
Occupational Health

Recognizing and Preventing Work-Related Disease

Third Edition

Edited by

Barry S. Levy, M.D., M.P.H.
Adjunct Professor of Community Health, Tufts
University School of Medicine, Boston; Barry S. Levy
Associates, Sherborn, Massachusetts

David H. Wegman, M.D., M.S.
Professor and Chair, Department of Work
Environment, College of Engineering, University of
Massachusetts Lowell, Lowell, Massachusetts

Foreword by
Christer Hogstedt, M.D.
Swedish National Institute of Occupational Health and
Karolinska Hospital

Little, Brown and Company
Boston/New York/Toronto/London

Resource ID#: 4326

Minority Workers

33

Minority Workers

Morris E. Davis, Andrew S. Rowland, Bailus Walker, Jr., and Andrea Kidd Taylor

Why does occupational disease among minority workers deserve special attention? Although it is accepted that the labor force is divided into subgroups of workers by industry or jobs and that different workers face different risks for occupational disease, not enough attention has been placed on studying the demographic characteristics, such as age, gender, and race, that may be linked to elevated risk for occupational disease. Such study may greatly broaden our understanding of the relationship between work and disease.

When populations can be demonstrated to be at high risk of occupational disease, clear social policy implications follow. For example, the whole concept of Equal Employment Opportunity in the United States would have to be re-evaluated if employers, in compliance with affirmative action guidelines, were hiring minority workers only into the most hazardous jobs—albeit at equal pay with other workers.

The purpose of this chapter is to document how disproportionate numbers of minority workers have been—and are—at increased risk of occupational disease, and to suggest ways in which the health professional can help to alleviate this problem. The chapter focuses on placement patterns of minority workers in American industry, providing data that associate these patterns with occupational injury and illness. Finally, the limitations in current social policy and the need for changes in such policy are presented.

For the purpose of this chapter, minority workers include African-Americans (blacks), Asian-Americans, Latinos (Hispanics), and Native Amer-

icans (American Indians), and the word *minority* is synonymous with nonwhite. Most of the examples chosen refer to African-American workers because, as poor as the data are for this group, occupational health data are effectively unavailable for the other minority groups covered here. In addition, African-Americans today constitute the majority of minority workers in the U.S., and the occupational health problems that they face are likely to represent the experience of other minority groups.

The distribution of the workforce into various job types within industry has often been based, directly or indirectly, on race and ethnicity. Historically, each immigrant group that arrived in the U.S. worked in some of the dirtiest, most demanding and dangerous jobs in industry only to be succeeded, within one or two generations, by the next immigrant group. In contrast to the experience of many of the white immigrant groups, however, racially motivated discriminatory hiring and employment patterns in many industries were used to prevent African-Americans, Asian-Americans, Latinos, and Native Americans from moving out of these entry-level jobs. Consequently, minority workers have been concentrated in the worst jobs in many industries as far back as the 1920s. In addition, discriminatory job placement practices have also resulted in elevated cancer incidence and death rates in African-Americans exposed to occupational carcinogens. Anyone assessing the impact of occupational exposures on the health of minorities needs to ask: "Where do minority workers work?"

Placement Patterns of Minority Workers

Minorities continue to work disproportionately in higher-risk occupations. For example, in New York City, 30 percent of Latino workers and 18 percent of African-American workers work as operators, fabricators, and laborers, as compared with only 11 percent of white workers who work in these occupations. However, among lower-risk managerial and professional occupations there, only 11 percent of Latino workers and 15 percent of African-American workers, as compared to 30 percent of white workers, are employed in these jobs [1].

Nonwhite workers are concentrated in many of the most hazardous industries in the manufacturing sector; for example, they are concentrated in logging, "other primary iron and steel industries," and meat products, all of which have high injury and illness rates.

