



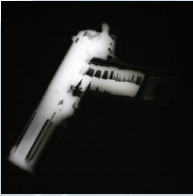
ASIS FOUNDATION

CRISP REPORT

Connecting Research in Security to Practice

Preventing Gun Violence in the Workplace

Dana Loomis, PhD



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ABOUT THE CRISP SERIES OF REPORTS

Connecting Research in Security to Practice (CRISP) reports provide insights into how different types of security issues can be tackled effectively. Drawing on research and evidence from around the world, each report summarizes the prevailing knowledge about a specific aspect of security, then recommends proven approaches to counter the threat. Connecting scientific research with existing security actions helps form good practices.

This series invites experts in specialist aspects of security to present their views on how to understand and tackle a security problem, using the best research evidence available.

Reports are written to appeal to security practitioners in different types of organizations and at different levels. Readers will inevitably adapt what is presented to meet their own requirements. They will also consider how they can integrate the recommended actions with existing or planned programs in their organizations.

This CRISP report focuses on firearms in the workplace and their relationship with workplace violence. Author Dana Loomis, PhD, discusses how firearms end up at workplaces, and then assesses a host of opportunities to prevent any ensuing problems. His recommendations provide solid ideas on how organizations can avoid becoming victims of workplace violence, and how to implement recommended solutions. His discussion helps security practitioners think in a more informed way about firearms in the workplace and ways to prevent violence.

CRISP reports are based on the Problem Oriented Policing (POP) Guides produced by the Office of Community Oriented Policing Services (COPS) of the U.S. Department of Justice, which can be accessed at www.cops.usdoj.gov. While that series summarizes knowledge about how police can reduce the harm caused by specific crime and disorder problems, the CRISP series focuses on specific problems facing security professionals.

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CRISP REPORT

Connecting Research in Security to Practice

**An ASIS International Foundation
Research Council CRISP Report**

Preventing Gun Violence in the Workplace

By Dana Loomis, PhD

Sponsored by Securitas International

ASIS International Foundation, Inc. : Alexandria, VA

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Executive Summary

WORKPLACE VIOLENCE affects more than two million workers in the United States every year and accounts for about 20% of all violent crime. Although most workplace violence is not fatal, an average of 500 homicides occur in U.S. workplaces each year, which costs society approximately \$800,000 for each death.

More than three-quarters of workplace homicides are committed with guns. About two-thirds of workplace homicides are related to robbery; the remainder result from conflicts between workers and clients, co-workers, acquaintances, or family members.

More than 30 states have laws liberalizing the carrying of concealed weapons and five have taken additional steps to restrict property owners' and employers' ability to exclude weapons from their premises. These laws threaten employers' ability to establish and enforce policies prohibiting clients, visitors, and employees from carrying firearms in workplaces.

This report addresses the problem of gun violence in the workplace and strategies to prevent it. Its geographic focus is the United States because of the unique protections the Second Amendment to the U.S. Constitution gives to the possession and carrying of firearms.

The report begins with a description of the broad problem of workplace violence and then discusses factors contributing to gun violence in the workplace, responses to the problem, challenges to those responses, and research on the effectiveness of various responses. Finally, specific actions are recommended along with a summary of future research needs.

While specific information about how to prevent gun violence on the job is scarce, a comprehensive, written policy prohibiting weapons in the workplace is an essential part of an employer's violence-prevention plan. Research suggests that workplaces that prohibit weapons are significantly less likely to experience a worker homicide than workplaces that allow guns.

Rigorous evaluation and research is needed to identify effective measures for preventing workplace violence and to gauge the effect of new legislation on workplace safety.

The Problem of Guns in the Workplace

WORKPLACE VIOLENCE is an important concern for employers, government agencies, and professionals in security, occupational health, and related fields. Although the problem is not new, it has gained wider attention since the late 1980s as a result of the publicity surrounding mass shootings and research studies that have helped to define the problem.

Workplace violence has multiple dimensions and significant costs. Gun-related incidents account for only a fraction of violent events at work, but they are especially important because they involve the potential for lethal force. According to Richardson and Windau (2003), approximately 75% of homicides at work result from injuries inflicted with firearms. Many

employers have specific policies prohibiting firearms, but the ability to maintain these policies may be challenged by state laws liberalizing the carrying of weapons in public and private places.

The majority of fatal workplace violence is gun-related, which leads to high social, psychological, and monetary costs. However, homicide is a relatively rare outcome of workplace violence. Nonetheless, fatal workplace violence is consistently investigated, so it has been the subject of most research on the problem.

