Chapter 8
Populations at High Risk

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Over the last half of the 20th century the size of the working population in the United States doubled, increasing by 79 million workers between 1950 and 2000. The composition of this new workforce reflects the changing social, political, and demographic characteristics of the United States. Many more women and immigrant workers have entered the workforce, changes in laws and technology have increased job opportunities for disabled workers, and the aging of the baby boom generation has increased the median age of the workforce. At the same time, the economy of the United States has been transformed, as traditional permanent, full–time, often unionized manufacturing jobs have moved to Latin America and Asia and new nonunion, temporary and contract, and service–sector jobs have taken their place. Although there have been many significant advances in civil rights, the African American population is still disproportionately employed in high–hazard jobs, while racism and other forms of discrimination, both in the community and the workplace, contribute to additional health risks.

Innovative programs in the workplace and society have not kept pace with the demands of this changing workforce, leaving many workers increasingly vulnerable to the various forms of occupational injury, illness, and work stress described in this book. For example, working parents have few low–cost, high–quality options for child care; training and education programs are not prepared to serve the linguistic and cultural needs of the new immigrant workforce; few new programs exist to help those in temporary jobs find stable and safe employment; and almost half of all low–wage, full–time workers lack health care coverage. Although a variety of workers are affected by these social and economic trends, this chapter will highlight the particular issues facing some of the most important sectors. The statistics presented here are primarily generated by either the Census Bureau or the Bureau of Labor Statistics, and can be found at the Internet sites listed under Further Reading.

Women Workers

In 1950, fewer than one–third of workers in the United States were female, while today they make up close to half of the workforce; in 2000, 61% of the female population over age 16 was part of the labor force. Overall, the

entry of women into the workforce has created increased economic and social opportunities. However, 59% of women workers are considered low wage, meaning they earn a wage that places a family of four below the poverty level, and for one out of six the entire family income is less than $25,000. Low-wage women workers are also more likely to be single mothers, have less than a high school education, and are either an immigrant worker or African American. More than two-thirds of low-wage women workers do not receive health insurance coverage through their work. One out of five single mothers work evening, night, or rotating shifts and one in three work weekends. The combination of low wages and benefits combined with nonstandard work hours creates added stress, as women struggle to find reasonable and safe day care options and to balance their roles as wage earners and mothers. Women workers also are more likely to work part-time or part-year, which, while increasing their flexibility to balance work and home responsibilities, also means that they are more likely to work in temporary jobs that lack job security and health benefits.

Although the number of women workers has increased, the job market remains highly segregated by sex. In 2000, over half of all women worked in just three occupational categories: administrative support, such as secretaries and other clerical support jobs (24%); professional specialty jobs, such as nurses and primary and secondary school teachers (18%); and services workers, such as cashiers, restaurant workers, and hairdressers. Although overall women are underrepresented in the manufacturing sector, they are the majority in certain sectors, such as textile and garment manufacturing. Not surprisingly, occupational injuries and illnesses for women workers are concentrated in the occupations where low-wage workers are employed. About one-third of the work-related injuries and illnesses in women occur among service-sector occupations and about one-fourth to laborers, fabricators, or operators; yet those occupations only account for about one-fourth of all women workers.

African American Workers

Despite many changes in civil rights legislation, and increases in educational and employment opportunities for African Americans since the 1960s, many economic and social disparities remain, as compared to the majority non-Hispanic white population. Most (55%) African Americans still live in the South, and over half live in the center city of a large metropolitan area, compared to only 21% of the non-Hispanic white population. Twice as many African Americans over age 25 have not completed a high school education (21% for both males and females) compared to the non-Hispanic white population. About one-fourth (23%) of the African American population lives below the poverty level, three times the rate for non-Hispanic whites. While African American men are less likely to be part of the civilian labor force than

non–Hispanic whites (68% v. 74% workforce participation rate), African American women are more likely (62% v. 60%). African American males are twice as likely to work in service occupations and as laborers, fabricators, and operators; yet they are half as likely to be in managerial or professional specialty occupations, as compared to non–Hispanic whites. Yet these occupations that are disproportionately African American are also some of the occupations with the highest concentration of occupational injuries and illnesses. Operators, fabricators, and laborers—occupations where African Americans are overrepresented—comprise 13% of the workforce, but they account for 39% of occupational injuries and illnesses.