Minority workers have been documented to face greater on-the-job hazards. Forty-seven percent of African-American workers report themselves as exposed to at least one hazard, compared to 37 percent of white workers; the average number of significant hazards reported by blacks is 1.55, compared to 1.01 for whites. Of 13 hazards studied in one study, African-Americans were observed to be exposed significantly more often than whites in cases of extreme temperature, dirty conditions, loud noise, and risk of disease [14].

Ever since African-Americans were brought to the United States as slaves, they have been employed in the lowest paid and least desirable jobs. They have generally been denied entrance into many industries or into skilled trades and are often assigned the most dangerous jobs in the industries in which they have worked.

African-American women and other women of color have the lowest paid jobs and are mainly employed in domestic and service positions and blue-collar jobs. There are industries in the U.S. and elsewhere where large numbers of women of color

are employed. Of the 240 poultry and meat processing plants in the U.S., with over 150,000 workers, nearly 75 percent are located in the southern part of the U.S., where communities are poor and many African-American women are employed. Conditions similar to those found in the Mexican maquiladoras exist. Working conditions are unsafe and unhealthy, minimum wages are paid, there are no health care benefits, and many plants are not unionized. Many Latina women are employed as farmworkers, especially in the western and southern parts of the U.S.

Often one particular minority group will be concentrated in performing the unskilled and semi-skilled jobs in a particular industry. For example, Latinos have been concentrated in these jobs in copper smelting and agricultural production in the western and southwestern U.S., Native Americans in such semiskilled jobs in uranium mining in the Southwest, and Asian-Americans in such jobs in the hotel and restaurant industry on the West Coast.

Not only are minority workers concentrated in the most dangerous sectors of the U.S. economy, but they are also overrepresented in the more dangerous occupations within these industries, even after controlling for education and experience (Table 33-1). The most significant occupational health problems faced by minority workers are related to patterns of their placement in the least desirable, semiskilled and unskilled jobs within industry. The author of one study estimated that African-American workers have a 37 percent greater chance than white workers of having an occupational injury or illness, and a 20 percent greater chance of dying from one [2].

Is there evidence that minority workers are concentrated in the specific jobs where elevated rates of occupational disease have been documented? The answer is that evidence for this is incomplete. Three research practices common to many epidemiologic studies of occupational disease and injury are responsible for the paucity of solid data on occupational disease patterns among minority

Table 33-1. Employed blacks as a percent of all employed men and women in selected occupations and the lost workday rate due to occupational illness and injuries (1984)

Occupation	Percent black		Lost workdays (rate 100 full-time workers)
	Men	Women	
Meat cutters and butchers	9	19	181
Waste collectors	32	5	169
Construction workers	15	5	128
Furnace workers	25	5	109
Farm laborers	14	15	100
Garage workers and gas station attendants	8	5	47
Laundry and dry-cleaners	28	21	43
Food service workers	11	10	34
Bank officials	3	5	11
Lawyers and judges	3	7	5
Insurance agents	4	8	4
Accountants	4	9	3

Lost workdays include days away from work and days of restricted work activity because of occupational injury or illness. Data not shown where numerator is less than 4,000 or denominator is less than 35,000.
 Sources: U.S. Department of Labor, Bureau of Labor Statistics, Occupational injury and illness in the United States by industry, Washington, D.C.: U.S. Government Printing Office, 1984; and DN Westcott, Blacks in 1970s: Did they scale the job ladder? Monthly Labor Review 1982: 105:29-38.

workers: controlling for race so that no race-specific data are presented, focusing on whites only because they have a better national comparative database, and including race as a variable in the project design but not in the analysis of study results. While each of these practices can be defended on methodologic grounds, they have not been complemented by practices which are available that would permit race-specific risk information to begin to be developed.

The manner in which U.S. Government statistics are collected also contributes to the problem in the U.S., and similar practices may contribute to this problem in other countries. Although census and employment data are collected by race on broad groups of workers by industry, such as steelworkers, or by broad occupational categories, such as operatives in the steel industry, no one collects data by detailed job classification, such as coke oven workers. This means that when epidemiologic studies associate occupational disease with a

particular job, such as cancer and coke oven workers, no national data are available to estimate the number of minority workers in that job classification.

