



# Occupational Safety and Health

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## PROGRESS REVIEW



In the 18th in a series of assessments of *Healthy People 2010*, Deputy Assistant Secretary for Health Howard Zucker chaired a focus area Progress Review on Occupational Safety and Health. In underscoring the magnitude of risks to life and health faced by workers in the United States, Dr. Zucker noted that an estimated 11,000 workers were disabled each day by work-related injuries in the 1990s and that, on average, 130 workers died daily from work-related diseases. In conducting the review, Dr. Zucker was assisted by staff of the lead agency for this *Healthy People 2010* focus area, the National Institute for Occupational Safety and Health (NIOSH), part of the Centers for Disease Control and Prevention (CDC). Also participating were representatives of other U.S. Department of Health and Human Services' offices and agencies. Joining them were officials of agencies within the Department of Labor that carry out the Federal Government's data reporting, oversight, and regulatory functions for safeguarding the health and safety of workers—the Bureau of Labor Statistics, the Occupational Safety and Health Administration, and the Mine Safety and Health Administration.

The complete text for the Occupational Safety and Health focus area of *Healthy People 2010* is available at [www.healthypeople.gov/document/html/volume2/20ocsh.htm](http://www.healthypeople.gov/document/html/volume2/20ocsh.htm). The meeting agenda, tabulated data for all focus area objectives, charts, and other materials used in the Progress Review can be found at [www.cdc.gov/nchs/about/otheract/hpdata2010/focusareas/fa20-osh.htm](http://www.cdc.gov/nchs/about/otheract/hpdata2010/focusareas/fa20-osh.htm).

### Data Trends

Edward Sondik, Director of CDC's National Center for Health Statistics, set the context for objectives in the Occupational Safety and Health focus area, noting that 5,524 work-related injury deaths occurred in the United States in 2002, or approximately 15 per day. More than 4.7 million new nonfatal injuries and illnesses were reported in private industry alone in that year. The direct costs of occupational injuries and illnesses are estimated at \$45.8 billion, and indirect costs may range up to \$229 billion. Nonetheless, of the 11 objectives in the focus area, the progress of 8 can be assessed, and all of these have shown improvement in this decade. The 2010 target has been met for the reduction of work-related homicides to 0.4 per 100,000 workers aged 16 years and older (Obj. 20-5). The target for

occupational skin diseases or disorders was 80 percent achieved as of February 2004 (Obj. 20-8—see below). Progress also was shown in reducing work-related injuries resulting in medical treatment, loss of time from work, or restricted work activity. In 2002, the incidence of such injuries had been reduced 63 percent of the way to the target of 4.3 injuries per 100 full-time workers in private industry (Obj. 20-2).

Dr. Sondik focused on objectives that addressed the major topics highlighted in the Progress Review. These topics included the challenge of eliminating health disparities (illustrated using occupational injury deaths among young workers and Hispanics), the challenge of improving workers' health and safety in high-risk industries (illustrated using

injury deaths and pneumoconiosis in mining), and the notable success in reducing the burden of occupational skin diseases or disorders. Between 1998 and 2002, the rate of work-related injury deaths in all industries decreased from 4.5 to 4.0 per 100,000 workers aged 16 years and older. The 2010 target is 3.2 per 100,000 (Obj. 20-1). By industry, the highest rates of work-related injury deaths in 2002 were recorded for mining and agriculture (>20 per 100,000), followed by construction and transportation (>10 per 100,000). Of the total number of occupational injury deaths (5,524), 43 percent occurred in connection with transportation-associated activity. By gender, the rate of work-related injury deaths among males in 2002 was 6.9 per 100,000, compared with 0.7 per 100,000 among females, partly due to the preponderance of male employees in the more hazardous occupations. By ethnic or racial group, the highest rate of deaths from occupational injuries recorded over the period 1995–2000 (5.0 per 100,000) was for Hispanics. The greatest number of occupational injury deaths among Hispanic workers occurred among those employed in the construction industry. In 2002, roughly two-thirds of the Hispanics who died from work-related injuries were foreign born. Among all workers younger than 18 years of age, 41 percent of work-related injury deaths in the period 1992–2002 occurred among those employed in agriculture.

In the mining industry as a whole, the highest rate of work-related injury deaths in 2002 was recorded for coal mining, followed by the mining of nonmetals (other than coal), then by oil and gas extraction. In underground mining, 43.3 percent of work-related injury deaths in 1998–2002 were caused by cave-ins

(e.g., collapse of the mining face or overhead). In surface mining, the largest proportion of deaths was caused by “powered haulage” (such as contact with equipment and vehicles used to haul materials).

Over the past three decades, the prevalence of coal workers’ pneumoconiosis has declined sharply, most dramatically among miners who have worked in the industry for more than 25 years. In the period 1973–1978, 35 percent of this cohort had coal workers’ pneumoconiosis, whereas in 1996–2002, only 5 percent did. In 2000, the number of deaths from this disease was 950, compared with 1,003 deaths in 1999. Coal workers’ pneumoconiosis accounted for about one-half of the total deaths (4,963) from all forms of pneumoconiosis in 1974, compared with about one-third of the total (2,864) in 2000. Deaths from other pneumoconioses increased by more than one-third between 1983 and 2000, with asbestosis playing a large role in the rise. The 2010 target for total number of pneumoconiosis deaths is 1,900 (Obj. 20-4).