Most responses to workplace violence prevention are broad and are not limited to gun-related violence. Those responses and related research are discussed where they are relevant.

Many employers have specific policies prohibiting firearms, but the ability to maintain these policies may be challenged by state laws liberalizing the carrying of weapons in public and private places.

Dimensions of Workplace Violence

ACCORDING TO THE U.S. Occupational Safety and Health Administration (2002), about two million American workers experience some form of workplace violence every year. This number represents almost 20% of all violent crime in the United States (Duhart, 2001). Almost 5% of private sector employers in the United States were affected in 2005, according to a survey by the Bureau of Labor Statistics (2006b). These figures include many different kinds of incidents, ranging from verbal abuse and threats to robbery, assault, and homicide.

According to the U.S. Bureau of Justice Statistics (BJS), only 12% of violent incidents at work result in injury, and fewer than half are reported to police (Duhart, 2001). Data from the BJS also indicate that more than 90% of violent incidents at work are simple or aggravated assaults, while 4% are robberies, 2% are sexual assaults or rapes, and less than 1% are homicides (Duhart, 2001).

According to Duhart (2001), the risk of becoming a victim of a violent crime on the job is highest for workers in law enforcement occupations, who experienced more than 125 violent incidents per 1,000 employed persons. Next on the list are mental health workers (about 55 violent incidents per 1,000 workers) and retail workers (20 violent incidents per 1,000 workers).

Duhart also reports that the overall rate of violent crime in the workplace has been going down in recent years, although more slowly than the rate of other violent crime. Violence that does not result in physical injury is the most common type of incident, but it is rarely reported. On the other end of the spectrum, homicide is relatively rare, but essentially all cases are reported and investigated.

The seriousness of homicide has made it the focus of the concern about workplace violence. The rate of workplace homicide has declined gradually since the 1980s and fell somewhat more rapidly than the rate for all homicides in the United States during the 1990s (Hendricks, Jenkins, & Anderson, 2007; Loomis, Bena, & Bailer, 2003). Nevertheless, homicide is the third leading cause of death on the job for all workers in the United States, and the leading cause for women.

Researchers from the National Institute for Occupational Safety and Health (NIOSH) estimate that, between 1992 and 2001, workplace homicide cost society more than \$600 million per year, or about \$800,000 per worker. Data from the Census of Fatal Occupational Injuries conducted by the U.S. Bureau of Labor Statistics (2006a) indicate that, in recent years, an average of 500 to 600 American workers die annually as a result of

Types of Workplace Violence

violence on the job. And, according to Richardson and Windau (2003), about three-quarters of workplace homicides result from injuries inflicted with guns.

Retail industries have both the largest number and the highest rate of worker homicides. The transportation and public administration sectors also have high homicide rates, but the actual numbers are smaller than those for retailers because the number of employees is not as large (Hartley, Biddle, & Jenkins, 2005).

The rate of workplace homicide has declined gradually since the 1980s and fell somewhat more rapidly than the rate for all homicides in the United States during the 1990s.

MEDIA COVERAGE of mass shootings in post offices and other work settings has led to a perception that workplace homicides are committed primarily by dissatisfied workers attacking coworkers and supervisors, informally called “going postal.” In reality, however, most workplace homicides are the result of common crimes. According to Sygnatur and Toscano (2000), the U.S. Department of Labor reports that about two-thirds of killings on the job (67%) are associated with robbery. The rest involve disputes between employees or between employees and supervisors (15%), conflicts between workers and customers or clients (8%), or domestic or family violence that occurs at the victim’s place of employment (11%).

Howard (1996) developed categories for describing workplace violence by defining the relationship between the victim and the perpetrator. Table 1 interprets these findings in a way that can be used for analysis. Although the majority of workplace homicides of all types are committed with firearms, concerns about employees having guns on the job are related primarily to co-workers or Type III violence as defined in the table. Legislation that would make it easier for non-employees, including visitors and customers, to bring weapons into the workplace could increase the risk of customer/client (Type II) and personal/family (Type IV) violence.

However, gun advocates argue that any increase in the potential risk of co-worker violence is outweighed by the perceived need for armed workers to protect themselves against violence from an intruder or external source (Type I).

