

accomplishments. It will also share information about CMVS strategic planning, which is intended to ensure that resources are directed toward highest-priority topics and worker groups.

In September 2019, the CMVS published an evaluation of progress on its 2014-2018 strategic plan, which identified numerous research and communication products focusing on high-priority worker groups: truck drivers, emergency medical services workers and firefighters, law enforcement officers (LEOs), oil and gas extraction (OGE) workers, and light-vehicle drivers. For example, research on motor vehicle crashes among LEOs led to development of trade journal articles on prevention of officer-involved crashes and a toolkit for use by departments and officers. Research findings about the role of fatigue in crash fatalities of OGE workers, coupled with strong interest from industry partners, led to development of fact sheets on driver fatigue directed toward employers and workers. Research findings on non-use of seat belts by truck drivers led to NIOSH's first CDC Vital Signs, a suite of communication products to promote trucker safety and injury prevention by encouraging belt use. Research on the safety of workers in the ambulance patient compartment led to development of ambulance design and testing standards and to changes in performance specifications for ambulance purchases. CMVS research findings have also contributed to NIOSH comments to regulatory agencies and to national and international standards on fleet safety management that provide critical guidance where no regulations exist.

Building on the evaluation of its 2014-2018 plan, the CMVS is developing a 10-year plan which will go into effect in 2020. The draft plan is informed by input from internal and external partners, the public, and research agendas from other organizations. Following the NIOSH strategic plan for 2019-2023, the CMVS plan will emphasize four industry sectors for which motor vehicle safety is a priority: oil and gas extraction; public safety; transportation, warehousing, and utilities; and wholesale and retail trade. Research and communication activities will center on three strategic areas: (1) crash and injury risk factors; (2) engineering and technology-based interventions; and (3) motor vehicle safety management programs and practices. A continuing balance between research and communication positions the CMVS to effectively and efficiently work toward our overarching goal of preventing work-related motor vehicle crashes.

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NIOSH—Occupational Health Equity Program

Michael Flynn (NIOSH)

Not all workers have the same risk of experiencing a work-related health problem, even when they have the same job. The way societies configure social and economic arrangements influence workers' exposure to occupational hazards (differential exposure) as well as their ability to cope with adverse consequences of an occupational injury or illness (differential susceptibility). These arrangements are commonly referred to as social determinants of health (SDOH). Three types of social arrangement particularly salient for the distribution of occupational injury and illness include: social group/identity along axes such as race, class and gender; organizational and industry practices such as competitive bidding, unionization, and sub-contracting; and employment characteristics such as job security, shift work, and pay structures.

The Occupational Health Equity program seeks to identify and eliminate avoidable differences in work-related disease incidence, injury, mental illness, and morbidity and mortality that are closely linked with social, economic, and/or environmental disadvantage.

The United States' workforce is undergoing dramatic demographic and structural shifts. The fastest growing groups in the workforce (such as racial minorities, immigrants, and contingent workers) are also those who are at an increased risk of occupational injuries and illnesses as a result of social, economic, and/or environmental disadvantage. The direct and indirect cost of occupational injury and illness in the United States in 2007 was \$250 billion, up from an inflation-adjusted \$217 billion in 1992. If the disadvantages that contribute to increased occupational injury and illness are not addressed, the costs to society will increase as workers from these high-risk groups make up an increasing percentage of the workforce. Occupational health equity research and practice is essential if we are to maintain the gains in safety and health of the past half-century.

One of the largest challenges facing occupational health equity is that the same social and economic structures that contribute to higher risks of occupational injury have often also excluded these workers from efforts to understand and prevent workplace illness and injury. As a result, existing surveillance systems often have incomplete information, making the occupational health status of some underserved worker populations unclear. Similarly, research methods that work well for understanding majority populations are often not as effective for working with many racial/ethnic minority groups. Tailored research methods and interventions need to be developed and adopted. Occupational safety and health professionals and organizations need to continue developing the internal capacity and institutional relationships to work effectively with these communities.

The Occupational Health Equity program is working to integrate a social determinants of health approach to occupational safety and health. This work includes:

1. Improving surveillance and research methods to more precisely identify which social, economic, and/or environmental disadvantages contribute to higher rates of occupational injury and illness in which industries.
2. Promoting research that explains how barriers to safety and health related to these factors occur at the worksite and how they can be overcome.
3. Developing and evaluating tailored occupational safety and health programs, policies or other changes that directly address these barriers either by themselves or in combination (Overlapping Vulnerabilities)
4. Improving institutional infrastructure to address these risk factors through internal capacity building and partnership development.

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NIOSH—Center for Occupational Robotics Research: Program, Goals, and Research

Hongwei Hsiao (NIOSH)

The National Institute for Occupational Safety and Health (NIOSH) conducted extensive robotics research when robots began appearing

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