Evidence of Elevated Risk in Minority-Intensive Jobs

Presently, the most compelling evidence suggesting direct links between job placement patterns and occupational disease patterns among minority workers is a composite of selected race-specific epidemiologic studies, lawsuits, and industrial disasters that have attracted widespread public attention. The examples that follow describe situations in which African-Americans were concentrated in particular jobs that are now recognized to be linked with occupational disease. Although one can make inferences from these situations, the authors acknowledge the lack of direct evidence that

work exposure caused disease in some of these specific situations. In many of these situations exposure data were not collected and appropriate comparisons were not done. Nevertheless, the authors believe that it is necessary to examine this type of evidence to appreciate occupational health problems among minorities since most people are not aware that these exposures occurred on such a widespread basis.

In the 1930s and 1940s

Five thousand workers, mostly African-American, were recruited to tunnel through a mountain in West Virginia, during which time they were exposed to high concentrations of silica dust. Later a Congressional committee uncovered the fact that 1,500 of these workers had become disabled and another 476 died from silicosis [3]. More than half of the bituminous coal miners in Alabama were African-American as were about 25 percent of all coal miners in southern Appalachia [4]. Many of the workers were displaced during the Depression and never received compensation or medical treatment for the coal workers' pneumoconiosis they had developed.

In an investigation to determine the factors that contribute to high rates of pneumonia among steelworkers, the U.S. Public Health Service found that African-Americans employed in the blast furnace, coke oven, and open hearth departments had disproportionately high rates of pneumonia. The researchers believed that this problem was due to heat exposure, but steel industry representatives suggested that African-Americans have been "pre-disposed to the disease" [5].

In 1935 a total of 108 African-American steelworkers in Indiana sued subsidiaries of a large steel company for failing to provide healthful working conditions. The worker-plaintiffs were mostly furnace cleaners and coke oven workers who had been given the dirtiest jobs in the mill. They charged that their jobs had caused tuberculosis, silicosis, and other lung disease. The suit was settled out of court for an undisclosed amount of money in 1938 [6].

In the 1940s so many African-American automobile workers were hired in the foundry department that it became known as the "black department." A subsequent study has documented an increased cancer rate among foundry workers during this period [7].

During World War II, African-American workers were hired in record numbers in the shipbuilding and munitions industries. After the war, most were laid off [8]. Most African-American workers exposed to asbestos and other hazardous substances during the war have not received compensation for cancer and other occupational diseases they incurred.

After World War II

A U.S. Public Health Service study of the chromate industry uncovered an occupational lung cancer epidemic. African-American workers in this industry were found to have 80 times the expected number of respiratory cancers—significantly higher than the 29-fold excess found for all chromate workers. The cause was identified as exposure to chromium-bearing dusts in the "dry end" of processing, where 41 percent of the African-American workers, as compared with 16 percent of the white workers, were employed [9].

In the 1960s a series of long-term mortality studies among American steelworkers began to be published, showing that African-Americans had been concentrated in the most dangerous areas of steel plants and had suffered disproportionately high rates of lung cancer. Of African-Americans assigned full-time to coke oven departments, 19 percent were employed in the most dangerous job of top-side coke oven worker, as compared with 3 percent of the white coke oven workers. This created a situation in which 80 percent of the full-time, top-side coke oven workers in the study were African-American. Full-time top-side coke oven workers were shown to have 10 times the expected risk of developing lung cancer [10].

Long excluded because of discriminatory hiring employment practices, over 90,000 African-American workers entered the textile mill industry

between 1960 and 1979 (Fig. 33-1). An epidemiologic study of one of the largest textile corporations revealed that (1) the employment of African-American workers was being concentrated in the high-dust work areas, and (2) although African-American workers had been employed in the textile mills for fewer years, they were at higher risk of developing byssinosis [11].

