and Policy
Dornsife School of Public Health
Drexel University

National Institutes of Health (NIH) Pathways to Prevention Workshop:
Total Worker Health®—What's Work Got to Do With It?

Speaker Roster

W. Kent Anger, Ph.D.
Senior Scientist and Associate Director
Oregon Institute of Occupational Health Sciences
Professor
Behavioral Neuroscience, Public Health & Preventive Medicine
Director
Oregon Healthy Workforce Center
Oregon Health & Science University

Sherry Baron, M.D., M.P.H.
Professor
Barry Commoner Center for Health and the Environment
City University of New York

Jamie F. Becker, M.S.W., LCSW-C
Associate Director
Health Promotion
Laborers' Health & Safety Fund of North America

Alex Burdorf, Ph.D.
Professor of Determinants of Population Health
Department of Public Health
Erasmus MC
University Medical Center Rotterdam

L. Casey Chosewood, M.D., M.P.H.
Director
Office for Total Worker Health
National Institute for Occupational Safety and Health
Centers for Disease Control and Prevention

Lawrence J. Fine, M.D., Dr.P.H.
Chief
Clinical Applications and Prevention Branch
Division of Prevention and Population Sciences
National Heart, Lung, and Blood Institute
National Institutes of Health

Gary H. Gibbons, M.D.
Director
National Heart, Lung, and Blood Institute
National Institutes of Health

Leslie B. Hammer, Ph.D.
Professor
Industrial and Organizational Psychology
Director
Occupational Health Psychology Program
Associate Director
Oregon Healthy Workforce Center
Department of Psychology
Portland State University

John Howard, M.D., M.P.H., J.D., LL.M.
Director
National Institute for Occupational Safety and Health
Centers for Disease Control and Prevention

Joseph J. Hurrell, Jr., Ph.D.
Outgoing Editor
Journal of Occupational Health Psychology

Pamela Hymel, M.D., M.P.H., FACOEM
Chief Medical Officer
Walt Disney Parks and Resorts

David LeGrande, M.A.
Director
Communications Workers of America

Jane Lipscomb, Ph.D., R.N., FAAN
Professor
Schools of Nursing and Medicine
Director
Center for Community-Based Engagement and Learning
University of Maryland, Baltimore

Ron Loeppke, M.D., M.P.H., FACOEM, FACPM
Vice Chairman
U.S. Preventive Medicine

Jason McInnis, M.H.S.
National Director
Health & Safety (Canada)
Boilermakers International

Robert K. McLellan, M.D., M.P.H., FACOEM
Chief
Section of Occupational and Environmental Medicine
Medical Director
Live Well/Work Well
Dartmouth-Hitchcock Medical Center
Associate Professor of Medicine, of Community & Family Medicine, and of the Dartmouth Institute
Dartmouth Geisel School of Medicine

David M. Murray, Ph.D.
Associate Director of Disease Prevention
Director
Office of Disease Prevention
Office of the Director
National Institutes of Health

Lee S. Newman, M.D., M.A., FACOEM, FCCP
Professor
Department of Environmental and Occupational Health
Colorado School of Public Health
Director
Center for Health, Work & Environment
University of Colorado Anschutz Medical Campus

Nico Pronk, Ph.D., FACSM, FAWHP
Vice President and Chief Science Officer
HealthPartners

Laura Punnett, Sc.D.
Professor
Department of Work Environment
Co-Director
Center for the Promotion of Health in the New England Workplace
University of Massachusetts, Lowell

Rosemary K. Sokas, M.D., M.O.H., M.Sc.
Professor and Chair
Department of Human Science
School of Nursing and Health Studies
Georgetown University

Glorian Sorensen, Ph.D., M.P.H.
Professor
Department of Social and Behavioral Sciences
Director
Center for Work, Health, & Well-being
Harvard T.H. Chan School of Public Health

Laurie Whitsel, Ph.D.
Director of Policy Research
American Heart Association

Content-Area Expert Group Meeting for the National Institutes of Health (NIH) Pathways to Prevention Workshop: Integrated Worker Health