Many recent health reports have focused on the disproportionate burden of diseases, such as cancer, cardiovascular disease, and asthma, in the African American community. Scientific discussion and debate has attempted to disentangle the many factors potentially contributing to these disparities, including access to health care, nutritional factors, environmental exposures, and genetic factors. One component of this debate has focused on understanding the role of racism in the causation of disease, and one of the pathways by which racism may contribute to increased health burden is through the disproportionate placement of minorities in the most dangerous industries and occupations. Although it is hard to systematically examine the impact of racial discrimination as a risk factor for occupational injury or illness, historically there are several clear examples. For example, one landmark study in the coke oven industry showed that the increased risk for lung cancer among African American workers was not due as originally thought to genetic factors, but rather to those workers disproportionately being assigned to the job categories with the highest exposure to carcinogenic emissions.

African Americans are also disproportionately affected by economic recession. Much of the rising social and economic status of the African American population can be attributed to increases in employment in the relatively well–paid manufacturing sector between 1939 and 1959. As the economy was restructured from manufacturing to service, particularly since 1970, African Americans have suffered a disproportionate share of the rise in unemployment; between 2001 and 2003, the increase in the African American unemployment rate was twice that of whites. In addition to the economic effects of unemployment, studies have also shown adverse effects on health and well-being associated with the stress of unemployment. The unemployment rate is especially high for African American youth, which may have long–term social and economic impacts as youth become disillusioned and leave the job market.

Immigrant Workers

During the 1990s, more immigrants entered the United States than during any other period of history, with close to 1 million immigrants arriving

each year. Foreign–born workers now make up 12% of the entire workforce; they accounted for about 50% of the net increase in the labor force during the second half of the 1990s. As with the African American population, foreign–born workers are more likely to work in service occupations and as operators, fabricators, and laborers, and also are twice as likely to work in farming, forestry, and fishing, as compared to native–born workers. Central Americans and Mexicans, especially those who have had less than 10 years of residence in the United States and are not citizens, are especially likely to work in these sectors. In 1999, the median earnings for all foreign–born workers with less than 10 years of residence in the United States was $21,600. The median earnings for Mexican and Central–American women was less than $16,000 and for Mexican males was only slightly more than $19,000.

Since foreign–born workers, especially new immigrants, often have few geographic ties in this country, they often travel in search of jobs. This dispersion of new immigrants has led to a rapid shift in the demographics of the workforce in certain areas. While states, such as California, Texas, New York, and Florida, continue to have the most foreign–born workers, during the 1990s many states, especially in the South and the Midwest, more than doubled their foreign-born population. This movement was initially fueled by employment in the low–wage and high–hazard meat– and poultry–processing industry and in agriculture. However, once immigrants began to settle in these areas, they not only found that jobs were available, but also many found the lifestyle preferable to the congestion, high cost, and crime of the traditional inner–city immigrant communities. Employment opportunities soon expanded to include construction, services, and other manufacturing jobs.

Although systematically collected data on nonfatal occupational injuries for foreign–born workers are not available, government statistics do show that foreign–born workers have a higher occupational fatality rate compared to other workers. Between 1995 and 2000, the occupational fatality rate for all foreign–born Hispanic workers was 50% higher (6.1 per 100,000 workers) than the rates for all workers and for native–born Hispanic workers. The cause of this disparity is, in large part, due to the disproportionate distribution of foreign–born workers in high–risk industries, such as construction, agriculture, and manufacturing. Additionally, even within these high–risk industries, foreign–born workers may face the highest risk for injury. A recent analysis found that Hispanic construction workers had an 80% greater fatality rate compared to non–Hispanic construction workers. However, concerns have also been raised regarding many of the linguistic, cultural, and legal barriers that foreign–born workers face. Most foreign–born workers, especially from Mexico and Central America, have less than a high school education and, for many, raised in rural indigenous communities, Spanish is not their first language. Immigrants, especially new immigrants, may be unfamiliar with local laws regarding safety and health protection or workers' compensation. Although systematic statistics are not available on the proportion of

foreign–born workers who lack legal documentation, a Department of Labor survey in the agricultural industry found that over half of crop–farm workers are undocumented. Systemic programs to improve the safety and health conditions for foreign–born workers must not only address the industry– or occupation–specific hazards, but must also develop linguistically and culturally appropriate training and education programs, and address the legal barriers resulting from their immigration status.