Terrorism and acts of war can also be considered forms of workplace violence when they affect civilian workers on the job. Some authors have suggested that terrorism, random violence, and acts perpetrated by persons with mental illnesses are all forms of Type I violence, but they do not fit easily into any category (ASIS International,

2005; Howard & Barish, 2003). Until the attacks of September 11, 2001, only about 2% of workplace homicides could be attributed to terrorism, including the 1995 bombing of the Alfred P. Murrah Federal Building in Oklahoma City (Sygnatur & Toscano, 2000). Worker deaths in the September 11, 2001 bombings are excluded from official occupational injury statistics. In spite of the catastrophic nature of that attack, the risk of death from terrorist events remains small relative to the risk from more common crimes.

Table 1. Categories of Workplace Violence

Type of Workplace Violence	Description
I. External/Intrusive	The perpetrator has no legitimate relationship to the business or its employees and is usually committing another crime (for example, robbery) in conjunction with the violence.
II. Customer/Client	The perpetrator has a legitimate relationship with the business and becomes violent while being served by the business. Perpetrators include customers, clients, students, and patients and their targets include health care providers, teachers, and police.
III. Co-Worker	The perpetrator is an employee or former employee of the workplace who attacks a supervisor, owner, or another employee.
IV. Personal/Family	The perpetrator usually does not have a relationship with the workplace, but does have a personal relationship with the victim. Perpetrators may be spouses, boy-friends or girlfriends, relatives, or acquaintances of the victim.

Firearms and Workplace Violence

THE MAJORITY OF WORKPLACE HOMICIDES are committed with firearms, but very little information is available on the role guns play in these incidents. Results of one North Carolina study were published in the *American Journal of Public Health* (Loomis et al., 2005). Researchers looked at workplace homicides in that state between 1977 and 1991. They found that the perpetrators used guns somewhat more often in dispute-related killings than in homicides resulting from robbery. Guns were also used more frequently in killings of law enforcement officers. While these data describe types of workplace homicides, research has generally not addressed where the weapons were obtained, why they were in the workplace, or how they were used to perpetrate violent incidents.

Using an approach similar to Table 1, the reasons why guns are present in the workplace can be classified into the four categories shown in Table 2.

Carrying a weapon is part of the function of some workers whose jobs involve the protection of people or property such as police officers, security guards, corrections officers, game wardens, and park rangers. Possession of weapons by such personnel is generally intended to prevent violence and is not regarded as a public health and safety concern.

Some employers, however, allow workers whose function is not law enforcement or security to possess weapons. The motivation for such policies is not known, but anecdotal evidence suggests that it is often for the worker's personal protection or protection of the employer's property. Possession of weapons in the workplace for these reasons falls into Category IV in Table 2.

Research on gun-related violence in non-work settings may also yield some useful insights. The motivations for possessing a firearm in the workplace or in other settings are often similar, and similar challenges are encountered when conducting research on both situations. Specifically, there is controversy about whether possession of a gun increases or decreases the risk of violence against others. The United States has both high rates of gun ownership and high rates of homicide compared to other countries. And within the United States, areas with higher rates of gun ownership tend to have higher homicide rates (Miller, Azrael, & Hemenway, 2002).

Most research published in peer-reviewed scientific journals shows that owning or keeping a gun is associated with the increased risk of homicide (Cummings & Koepsell, 1998). Studies of individual killings have also shown that keeping a gun in the home is a risk factor for homicide in the household and that purchasing a gun is associated with becoming a homicide victim.

Table 2. Classification of Weapons in the Workplace

Source of Weapon	Description
I. Criminal intent	The weapon is brought to the workplace by any person (employee, customer/client, or stranger) with the intent to commit a crime, which may be a robbery, an assault on an employee, or an attack on the physical workplace.
II. Customer/Client/Visitor	The weapon is brought to the workplace for legal purposes by a customer, client, or visitor, such as a customer with a concealed carry permit.
III. Employee, not work-related	The weapon is brought to the workplace for a legal purpose unrelated to the job, including protection while commuting, hunting, or transit to another location. Weapons in this category may be carried by the employee or stored in a vehicle or other location.
IV. Employee, work-related	The weapon is brought to the workplace for protection on the job or as part of the job function (for example, police and security officers).

Not all studies find the same relationships, however. In a 1998 editorial, Kleck discussed the conflicting findings among various researchers. Studies on the role of guns in homicide are difficult to conduct, and the results tend to be controversial. Also, existing studies have several important limitations: victims' motives for possession of a gun are rarely known; sources of weapons are difficult to identify; and information about the relationship of the victim to the perpetrator and each person's actions during the fatal event is usually not available. For these reasons, it is not clear whether individuals who are at risk for other reasons (residents of high-crime neighborhoods, for example) are also more likely to have guns, whether gun owners tend to be killed

with their own weapons or the perpetrator's, or whether killings result from gun owners' aggression or their unsuccessful attempts to offer armed resistance.