In 2002, skin diseases or disorders accounted for 15.2 percent of nonfatal occupational illnesses, of which the total number was approximately 294,500. The 2010 target for all occupational skin diseases or disorders is 47 new cases per 100,000 full-time workers aged 16 years and older (Obj. 20-8). The rate was 51 per 100,000 in 2002, a significant decline from 67 cases per 100,000 workers in 1997. Dermatitis, the largest cause of occupational skin diseases or disorders, declined from a rate of 1.2 cases involving days away from work per 10,000 workers in 1992 to 0.5 cases per 10,000 workers in 2001.

## Key Challenges

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NIOSH and participants in the review identified a number of obstacles to achieving the objectives, including the following:

- The mining environment poses a high degree of threat to the life and health of workers. Approximately 90 percent of miners are hearing impaired by age 50. Fatalities in mining are decreasing, but even so, coal mining had a fatality rate in 2002 that was 7 times that of private industry as a whole.
- Occupational skin diseases or disorders account for approximately 15 percent of nonfatal occupational illnesses, the second largest category after repetitive trauma. Dermatitis—skin inflammation resulting from contact with allergens or irritant substances—accounts for more than 75 percent of cases of occupational skin diseases or disorders that are accompanied by days away from work.
- In spite of the general downward trend in pneumoconiosis deaths, deaths from asbestosis increased from about 100 in 1974 to more than 1,200 in 2000, probably due in part to the increase in the disease associated with historical exposures to asbestos and in part to increased recognition of the disease by physicians. This upward trend is not expected to peak and reverse for at least 10 years.
- Apart from the language barrier, newly immigrated workers face other special challenges in the work environment, such as unfamiliarity with laws and labor standards in the United States.
- The average work year for prime-age working couples has increased by nearly 700 hours in the past two decades, and high levels of emotional exhaustion are the norm for 20 to 30 percent of the workforce.
- By 2010, an estimated 40 percent of the U.S. workforce will be aged 45 years and older. Older workers are at increased risk for fatal work injuries, require more time to return to work following an injury or illness, and are less likely to receive training as their jobs change.

## Current Strategies

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NIOSH Director John Howard introduced the principal themes that would focus subsequent discussion of activities under way to meet critical challenges to workers' health and safety. Dr. Howard noted that NIOSH has been engaged since 1996 in the National Occupational Research Agenda (NORA), a major effort that contributes to progress made toward achieving the *Healthy People 2010* objectives for occupational safety and health. Through NORA, NIOSH and collaborating public and private partners provide a framework to guide occupational safety and health research in 21 high-impact priority areas, such as traumatic injury, chronic obstructive pulmonary

disease, asthma, and control technology. Among the principal current activities and innovations under way to enhance the state of occupational safety and health, the following were discussed during the review:

- In response to concerns expressed by employees, employee representatives, employers, or state or Federal agencies, NIOSH conducts Health Hazard Evaluations to determine whether there is an unsafe situation in a workplace caused by new or poorly understood materials or conditions, such as chemicals, biological agents, heat stress, noise, radiation, and ergonomic stressors. NIOSH disseminates results and recommendations from these evaluations in English and Spanish.

- To address fatalities in high-risk industries such as mining, NIOSH develops and implements targeted interventions such as roof support technologies in underground mines and proximity detection systems for large equipment hazards.
- In cooperation with partners, NIOSH developed the Personal Dust Monitor, a wearable device that provides a real-time readout of exposure data during and immediately after a worker's shift, unlike previous technology that required weeks to process samples. Similar technologies can be developed to monitor other exposure hazards.
- As part of its efforts to reduce health disparities, NIOSH developed a Spanish-language Web site, "NIOSH en Español," to meet the needs of the Hispanic worker population, which is expected to increase by more than one-third during the next decade. The site provides translations of selected NIOSH publications and links to other Spanish-language materials, as well as referral to a toll-free telephone number for followup inquiries.
- To address violence in the workplace, NIOSH took the lead in creating the Federal Interagency Task Force on Workplace Violence Research and Prevention. The task force provides a forum for sharing information and identifying opportunities for collaborative efforts on the part of NIOSH and its partners on the task force—the Departments of Labor and Justice and 20 other Federal agencies. A conference on best practices for preventing workplace violence is planned for the fall of 2004.
- In the spirit of the HHS *Steps to a HealthierUS* initiative, NIOSH introduced the *Steps to a HealthierUS Workforce* to encourage workplace health programs that focus on both risk factors in places of employment and the promotion of healthy lifestyles to reduce and prevent chronic disease. A national symposium will be held in September 2004.

## Approaches for Consideration

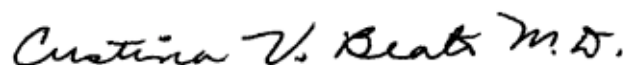
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During the review, the following suggestions were made for steps to bring about further progress toward achievement of the objectives:

- Give greater attention to determining the prevalence, source, and nature of disability from occupational injuries and illnesses and to preventing its occurrence.
- Explore the possibility of reviving the Quality of Employment Survey, which was administered on three occasions during the early 1970s and yielded valuable information about the organizational aspects of working conditions.
- Undertake additional efforts to address health disparities, such as higher occupational mortality and injury rates, by targeting interventions to specific populations at risk, such as older, young, and immigrant workers.
- Develop strategies for prevention of needlestick injuries sustained by non-hospital-based healthcare workers.

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