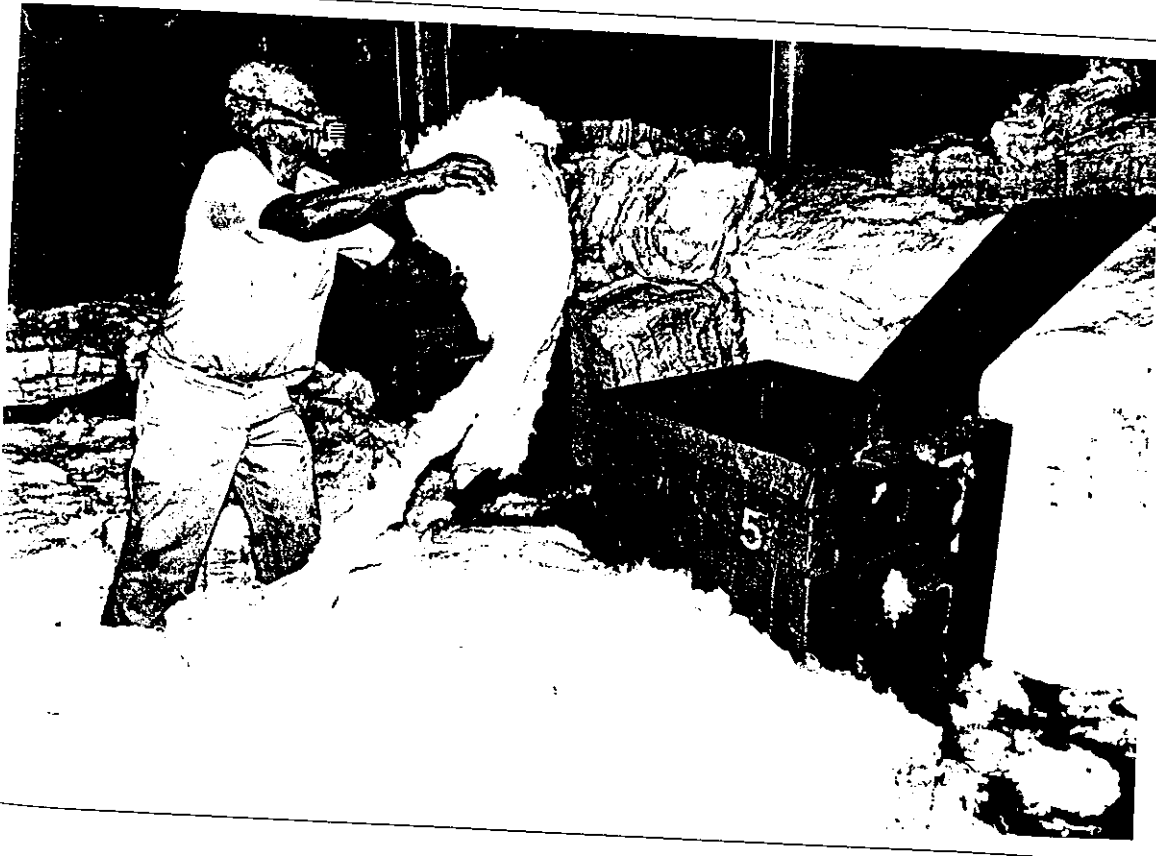
A study of the rubber industry showed that employment of African-Americans was concentrated in the compounding and mixing areas, where elevation in cancer of the stomach, respiratory system, prostate, bladder, blood, and lymph nodes was found. In addition, African-American workers in these areas were found to have particularly

high rates of respiratory and prostatic cancer when compared with white workers in the same work area [12].

African-American workers in lead smelters and paint and battery plants in three major cities instituted legal actions against their employers, charging them with responsibility for excessive exposure of workers to lead, falsification of medical monitoring records, and unethical and dangerous use of chelating drugs in attempts to prevent lead poisoning [13].