Youth Employment

Since the passage of strong federal child labor laws in the 1930s, exploitative child labor has been rare in the United States. Youth employment, however, is extremely common; according to official statistics, between 1996 and 1998, 2.9 million youth aged 15–17 worked during the school year, 4 million worked during the summer, and there was no difference between male and female youth employment rates. Youth in higher–income families are more likely to work than those in lower–income families, and white youth are almost twice as likely as black and Hispanic youth to work. This may be a function of the greater availability of jobs in higher–income than lower–income communities, as well as increased access to transportation to find jobs outside of the community. It also may be a result of lower–income youth needing to provide more assistance at home and providing childcare for younger siblings. While most youth work part–time, 6% of employed youth work full–time during the school year and 20% during the summer months. Young workers are largely low–wage workers, most earning less than $7 per hour. The most common jobs for youth, both male and female, are in the retail trade sector, with about one–third employed in eating and drinking establishments and 30% in other retail establishments. During the summer months, there is some shift in employment as youth, especially males, are also employed in manufacturing, construction, and agriculture, and females in the service sector.

While employment provides many benefits to youth, including increased self–confidence, job skills, and income, it also poses potential hazards. There are a number of characteristics of young workers that raise particular concerns regarding their safety and health. Like all new workers, young workers are at increased risk for injury. In many surveys of working youth, almost half report they did not receive health and safety training on the job. Developmental characteristics may also place youth at risk, as the level of physical and cognitive development in teens is variable. Smaller teens may have a harder time reaching machines and also may not have the physical strength required for certain tasks. Even when youth have reached adult stature, their psychological and cognitive maturity may lag. Employers may assign them tasks to which they are not yet cognitively prepared. Youth also approach work with extreme enthusiasm and a desire to do well, and although these may be very positive attributes, they may also make them less

comfortable asking questions or expressing concerns about their ability to perform a challenging task. Additionally, studies of youth working more than 20 hours a week during the school year show important effects, such as increased daytime fatigue and substance abuse.

An average of 68 fatalities occur at work in youth every year, and severe work-related injuries in youth can have long-term effects on future job possibilities and on the quality of their lives in general. Occupational fatalities occur most commonly during agricultural work (42%), construction work (14%), and in retail trade (19%). Tragically, 28% of fatalities occur in children less than 15 and 30% to those working in a family business, mostly agriculture. Among fatalities in youth working in the retail sector, two-thirds are homicides, many occurring as the result of a robbery. In 1996, about 15,000 young workers sustained a work-related injury that resulted in lost workdays. These injuries occurred most commonly in those industries where young workers are most commonly employed; about 60% of injuries were in retail-trade workers and about 20% in service workers. The most typical workplaces where injuries occurred were restaurants, grocery stores, health services, and amusement and recreation services.

Older Workers

The dominant factors affecting the changing demographics of the United States since the 1950s have been the "baby boom" following World War II (1946–1964), combined with the continued increase in life expectancy. Together, these factors have dramatically changed the shape of the population pyramid, such that between 1990 and 2000, the number of workers aged 25–44 did not change, while the number of workers aged 45–65 increased by more than 12 million. This phenomenon has caused a reevaluation of conventional ideas of retirement, and has raised questions about the positive and negative associations between aging and work.

As health researchers and policy experts explore the issues raised by the increasing age of the population, one major question is the impact of aging on health and working capacity and the impact of working on the aging process. Although the answer may, in part, be job-dependent, important questions have been raised regarding the relative importance of the physiological and cognitive deterioration associated with the aging process versus the positive attributes of experience and expertise associated with being a longer-term worker. With age, occupational injury rates decrease, but are associated with greater severity, as measured in the number of lost workdays. In 2000, the work-related fatality rate for workers aged 55–64 was 50% greater than for workers aged 45–54.

Although it appears that age at retirement is not increasing, more older workers are returning to the workforce in part-time and temporary jobs, either for economic or social reasons. For example, the proportion of those over 55

who are collecting a pension, but are still working, has increased. These older workers are employed in occupations with a higher rate of part–time work, such as sales and service occupations. Also, as life expectancy increases and many families try to keep older individuals out of institutional care settings, many older individuals, especially women, either as paid or unpaid workers, are providing home-services for their friends and family members.

Workers with Disabilities

The category of adults with disabilities includes a broad range of individuals, from those with severe physical limitations that preclude participation in the workforce to those who, either with or without accommodations, can have productive working careers. Beginning in the 1970s, there has been an increasing social movement of those with disabilities who have fought for improved programs that would allow disabled individuals to live more independently and to have more work opportunities. One result was the passage of the Americans with Disabilities Act (ADA) of 1990 that included provisions to promote economic equality in employment by prohibiting discrimination based on disability status, and by requiring workplaces to make reasonable accommodations for qualified applicants with disabilities.