The effects on violence of gun-control legislation are also difficult to evaluate. A variety of gun-control laws has been assessed by researchers. Also, claims have been made about the effects of these laws, including allegations that they reduce, increase, or have no effect on crime. Hahn et al. (2005) concluded that the existing evidence is insufficient to allow firm conclusions to be made about the effectiveness of gun control laws.

Much less research has been done on gun-related violence at work, but the same limitations must be overcome.

Factors Contributing to Gun Violence in the Workplace

INTERPRETATION OF AN INDIVIDUAL'S right to bear arms as stated in the Second Amendment to the U.S. Constitution has been an ongoing issue for the courts and for state and federal legislators. The principle that government and employer can regulate weapons in general has been upheld. However, recent legislation and court decisions have expanded the circumstances under which weapons can be kept and carried and may have inadvertently exacerbated the threat of workplace violence.

Concealed Weapons and Liability

Concern about guns in the workplace has escalated since the 1990s when states began to pass laws that required authorities to issue permits for carrying concealed weapons to most applicants (except for convicted felons), regardless of need. Thirty-one states currently have such "shall-issue" laws, and another state permits the carrying of concealed weapons without a permit. Only eight states completely prohibit carrying concealed weapons. In the other ten states, authorities may issue concealed weapons at their discretion. The Brady Center to Prevent Handgun Violence maintains an up-to-date list of the various states' positions on these issues, which can be accessed through the center's Web site, www.bradycenter.com.

State laws vary as to where and how concealed weapons can be prohibited; some laws include provisions giving property owners the right to exclude weapons by posting signs, for example. But in all states, property laws have been interpreted as giving owners the right to exclude weapons in the absence of specific language in the state's gun laws.

Surveys suggest that between 3% and 8% of citizens routinely carry concealed weapons (Hemenway, 2004). Although the number of concealed weapons licenses issued has increased significantly as states have adopted more permissive gun laws, it is not clear whether the number of people actually carrying weapons has increased proportionately. Data suggest that this premise is inconclusive partly because some people carried weapons illegally before being issued a license and some continue to carry without obtaining a license (Ludwig, 1998). Nevertheless, it is possible that the number of people who might be in possession of firearms at any given time has increased significantly as a result of relaxed laws on carrying a gun.

State laws do not provide any guarantee that individuals who are issued concealed weapons permits do not have violent tendencies nor do they provide any protection if permit holders use concealed weapons to commit violence. In fact,

Concern about guns in the workplace has escalated since the 1990s when states began to pass laws that required authorities to issue permits for carrying concealed weapons to most applicants (except for convicted felons), regardless of need.

Hemenway (2004) found that habitual gun carriers, with or without a license, are more likely to have an arrest record and are more likely to abuse alcohol than non-gun carriers.

The proliferation of state “shall-issue” laws has also heightened concern among employers not only about their responsibility to protect workers and clients but also about their potential exposure to legal liability for failing to do so.

If sufficient evidence showed that the presence of guns in the workplace is a recognized hazard, then employers could be seen as having a responsibility to take feasible steps to mitigate the hazard under the general duty clause of the Occupational Safety and Health Act of 1970. Businesses subject to the act’s general duty clause (private sector employers with more than 10 employees) could also be held liable for the safety of clients and employees under the common law of negligence if the presence of guns were found

to be a foreseeable danger. Negligence can apply to the hiring, supervision, and retention of an individual employee if a violent act by that person is foreseeable.

Criminal and Non-criminal Intent

Although the origin of weapons involved in workplace homicides is unknown in most cases, the existing data on workplace homicide suggest that the majority of cases, which are related to robbery, would involve weapons brought to the workplace with criminal intent (Category I in Table 2). Premeditated killings of workers by customers, present or former co-workers, personal acquaintances, family members, or individuals with no connection to the workplace, including terrorists, would also fall into this category. Weapons in Category I have no legitimate purpose in the workplace and virtually all observers agree that these weapons should be banned. A person’s

intent is difficult to gauge, however. Individuals with a connection to the workplace as a client, visitor, or associate of an employee who arrive at a job site intending to commit a crime may not be detected.