The NAACP instituted a class action suit against a shipyard on behalf of the African-American workers employed there. The suit alleged that virtually only African-American workers were as-

Fig. 33-1. Minority workers often are employed in the least desirable and most hazardous jobs, such as this worker opening bales of cotton—a job that has traditionally carried a high risk of byssinosis. (Photograph by Earl Dotter.)



signed to sandblasting (with hazardous exposure to silica dust) and that workers were also being systematically denied workers' compensation benefits for resultant lung disease (silicosis).

Nonwhite workers experienced unemployment rates about double the national average during the 1970s and tended to remain unemployed longer than white. Two studies of unemployment written in the 1970s linked job loss with elevations in blood pressure, changes in mental health, and excess morbidity and mortality.

The devastating fire that occurred in 1991 in a chicken-processing plant in a small town in North Carolina is an example of dangerous working con-

ditions for minority workers. Twenty-five men and female workers were killed in the fire because locked safety doors kept them from escaping. Two-thirds of the plant workforce were African Americans.

Some of the evidence for higher occupational risks among minority workers relates to specific types of work. Farmworkers and their families exposed to pesticides, and occupational injuries occur among them at very high rates. Of the workforce of migrant farmworkers (see Chap. 35), it is estimated that 50 percent are Latino, 30 percent African-American, and some of the rest Native American (Fig. 33-2). In parts of California, n

Fig. 33-2. Migrant farmworkers throughout the world, who are often members of minority groups, face many work-associated hazards, including physical stresses and exposure to pesticides. In the U.S. migrant farmworkers are often Latinos. (Photograph by Ken Light.)



textile workers and apparel workers are Asian-American women who work in places that are often unsafe due to poor lighting, inadequate ventilation, and possible exposure to formaldehyde and other toxic substances (Fig. 33-3). Semiconductor workers, mainly Asian and Latina immigrant women, experience occupational illness at three times the rate of workers in general manufacturing. Construction is one of the most dangerous industries (see Chap. 36); in California, 62 percent of all construction workers are African-American or Latino.

Because minority workers have more reason to fear being fired they are less likely to question or complain about hazardous working conditions.

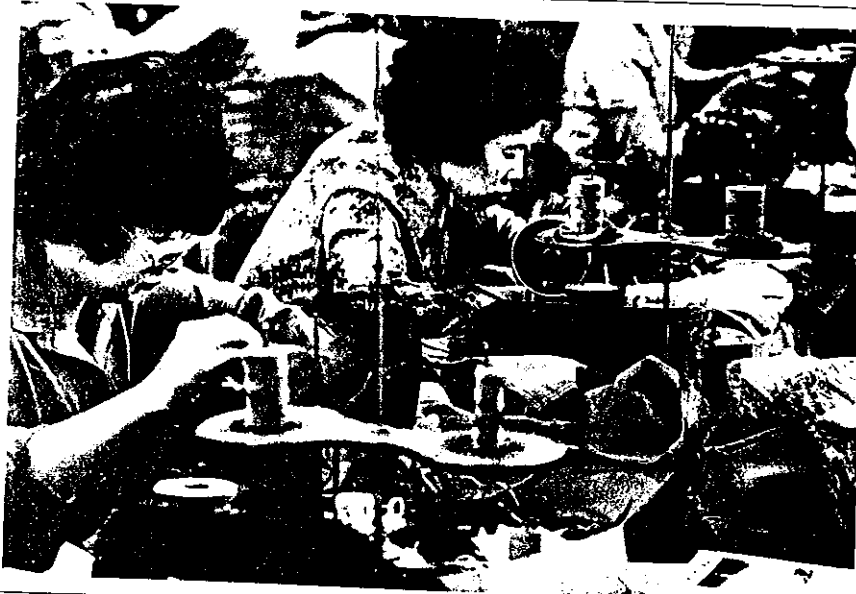
The average African-American worker is found to be in an occupation that is 37 to 52 percent more likely to result in a serious injury or illness than the occupation of the average white worker, and this overrepresentation in hazardous jobs holds strong, even after controlling for differences in education and on-the-job experience [14].

