
**Occupational Health Surveillance in New Mexico
Highlights from the CSTE Indicators Project**

Stephanie Moraga-McHaley, University of New Mexico School of Medicine
Karen B. Mulloy, D.O., MSCH, University of New Mexico School of Medicine
Ronald E. Voorhees, MD, MPH, Chief Medical Officer, New Mexico Department of Health

Workplace injuries and illnesses remain a significant problem in the United States. A worker is injured every five seconds [1, 2]. In 1996, an estimated 11,000 workers were disabled each day due to work-related injuries [3], and the Bureau of Labor Statistics (BLS) reported in 2000 that 5,915 workers in private industry died as a result of work related injuries [4]. It is estimated that 50,000 to 70,000 workers die each year from work-related diseases [5, 6]. Among special populations of workers, such as adolescents (two percent of the total workforce), the burden of injury may be disproportionately high. Seventy-four thousand young workers seek treatment in hospital emergency departments for work-related injuries each year, and 70 die each year of these injuries [5]. The National Safety Council estimated in 1996 that on-the-job injuries alone cost society \$121 billion. The 1992 combined U.S. economic burden for occupational illness and injury was an estimated \$171 billion [7].

In New Mexico, there has been little capacity to systematically assess illnesses and injuries occurring on the job. In 2002, the Office of Epidemiology in the New Mexico Department of Health, in partnership with the University of New Mexico Health Sciences Center's Program in Occupational and Environmental Health, received a grant from the National Institute for Occupational Safety and Health (NIOSH) to establish an occupational injury and illnesses surveillance system for New Mexico. The New Mexico Occupational Health Registry (NMOHR) was established to utilize existing data from state and federal public health and labor agencies, public and private healthcare providers, and academic institutions in order to create a single

repository for combining these data into valid, reliable and useful surveillance information. In order to more fully assess occupational injuries and illnesses, selected occupationally-related conditions were made reportable in 2003.

In 1998, NIOSH, in conjunction with the Council of State and Territorial Epidemiologists (CSTE), convened a work group to make recommendations to NIOSH for occupational health surveillance activities [9]. The work group developed the Occupational Health Indicators for the NIOSH state-based occupational health surveillance projects. Criteria for selection of indicators included: 1) the availability of easily attainable statewide data; 2) the public health importance of the occupational health effect or exposure to be measured; and 3) the potential for workplace intervention activities. The occupational health indicators provide standardized information about workplace injuries and illnesses. NMOHR is working with the CSTE/NIOSH Work Group on the occupational health indicators for the state of New Mexico.

New Mexico Worker Profile

New Mexico had 792,000 employed civilian workers in the year 2000. The unemployment rate was 4.9%; 9.2% of workers were self-employed and 18.1% were employed in part-time jobs. The male to female ratio in the workforce was 52 to 48. Young workers, aged 16 to 17 years, comprised 2.3% of the workforce, while 3.2% were 65 years of age or older. Hispanics made up 37.5% of New Mexico's workforce, the highest percentage of Hispanic workers among all CSTE participant states.

Fatal Work-related Injury

In 2000, 35 New Mexicans died on the job resulting in a fatality rate of 4.4 per 100,000 employed persons 16 years of age or older (FTEs), which was equal to the U.S. rate for that year. Most of the participating states fell below the national rate with the exception of North Carolina and Nebraska, which had crude fatality rates of 6.1 and 6.6 respectively. However, while U.S. rates are steadily declining, New Mexico rates have risen in recent years (Figure 1).

One possible explanation for New Mexico’s occupational fatality rate may be the nature of the industries and occupations in which New Mexicans work. Indicator 17: *Percentage of Workers Employed in Industries and Occupations at High Risk for Occupational Mortality*, indicated that for the year 2000, 15.5% of New Mexico’s workers were in high risk industries and seven percent were in high risk occupations, which is above the average for participant states. Some of the industries at high risk for occupational fatality include farming, mining, and construction while high risk occupations include excavation equipment operators, truck drivers, and farmers.

