Environmental and Occupational Health and Injury Prevention Workgroup
DRAFT Starter List of Research Priorities

Purpose of the Starter List

The Starter List is for discussion purposes at this stage of the CDC Research Agenda Development Process. It is a DRAFT listing of broad research concepts that are not yet integrated into a specific research agenda for CDC. Suggestions and modifications to the Starter List will be used to develop a draft CDC-wide Research Agenda that addresses critical research needs and health protection goals.

There are seven focus areas on the Starter List, one corresponding to each of the six Research Agenda Development Workgroups, plus a seventh for cross-cutting research that serves as a foundation for many types of public health research and programs.

You will find the Starter List for Environmental and Occupational Health and Injury Prevention research ideas on the following pages of this document. The Starter List for other focus areas is also available on the OPHR Website (see URL below).

Your opportunities for input

You will have two opportunities for input to the CDC-Wide Research Agenda development process:

1) **Commenting on the Starter List**

We welcome your input on both the Starter List and the CDC-wide Research Agenda development process. We will be accepting public comments on the Starter List and process through April 15, 2005. You can provide suggestions and comments by visiting the following URL:

http://www.rsvpbook.com/custom_pages/792_CDC_comments.php

2) **Commenting on the Public Comment Draft**

Later this summer, you will have another opportunity to provide input by offering comments on the Public Comment Draft of the CDC-wide Research Agenda. The Public Comment Draft will be published in the *Federal Register* and on the CDC Office of Public Health Research (OPHR) Website below. The target date for release of the public comment draft is mid-June 2005.

The OPRH website will also provide periodic updates on the Research Agenda development process. Please visit our Website at:

http://www.cdc.gov/od/ophr/cdcra.htm

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Theme ID#	Research Theme Title and Description	Examples of Research Activities
E 1	**Environmental Risk Factors** Establish the major environmental causes of disease and disability and identify related risk factors.	• Develop, implement, and evaluate strategies to prevent or reduce harmful exposures and increase understanding of the interaction between health and the environment.
E 2	**Chemical Mixtures** Develop, evaluate, and apply new and innovative methods for assessing exposures to the combined toxic action of chemical mixtures.	• Develop cross-cutting biomedical and modeling tools to better understand the potential interactions of exposures to chemical mixtures since most toxicological testing is performed on single chemicals.
E 3	**Bio-monitoring Methods and Tools** Evaluate the use of bio-monitoring technology (i.e., tools and methods to measure chemicals in humans) to assess exposures and health outcomes in environmental and work settings.	• Develop methods and modeling tools to better understand how bio-monitoring can be used to protect people from illness, birth defects, disabilities, cancer, or death due to hazardous environmental exposures.
E 4	**Environmental Health Interventions** Identify, develop, and evaluate effective interventions and best practices to prevent environmental health threats and promote health.	• Design, implement, and evaluate environmental health interventions and health promotion activities that address complex environmental health issues, especially in susceptible populations.
E 5	**Built Environment and Health** Determine the relationship between the built environment and health.	• Understand the impact that the design of our homes, schools, workplaces, communities, and transportation systems has on health; and • Examine how land use and transportation decisions can help or hinder the creation and maintenance of healthy communities.
E 6	**Lead Exposure and Health** Develop and evaluate health promotion interventions to eliminate elevated blood lead levels in the United States.	• Design, implement, and evaluate health promotion interventions in communities most likely to be exposed to lead, especially communities of color and communities of new arrivals to the United States.

E 7	**Environmental Data and Information Systems** Develop methods and tools to link available environmental hazards and health outcome databases.	• Develop epidemiologic, statistical, and programmatic methods and tools to assist in linking available information across databases and data sources.
E 8	**Injury and Violence Prevention Interventions** Develop and evaluate the efficacy, effectiveness, and economic efficiency of interventions to prevent and reduce interpersonal violence, suicidal behavior, and unintentional injury.	• Examine the effectiveness of programs in "real world" circumstances and measure the outcomes on injury, injury risk behaviors, and costs.
E 9	**Injury Translation and Dissemination Research** Develop and evaluate strategies to translate, disseminate and sustain science-based intervention policies and best-practices for the prevention of interpersonal violence, unintentional injury, suicidal behavior, and care of the acutely injured.	• Develop model strategies for institutionalization of effective programs and policies that will benefit all areas of disease prevention and health promotion; and • Accelerate the adoption of science-based program, policies, laws, and behaviors that reduce injuries and violence and improve care of the acutely injured.
E 10	**Injury-Related Health Disparities** Identify ethnic and racial disparities and modifiable (changeable) social determinants (causes) of interpersonal violence, suicidal behavior, and unintentional injury and develop interventions to address them in high risk individuals, families, and communities.	• Conduct epidemiological studies on the incidence, prevalence, and modifiable social determinants; • Design interventions to reduce disparities in vulnerable populations; • Assure culturally competent delivery of interventions; and • Recruit and retain minorities in injury prevention research.
E 11	**Risk and Protective Factors of Adolescent Unintentional Injury** For adolescents, identify the risk and protective factors and effective interventions associated with the leading causes of unintentional injury deaths (e.g., motor vehicle crashes) and non-fatal emergencies.	• Examine risk and protective factors related to injury risks and risk taking behavior; • Study the influence of peers, family, and the social and physical environment in the community on changing risks; and • Develop interventions that modify environments and behaviors to reduce the leading causes of unintentional injury to adolescents.