A study in California has demonstrated that African-American and Latino workers are at greater risk of occupational disease and injury than white workers. Latino men had more than double the risk of work-related illness and injury than white men, and African-American men had a 41 percent greater risk. Compared with white women workers, Latino women workers had 49 percent, and African-American women 31 percent, greater risk. At least part of the difference in risk cannot be explained by differences in education or number of years worked between ethnic groups.

For both sexes, African-Americans have greater rates of disabling injuries than whites. Fifteen percent of African-American workers are unable to work due to permanent or partial disabilities.

For male workers, there has been a dramatic narrowing of racial differences in exposure to occupational hazards since the 1960s. For female workers, no such narrowing of racial differences has occurred. African-American women now face

Fig. 33-3. Asian workers in the United States sometimes work in low-paying, monotonous jobs, such as in the garment industry, as shown here. (Photograph by Earl Dotter.)



approximately the same risk of occupational injury as white men.

General Health Status

African-Americans and other minorities have dramatically higher morbidity and mortality rates than whites for most major diseases. Almost 15 percent of the African-American workforce in the U.S. (1.5 million workers) are unable to work due to permanent or partial disabilities. The average life expectancy for African-Americans is about 7 years less than for whites, and between the ages of 25 and 44 hypertension-associated mortality is approximately 16 times higher among African-Americans than whites. Age-adjusted death rates for African-Americans are twice those of whites for pneumonia, influenza, diabetes mellitus, cirrhosis, and cerebrovascular disease, and five times that of whites for tuberculosis. In the working age population (between ages 17 and 64), the prevalence rate of heart disease is higher among nonwhites. Age-adjusted death rates for all malignancies for males are about 25 percent higher for nonwhites than whites, and for females about 10 percent higher for nonwhites than whites.

The causes of these large differences between white and nonwhite mortality and morbidity are not entirely understood. Nevertheless, these differences are unlikely to be explained solely by differences in genetic traits or in social class between the two populations. Given the minority group occupational exposures discussed earlier, all major health status indicators should be reviewed to determine whether there are any significant relationships between such indicators and occupational hazards and/or exposures.

The Problem of Compensation

Although it is difficult to evaluate because race-specific data are not kept by any state workers' compensation program, some data suggest that

minority workers may be receiving less compensation than other workers for work-related injuries. This seems to be true, even though minority workers as a group experience higher rates of occupational injury and disease. Workers who suffer severe job-related disabilities are more likely to receive welfare benefits than disability payment from state and federal workers' compensation programs, which suggests that workers as a group may be having difficulty receiving compensation for work-related injury and illness.

It is reasonable to assume that minority workers, who are concentrated in low-paying jobs with high job turnover, are even more likely to experience special difficulty receiving workers' compensation benefits, particularly for occupational *disease*. This assumption is supported by a Social Security Administration study of chronic disease and work disability that found that nonwhite were less likely to report disability but more likely to be disabled—particularly severely disabled—than whites. (Nonwhites in this study were found to be 1.5 times as likely as whites to be severely disabled, although they were younger on average. The problems nonwhites may encounter in obtaining compensation benefits are also suggested by the long-term mortality study of steelworkers that indicated that employers were more likely to have information about the health status of white retirees than African-American retirees (see Chap. 11).

Genetic Testing and Occupational Health

An increasing concern of minority workers and health professionals who deal with minority health issues is the emphasis on genetic testing as a part of medical screening and monitoring in the workplace. Genetic testing is a collection of techniques used to examine workers for particular inherited genetic traits. It has been used by some major companies and utilities for medical evaluation and by others for research. Many more organizations

have expressed an interest in incorporating genetic testing into occupational health programs (see Chap. 3).