Non-fatal Illness and Injury Indicators

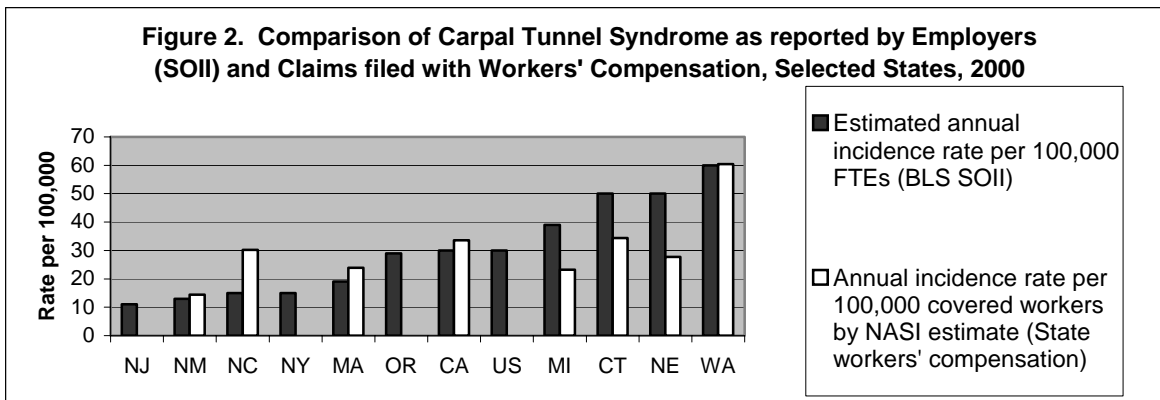
Several of the indicators describe non-fatal injury, both cumulative and traumatic. Much of the data for these indicators originates from the Bureau of

Labor Statistics Survey of Occupational Illness and Injury (SOII), an annual, mandatory survey of selected employers conducted by OSHA.

Numbers and rates are not published by the BLS if the sample sizes are insufficient to generate state specific rates. Therefore, SOII data is less descriptive for states with small populations, such as New Mexico. Other data sets for non-fatal occupational injury include state hospital discharge data, state workers’ compensation data, and the American Association of Poison Control Centers data.

Some of the indicators of non-fatal occupational injury include non-fatal work related injuries and illnesses reported by employers, work-related amputations and musculoskeletal disorders reported by employers, amputations and carpal tunnel syndrome filed with the state workers’ compensation system, hospitalizations for work-related burns, and acute work-related pesticide-associated illness and injury reported to poison control centers.

BLS SOII data and State Workers’ compensation are not always in agreement. Each state workers’ compensation program operates under its own state’s law leading to inconsistencies from state to state on issues such as the type of worker covered under the law and the classification of injury type. In both datasets New Mexico had a low incidence of carpal tunnel syndrome compared to other participating states (Figure 2). New Mexico also had low rates of work-related burns (1.8 per



Source: Council of State and Territorial Epidemiologists Occupational Health Indicators Pilot Project

Data Sources: Bureau of Labor Statistics Survey of Occupational Illness and Injury; New Mexico State Workers' Compensation Administration, National Academy of Social Insurance

100,000 FTEs), musculoskeletal disorders (495 per 100,000 FTEs) and amputations (6.2 per 100,000 workers covered by NMWCA), when compared to the other states.

Chronic occupational illnesses are less likely to have been reported by employers, as symptoms may not manifest until long after the employee has left the workforce. The data sources for chronic illness indicators are hospital discharge databases, vital records, and state tumor registries. Indicators of chronic occupational illness include hospitalization and mortality due to pneumoconiosis and mesothelioma.

Almost all pneumoconioses are attributable to occupational exposure [9]. Indicator #9, *Hospitalization due to pneumoconiosis* quantifies hospital discharges due to all pneumoconioses, asbestosis, silicosis, coal workers' pneumoconiosis, and other and unspecified pneumoconioses and compares rates across states with the overall U.S. rate. Across the U.S. the incidence of pneumoconiosis varies from region to region depending on the types of industry prevalent in that region and the migration of affected workers.