E 12	**Risk and Protective Factors of Adolescent Violence and Suicidal Behavior** For adolescents, identify risk and protective factors associated with interpersonal violence and suicidal behavior.	• Identify pathways to violence and suicidal behavior and identify risk factors associated with such behavior; and • Identify protective factors believed to buffer risk such as strong connections to parents, family, school, religious faith, and community programs and services.
E 13	**Trauma Systems Research** Determine and evaluate the components of pre-hospital and hospital trauma systems that lead to improvements in outcomes for the acutely injured and victims of mass trauma, both inside and outside the United States.	• Identify and evaluate the specific components of trauma systems (pre-hospital and hospital) that contribute to improvements in outcomes for the injured.
E 14	**Parenting and Injury Prevention in Children/Adolescents** For children and adolescents, evaluate the effectiveness and cost benefits of interventions to improve parenting and supervision skills for the prevention of interpersonal violence, suicidal behavior, and unintentional injury.	• Study the link between parenting practices and lapses in supervision with violence, suicide, and unintentional injuries among children and adolescents.
E 15	**Connection Between Multiple Forms of Violence** Identify the relationships among different forms of violence (e.g., youth violence, intimate partner violence, sexual violence, child maltreatment, and suicidal behavior) and other public health problems and evaluate strategies to address them.	• Establish overlap in populations at high risk of different forms of violence; • Determine the extent to which different forms of violence and other health problems share common risk and protective factors; and • Develop and evaluate interventions designed to address these commonalities.
E 16	**Occupational Injuries** Identify the multiple factors and risks that contribute to occupational injuries and develop and evaluate effective interventions for reducing such injuries.	• Develop interventions addressing occupational injuries that are broad including characteristics of work, workplace/process design, work organization, economics, and other social factors.

E 17	**Occupational Respiratory Disease** Increase knowledge of and develop interventions to eliminate occupational respiratory disease.	• Fill knowledge gaps on occupational respiratory diseases including asthma, chronic obstructive pulmonary disease (COPD), asbestosis, silicosis, coal workers' pneumoconiosis (black lung), tuberculosis, cancer, and allergic rhinitis.
E 18	**Musculoskeletal Disorders (MSDs)** Identify the functional changes or mechanisms (causes) associated with chronic musculoskeletal injury and develop effective interventions for their prevention.	• Study what causes musculoskeletal disorders and how MSDs can be prevented through better cost-effective tool and equipment designs, work-rest periods, or changes to the organization of work.
E 19	**Workplace Control Technologies and Personal Protective Equipment** Identify, evaluate, and develop control strategies for specific hazards and to assure their practicality and usability in workplaces.	• Identify, evaluate, and develop control strategies for workplace hazards; and • Explore design changes to equipment, modifications to training efforts, or the use of personal protective equipment, such as respirators, gloves, or protective clothing.
E 20	**Organization of Work** Increase understanding of how work organization is changing and the potential effects on worker safety and health.	• Develop research in areas including surveillance, etiologic studies of risk factors, intervention strategies, • Study how work organization is being influenced by the changing economy and workplace, and the contributions of work organization to health problems, including musculoskeletal disorders and cardiovascular disease.
E 21	**Work Related Skin Exposure and Disease** Investigate skin absorption of industrial chemicals and their mixtures as a significant route of work-related exposure and determine appropriate intervention approaches to prevent skin-related diseases.	• Develop a better understanding of the following: absorption mechanisms; systemic toxicity and risk assessment; occupational contact dermatitis; the prevalence of skin diseases; new intervention approaches; and evaluation of current interventions.