Since many of the genetic traits sought in screening are found disproportionately among some races and ethnic groups, there is a heightened awareness among these groups that test results could be used for discrimination on the basis of race, sex, or ethnicity. There is also concern that genetic testing may direct attention away from other ways to address risk of occupational disease.

In this context, occupational health specialists question whether an employee's risk of future illness is an appropriate factor for job selection, even if screening or monitoring is highly predictive. They argue that employees have no control over their genetic make-up and generally have no control over previous exposures to harmful agents. In addition, their increased risk would not affect their current ability to do the job.

The counterarguments to these assertions include: (1) Society accepts immutable characteristics as possible proper criteria for employment selection, and (2) the autonomous interest of the individual should not be above the interest of society in reducing the economic and social cost of occupational illness.

The role of genes in disease is still not fully understood, however, and the identification of genetic factors that may contribute to the occurrence of job-related illness is a science still in its infancy. Data are most lacking concerning the correlation of genetic traits to occupational disease susceptibility. Clearly, genetic factors do not act in isolation from other biologic variables, such as nutritional status and preexisting disease, which affect a worker's susceptibility to a broad spectrum of occupational stressors. Thus, the assessment of factors that may increase the risk of occupational disease should not stop at quantification of inherited genetic traits but should also incorporate many other biologic variables.

A consequence of the public's concern about, and in some cases its opposition to, genetic testing has been an attempt to address a number of issues

within the broad scope of employee-employer relations, ranging from the nature of the physician-employee relationship through the proper use of the test results.

One frequently advocated approach includes the following: (1) prohibit job exclusion on the basis of genetic make-up; (2) prohibit job transfer because of genetic make-up or genetic damage, unless the transfer is to a comparable job at comparable pay and benefits; (3) require strict confidentiality of medical information; and (4) require that employees be told of the results of testing and be given counseling.

This approach would protect the interest of workers, preventing serious consequences to individuals who have no control over the misuse of test results. It would also be consistent with many established legal principles governing the rights and duties of employers, employees, and company medical personnel.

What Can Be Done

"If society is seriously committed to reducing racial differences in health status, then it must consider active policies to reduce existing patterns of discrimination in the workplace" [14].

Some experts have advocated using legal strategies, such as (1) Equal Employment Opportunity Commission complaints issued against employers for injuries or illnesses caused by discriminatory employment practices, and (2) unfair labor practice charges against employers who promote or acquiesce to discriminatory practices that result in injury or disease under the National Labor Relations Act.

There are at least the following three broad areas for action by health care providers, in general, and occupational health specialists, in particular:

1. *Recognition of occupational health problems among minorities.* Because minority workers are at increased risk of occupational disease, the

- health professional should be even more alert to possible work-related medical problems among them.
2. *Documentation of occupational health risks of minorities.* Occupational health statistics on minority workers are not uniformly maintained. Nevertheless, considerable evidence suggests that minority workers, because they have been employed in many of the least desirable and more hazardous jobs, are at high risk for occupational disease and injury. Those who perform research should recognize the need for developing race-specific data so that the patterns of occupational disease among minority workers can be better understood.
 3. *Facilitation of treatment and compensation.* Minority workers tend not to receive treatment or compensation for many occupationally related diseases and injuries. Therefore, health professionals can play an important advocacy role by making a special effort to follow these workers through the maze of the health care system to ensure that they receive the appropriate diagnosis, treatment, and compensation.

