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# Homicide and Assault

**ICD-10 X85, Y09**

*Jane Lipscomb*

A significant number of workplace fatalities and injuries occur each year in the United States. In any given week, approximately 20 workers are murdered and thousands are assaulted while working. The definition of violence in the workplace includes verbal threats, threatening behavior, physical assault, and homicide. Four basic types of workplace violence, defined by the relationship between the victim and the perpetrator, have been identified:

- Type I-Violence by strangers where the assailant has no legitimate business relationship to the workplace (for example, entering the workplace to commit a robbery).
- Type II-Violence by customers (current or former) or clients (patients, prisoners, students, passengers), usually to those who provide direct service to the public.
- Type III-Violence by current or former co-workers/employees, supervisors, or managers who often seek revenge for perceived unfair treatment.
- Type IV-Violence by an assailant who confronts an individual in the workplace with whom an outside personal relationship exists.

## Occurrence

Work-related homicide was the third leading cause of fatal occupational injuries, with 639 homicides (excluding fatalities resulting from September 11) in 2001. Homicide is the leading cause of workplace death among women; however, men are at three times higher risk of becoming victims of workplace homicides than women. Most workplace homicides are robbery-

related crimes (71%), with only 9% committed by co-workers or former co-workers. More than 80% of all workplace homicides are committed with a firearm. Workplace homicides have decreased from a record high of 1080 deaths in 1994, to 639 in 2001. The taxicab industry has the highest annual rate of homicides, nearly 60 times the national average rate (0.7 per 100 000 workers) followed by liquor stores, detective/protective services, and gas service. In 2001, homicides among technical sales, and administrative support workers decreased 14%, but increased sharply among workers in the service occupations, which include police and detectives, food preparation workers, and barbers and hairdressers.

The BLS Occupational Injury and Illness Survey captures the most severe nonfatal injuries, those resulting in lost-time injuries. Of all nonfatal assault and violent acts with lost workdays reported to the BLS, 35% occur within the health services sector; the rate of these injuries in health services (7.2 per 100 workers) is nearly four times the national average of 1.9 per 100 workers. According to the BLS, rates of lost-time injuries related to violence and assaults by persons are substantially greater among workers in the public sector than the private sector.

The Department of Justice National Crime Victimization Survey (NCVS) provides the most sensitive and reliable estimate of self-reported violent crimes occurring in the workplace. From 1993 though 1999, the NCVS found, on average, 1.7 million episodes of victimization per year in the United States against persons while they worked or were on duty. Of the occupations examined, police officers experienced workplace violent crime at rates higher than all other occupations (261 per 1000 workers). The victimization rate across all occupations combined was 1.26 per 100 workers.

## Causes

In general, persons unknown to the victims commit most workplace homicides. Moreover, most of the victims work in retail trade, security services, or transit services occupations. These circumstances are in contrast to those that characterize nonfatal workplace assaults. Most nonfatal workplace injuries occur in settings in which the victim and the attacker are in a custodial or client-caregiver relationship, such as in health care or social services. Workplace violence and assaults are not random events. Although the occupations most at risk of workplace homicide differ dramatically from those at high risk of nonfatal assaults, both types of events share a number of common risk factors including contact with the public; exchange of money; delivery of passengers, goods, and services; having a mobile workplace, as in the case of taxi drivers and police officers; working with volatile, unstable persons; working in isolation; working late at night or in the early morning; working in high-crime areas; guarding valuables; and working in community-based settings.

## Pathophysiology

Both physical and mental injuries are associated with workplace violence. Physical injuries range from death and disabling injury to mild scratches and bruises. The mental health sequelae associated with workplace violence are less well understood, but include depression and post-traumatic stress disorder.

## Prevention

Workplace violence was not recognized as an occupational injury amenable to prevention via the industrial hygiene hierarchy of controls until the mid-1980s. At that time, NIOSH published surveillance data from the National Traumatic Occupational Fatality (NTOF) that defined high-risk industries and occupations and risk factors for violence. Despite the magnitude of the problem of workplace violence as demonstrated by both BLS and BJS data, OSHA has not begun rulemaking for a standard addressing workplace violence. By contrast, four states—California, Washington, Virginia, and Florida—have legislation mandating violence prevention measures. The first two states address workplace violence in the health care sector; laws of the latter two states are aimed at preventing robbery-related homicides in late-night retail establishments.

OSHA's current approach to preventing workplace violence is through voluntary guidelines. Beginning in the mid-1990s, it began issuing sector-specific guidelines for preventing workplace violence. To date, it has issued guidelines that address health-care and social service workers, workers in late-night retail jobs, and taxicab drivers. The guidelines provide a framework for addressing the problem and include the basic elements of a proactive health and safety program: management commitment and employee involvement, worksite analysis, hazard prevention and control, training, and evaluation. Hazard control strategies consist of numerous engineering or security controls, such as security alarms and lighting; administrative policies, such as hours of operation and staffing; and worker and supervisor training.

The effectiveness of individual hazard control measures in reducing workplace violence has been studied only rarely. In those few cases in which rigorous methods have been applied to their study, the measures have been found to be effective. For example, in one study, outside lighting and adequate staffing significantly reduced the risk of fatal assaults due to robberies, as did any combination of five or more administrative controls. A review of the violence prevention intervention literature yielded only nine studies (all in health care) that evaluated an intervention among the 137 papers mentioning violence prevention intervention. Five studies evaluated violence prevention training interventions, three examined post-incident psychological debriefing programs, and two evaluated administrative controls to prevent violence. All were quasi-experimental and without a formal control group.

The study findings were equivocal. Evaluation of the effectiveness of a comprehensive violence prevention program modeled after the OSHA healthcare and social service guidelines is currently under way in New York State.

## Other Issues

Among industries at high risk of workplace violence, most rely on security personnel and some form of violence awareness training, often in the form of a "canned" video presentation. The need for both supervisor and worker violence prevention training is underrecognized. The range and quality of existing training materials has yet to be evaluated. OSHA recently developed training materials that could be a valuable resource for many industries. Evaluation of the content and delivery of such programs is needed if training is to be widespread and impact safety. Intervention studies of violence prevention efforts, in addition to training, are sorely needed.

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# Human Immunodeficiency Virus (HIV) Infection/Acquired Immunodeficiency Syndrome (AIDS)

**ICD-10 B20-B24**

*Janice Huy and Bill Eschenbacher*

The human immunodeficiency virus (HIV) is a lentivirus included within a subgroup of retroviruses. HIV can cause human infection of varying severity, with the most advanced form of infection referred to as acquired immunodeficiency syndrome (AIDS). The diagnosis of HIV infection is made

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Cover photographs by Earl Dotter illustrate airborne, ergonomic, safety, and physical hazards at work, all of which are preventable.

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