April 9–10, 2015

Participant Roster

Workshop & Panel Chair: Sue Curry, Ph.D.
Dean
College of Public Health
Distinguished Professor
Department of Health Management and Policy
University of Iowa

W. Kent Anger, Ph.D.
Senior Scientist and Associate Director
Oregon Institute of Occupational Health Sciences
Professor
Behavioral Neuroscience, Public Health & Preventive Medicine
Director
Oregon Healthy Workforce Center
Oregon Health & Sciences University

Chia-Chia Chang, M.P.H., M.B.A.
Total Worker Health Coordinator for Partnerships and New Opportunity Development
Public Health Analyst
Centers for Disease Control and Prevention
National Institute for Occupational Safety and Health

Casey Chosewood, M.D.
Senior Medical Officer
Director
Total Worker Health
Centers for Disease Control and Prevention
National Institute for Occupational Safety and Health

Jack Dennerlein, Ph.D.
Adjunct Professor of Ergonomics and Safety
Department of Environmental Health
Co-Principal Investigator
Center for Work, Health, and Well-being
Harvard T.H. Chan School of Public Health

Jody Engel, M.A., R.D.
Director of Communications
Office of Disease Prevention
Division of Program Coordination, Planning, and Strategic Initiatives
Office of the Director
National Institutes of Health

Lawrence Fine, M.D., Dr.Ph.
Chief
Clinical Applications and Prevention Branch
Division of Prevention and Population Sciences
National Heart, Lung, and Blood Institute
National Institutes of Health

Leslie B. Hammer, Ph.D.
Professor, Industrial and Organizational Psychology
Director, Occupational Health Psychology Program
Associate Director, Oregon Healthy Workforce Center
Department of Psychology
Portland State University

Pamela Hymel, M.D., M.P.H., FACOEM
Chief Medical Officer
Walt Disney Parks and Resorts
700 W. Ball Road, TDA 236N
Anaheim, CA 92802

Carrie Klabunde, Ph.D.
Senior Advisor for Disease Prevention
Office of Disease Prevention
Division of Program Coordination, Planning, and Strategic Initiatives
Office of the Director
National Institutes of Health

Deborah Langer, M.P.H.
Senior Communications Advisor
Office of Disease Prevention
Division of Program Coordination, Planning, and Strategic Initiatives
Office of the Director
National Institutes of Health

David LeGrande, M.A., R.N.
Director
Occupational Safety and Health
Communications Workers of America

Amy C. Lossie, Ph.D.
Health Science Administrator
Office of Disease Prevention
Division of Program Coordination, Planning, and Strategic Initiatives
Office of the Director
National Institutes of Health

Elizabeth Neilson, M.S., R.N., Ph.D.
Senior Communications Advisor
Office of Disease Prevention
Division of Program Coordination, Planning, and Strategic Initiatives
Office of the Director
National Institutes of Health

Charlotte A. Pratt, Ph.D., M.S., R.D., FAHA
Program Director
Health Scientist Administrator
Prevention and Population Sciences Program
Division of Cardiovascular Sciences
National Heart, Lung, and Blood Institute
National Institutes of Health

Wilma Peterman Cross, M.S.
Deputy Director
Office of Disease Prevention
Division of Program Coordination, Planning, and Strategic Initiatives
Office of the Director
National Institutes of Health

Nico Pronk, Ph.D., FACSM, FAWHP
Vice President and Chief Science Officer
HealthPartners, Inc.

Paris A. Watson
Senior Advisor
Office of Disease Prevention
Division of Program Coordination, Planning, and Strategic Initiatives
Office of the Director
National Institutes of Health

National Institutes of Health (NIH) Pathways to Prevention Workshop: Total Worker Health®—What's Work Got to Do With It?

Workshop Sponsors

NIH Office of Disease Prevention
David M. Murray, Ph.D.
Director

NIH National Heart, Lung, and Blood Institute
Gary H. Gibbons, M.D.
Director

CDC National Institute for Occupational Safety and Health
John Howard, M.D.
Director