In 1997, it was estimated that one in five adults in the United States had some type of disability. While the disability rate increases with age, almost one in four adults (23%) aged 45–54 and almost one in eight (13%) of those 25–44 have some disability. Of the more than 17 million adults between the ages of 21 and 64 who had a severe disability in 1997, about one–fourth were employed. Despite the passage of the ADA, it appears that the proportion of adults with disabilities who are working has not increased. Almost no research has been done to explore why this is true. The ability of disabled adults to find appropriate jobs that they can perform safely throughout a working career may be one explanation; the lack of enforcement of the ADA may be another.

Impact of Globalization on Workers in the United States and Abroad

During the past 25 years, the process known as globalization—the reorganization of world production by multinational corporations and governments—has led to the relocation of many manufacturing plants, especially from the advanced industrial economies, such as the United States, Germany, and Japan, to export–processing zones (EPZs) in developing nations. Typically these host countries have established EPZs that offer tax incentives, infrastructure, and low–labor costs to corporations in order to attract capital and to provide industrial development and jobs. In Mexico, for example, EPZs were first established in 1965; as of June 2002, there were 3164 EPZs (called maquiladoras) in Mexico, employing 850 000 hourly workers, who

were paid, on average, about $300 per month. More recently, many manufacturing jobs have moved to Vietnam and China, where wages are even lower.

In 1994, the North American Free Trade Agreement (NAFTA) went into effect, allowing for the free movement of goods and capital among Mexico, Canada, and the United States, but not permitting free movement of workers. In response to concerns from communities, labor unions, and advocacy organizations, NAFTA included special side agreements designed to protect the environment and to assure that labor rights, including occupational health protections, were harmonized among the countries. Based on the official findings from governmental investigations of complaints that have been filed under these side agreements, while Mexican occupational health legislation is equivalent to that of the United States and Canada, it is rarely enforced. Similarly, recent nongovernmental investigations into working conditions in EPZs producing athletic equipment, fueled by concerns of university students and administrators who purchase their products, have found violations of many international labor laws. The continued growth in globalization, accompanied by the passage of new international trade agreements, raises new challenges, responsibilities, and opportunities for occupational safety and health professionals throughout the world to collaborate to ensure that workers are protected against preventable injuries and illnesses at work.

The Rise of Temporary Work

The increasing globalization of the world economy and the pressure to compete with the lower cost of production in the developing world have led many U.S. workplaces to shift from full-time permanent, and often unionized, workers to more temporary or contract and nonunion employees. While unionized workers' wages, on average, are 10% higher than nonunion workers, the overall unionization rate in the United States has dropped steadily from about one-third of all workers in the 1950s to less than 14% in 2001. In addition to increasing wages, labor unions have also provided improved safety and health protection through collective bargaining agreements, advocated for legislation such as the Occupational Safety and Health Act, provided protection for workers against retaliation for refusing unsafe work, and, through joint labor-management safety and health committees, developed training and intervention programs.

Many employers have turned to the use of more temporary workers and contracted services, where the number and hours of work are more flexible, in order to control production costs. Some of the shift in the size of the labor force away from the manufacturing sector and into the service sector can be attributed to manufacturing corporations employing workers through temporary services agencies. Twenty-two percent of the over 14 million jobs added to the economy between 1988 and 1996 were in the business, engineering, and management services industry. The most rapidly growing occu-

pations in this sector are in personnel supply services, commonly known as "temp agencies," where there has been a large increase in both administrative support (clerical) workers and in helpers, laborers, and material movers. In 1996, one out of four new administrative support workers and 44% of "helpers" were employed by a personnel supply service company.

BLS statistics have used the term "contingent worker" to refer to any worker who does not have an explicit or implicit contract for long–term employment. A study of contingent workers between 1997 and 1999 found that, while the overall economy expanded and unemployment decreased, the percentage of all workers who were contingent remained the same (about 4% of all workers). It also found that contingent workers, whether part–time or full–time, earned less, on average, than noncontingent workers; except for those under age 25, most would prefer to work in a more permanent job, if one were available. It also found that only one in five contingent workers had employer-provided health insurance, compared to three of five noncontingent workers. Although theoretically covered by the same occupational safety and health protections as permanent workers, workers who move among different workplaces and different jobs have reduced ability to receive comprehensive training and health and safety protection. Often the temporary services agency is responsible for training, although it may be unfamiliar with the specific workplace. In addition, all workers, even after adequate training, require experience at a specific workplace before they can comfortably and safely perform a given job; contingent workers who have frequent job changes may never become accustomed to any workplace.

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