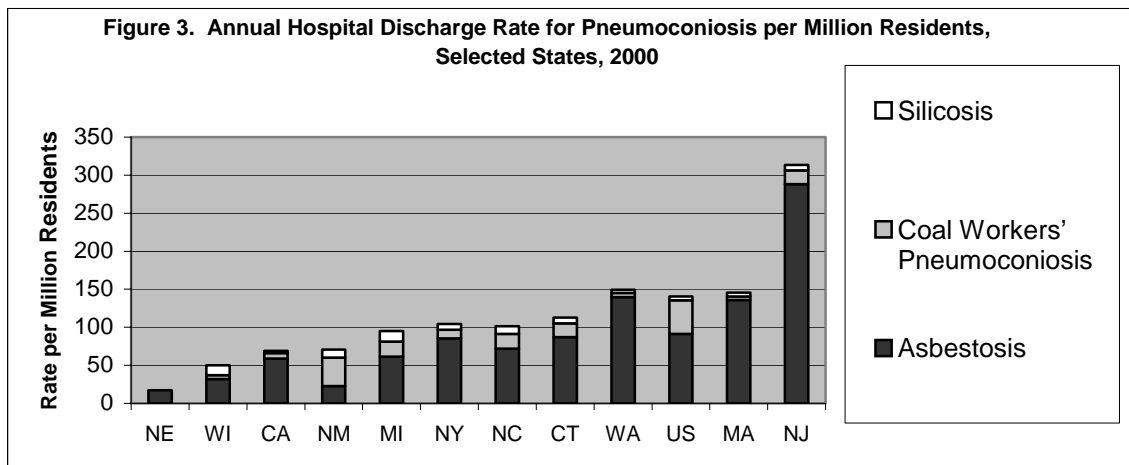
The proportion of total pneumoconiosis due to asbestosis is very high in states where manufacturing and ship building industries were historically present. New Mexico carries its

burden of pneumoconiosis in the form of coal worker's pneumoconiosis and silicosis which are commonly associated with mining activities, whereas the incidence rate for asbestosis in New Mexico is proportionately much smaller than for other participant states (Figure 3).

This initial assessment of occupational illness and injury is the first step toward comprehensive surveillance of occupational illness, which in turn can be used to target opportunities for prevention of these conditions.

References

[1] Bureau of Labor Statistics (BLS). Work injuries and illnesses by selected characteristics, 1993. BLS News Publication 95-142, April 26, 1995.
 [2] BLS. Workplace injuries and illnesses in 1994. BLS News Publication 95-508, December 15, 1995.
 [3] National Safety Council. Accident Facts, 1998. Itasca, IL: the Council, 1999.
 [4] BLS. <http://stats.bls.gov/iif/oshcfoi1.htm#2000>.
 [5] CDC. Healthy People 2010 <http://www.health.gov/healthypeople/Document/HTML/Volume2/20OccSH.htm>
 [6] Centers for Disease Control and Prevention (CDC). National Occupational Research Agenda. Morbidity and Mortality Weekly Report 45:445-446, 1996.
 [7] Leigh, J.P.; Markowitz, S.B.; Fahs, M.; et al. Occupational injury and illness in the United States: Estimates of costs, morbidity, and mortality. Arch Int Med 1997; 157(14):1557-1568.
 [8] NIOSH. National Occupational Research Agenda. Pub. No. 96-115. Cincinnati, OH: NIOSH, 1996.
 [9] Council of State and Territorial Epidemiologists. <http://www.cste.org/pdffiles/Revised%20Indicators3.4.04.pdf>



Source: Council of State and Territorial Epidemiologists Occupational Health Indicators Pilot Project

Data sources: State Hospital Discharge Data; U.S. Bureau of the Census, 2000