References

1. U.S. Census, 1980, Public use microdata samples. Prepared for the Center for Puerto Rican Studies, Hunter College, New York, NY.
2. Davis ME. The impact of workplace health and safety on black workers: Assessment and prognosis. *Labor Law J* 1980; 31:723.
3. Cherniack M. *The Hawk's Nest incident: America's worst industrial accident.* New Haven, CT: Yale University Press, 1986.
4. Northrop H. *Organized labor and the Negro.* New York: Harper, 1944, pp. 156-57.
5. U.S. Public Health Service. Frequency of pneumonia among iron and steel workers. *Public Health Bull.* no. 202, November 1932.
6. Berman D. *Death on the job.* New York: Monthly Review Press, 1978, pp. 29-30.
7. Kotelchuck D. Occupational injuries and illnesses among black workers. *Health PAC Bull* April 1978, p. 33.
8. Weaver RC. *Negro labor.* Port Washington, NY: Kennikat Press, 1949. Reprinted in 1969.
9. Gafafer W. *Health of workers in the chromate producing industry: A study.* Washington, D.C.: U.S. Public Health Service, 1953.
10. Lloyd W. Long-term mortality study of steelworkers: V. Respiratory cancer in coke plant workers. *Occup Med* 1971; 13:59.
11. Martin C, Higgins J. Byssinosis and other respiratory ailments: A survey of 6,631 cotton textile employees. *J Occup Med* 1976; 18:455.
12. McMichael AJ, et al. Mortality among rubber workers: Relation to specific jobs. *J Occup Med* 1976; 18:178.
13. Chicago Area Committee for Occupational Safety and Health News 4:1, 1976 and 4:1, 1977.
14. Robinson JC. Racial inequality and the probability of occupation-related injury or illness. *Milbank Mem Fund Q* 1984; 62:567.

Bibliography

- Davis ME. The impact of workplace health and safety on black workers: Assessment and prognosis. *Labor Law J* 1980; 31:723.
- Overview of general health status, stress-related disease, and occupational cancer among black workers. Also includes a discussion of the policy issues and suggested strategies raised by the occupational health problems encountered by black workers.*
- Davis ME, Rowland AS. *Occupational disease among black workers: An annotated bibliography.* Berkeley: Labor Occupational Health Program, University of California, 1980.
- A useful source book.*
- Rowland AS. Black workers and cancer. *LOHP Monitor* 1980; 8:14.
- Discussion of the possible role of occupational exposures in the rise of cancer death rates among blacks. Links industrial placement patterns of black workers in the 1930s and 1940s with the rise in cancer incidence today. Available from the Labor Occupational Health Program, Institute for Industrial Relations, University of California, Berkeley, CA 94720.*
- Coles R. *Migrants, sharecroppers, mountaineers. Children of crisis, vol. 2.* Boston: Little, Brown, 1971.
- Florida Rural Legal Services. *Danger in the field.* 1980.
- United States Commission on Civil Rights. *The working and living conditions of mushroom workers.* Washington, D.C.: U.S. Government Printing Office, 1977.

University of Wisconsin. Health care needs of Hispanic population in Dane, Dodge, and Jefferson Counties. Madison, WI: Department of Rural Sociology, University of Wisconsin Extension, Dane County Mental Health Center, 1977.

Important references on migrant and seasonal agricultural workers. Robert Coles studied the children of migrant workers who travel the eastern coast of this country. The survey from Florida Rural Legal Services, one of the best in the last 15 years, studies health status as self-reported and its relationship to pesticide overspraying. The mushroom workers studied by the U.S. Commission on Civil Rights are almost all Spanish speaking; they are among the lowest paid, most poorly housed, and most medically impoverished groups in the United States. The survey from the University of Wisconsin focuses on the health needs of permanent, year-round residents of the Hispanic community in south central Wisconsin.

- Friedman-Jimenez G. Occupational disease among minority workers: A common and preventable public health problem. *AAOHN J* 1989; 37:64-70.
- Lillie-Blanton M, Martinez R, Taylor AK, Robinson BG. Latina and African American women: Continuing disparities in health. *Int J Health Serv* 1993; 23:555-84.
- Morris LD. Minorities, jobs, and health: An unmet promise. *AAOHN J* 1989; 37:53-5.
- Robinson JC. Racial inequality and the probability of occupation-related injury or illness. *Health and Society* 1984; 62:567-90.
- Robinson JC. Trends in racial inequality and exposure to work-related hazards, 1968-1986. *AAOHN J* 1989; 37:56-63.
- These recent references further document the greater occupational health risks of minority workers.*