Weapons brought to the workplace by employees or clients for non-criminal purposes unrelated to their job (Categories II and III in Table 2) have been the subject of considerable controversy in recent years. Many businesses prohibit customers from carrying weapons on their premises to the extent allowed by law. Many employers also prohibit the possession of weapons by employees while on the employer's property. However, state laws that restrict the right to prohibit the carrying of guns make these no-weapons policies more difficult to establish and enforce.

New Legislation

Recent legislation in several states suggests that still more liberal laws regarding an employee's possession of a weapon at work may be on the horizon (see Addendum).

In 1998, Kentucky's attorney general ruled that the state's existing concealed carry law prevented employers from prohibiting firearms in vehicles. Minnesota's concealed carry law, passed in 2003 and amended in 2005, also specifically prohibits property owners from barring guns from parking areas.

A more deliberate movement to restrict property owners' ability to ban weapons began in Oklahoma in 2004. Weyerhaeuser Corporation dismissed several Oklahoma employees who had guns locked in their vehicles in a company parking lot. The state legislature responded by passing legislation in 2004 and 2005 making it illegal for employers to prohibit workers from keeping guns in locked vehicles. The Oklahoma law reads "no person, property owner, tenant, or business entity shall maintain, establish, or enforce any policy or rule prohibiting any person, except a convicted felon, from transporting and storing firearms in a locked motor vehicle on any property set aside for any motor vehicle." The Oklahoma law also creates a right to sue persons who ban firearms on their property in civil court and to recover attorney's fees and court costs.

With support from the National Rifle Association, restrictive laws modeled on Oklahoma's, which some have called "forced entry laws," have been passed in Alaska and Kansas and introduced in 19 other states. Most of these laws apply only to keeping guns in vehicles or in parking areas, but the details vary. For example, the Minnesota law requires property owners to allow people licensed to carry concealed weapons to keep guns in parking areas. Oklahoma's version allows anyone except a convicted felon to keep a gun in a vehicle, but requires the vehicle

Responses to the Problem

to be locked. An updated list of states' positions on these laws is also available through the Brady Center to Prevent Handgun Violence Web site, www.bradycenter.com.

Some laws, including the one in Oklahoma, include language stating that employers are immune from damages resulting from the use of weapons retrieved from parking areas. It is questionable whether these provisions would really protect employers from liability, however, because they cannot excuse employers from their obligations under federal law to provide a safe workplace or from the duty to properly hire and supervise their employees.

The House of Delegates of the American Bar Association (ABA) passed a resolution critical of these new laws in 2007 (American Bar Association Special Committee on Gun Violence, 2007). According to the ABA, laws that require property owners to permit weapons on their premises conflict not only with traditional property rights protected by the U.S. Constitution but also with employers' obligations under federal and state law to provide a safe workplace. The ABA resolution opposes legislation that limits the rights of employers and other property owners to exclude people in possession of firearms from workplaces and other private property.

MOST RESPONSES to the problem of guns in the workplace are part of broader efforts to prevent workplace violence. Many existing measures are based on common sense and were implemented without rigorous evaluation. Others were developed from research carried out in the retail and health care industries beginning in the 1970s. Violence in health care settings usually results from patients assaulting providers and most cases are not fatal. In contrast, retail violence is often associated with robbery and frequently leads to fatalities. As a result, according to Marshall, Loomis, and Gurka (2003), measures developed to prevent violent encounters in retail settings generally focused on robberies.

Three approaches to the control of occupational hazards in general can be applied to the prevention of workplace violence:

Environmental or engineering controls involve the use of design, lighting, electronic surveillance, or other features of the workplace to provide a less attractive target and deter criminal activity.

Administrative controls include policies and procedures to enhance security and worker safety, such as changes in staffing, work practices, or hours of operation.

Behavioral measures involve the training of employees to recognize and respond to situations in the workplace so that the threat of violent outcomes is reduced.

Crime prevention through environmental design (CPTED) is a concept that has been applied to prevent robberies in retail industries. Its application introduces engineering and administrative changes that increase lighting, eliminate escape routes, enhance visibility from outside a building, and implement cash management policies, for example.

The same kinds of interventions have been recommended by the National Institute for Occupational Safety and Health (NIOSH) and others for preventing workplace violence injuries, although generally without adequate evaluation. Also, few CPTED responses apply directly to the prevention of gun-related violence.

Government Responses

No federal laws or standards regulate weapons in the workplace. However, OSHA has issued voluntary guidelines for preventing violence in the health care and late-night retail industries. It has also published a general fact sheet on workplace violence and safety measures for taxicabs.

NIOSH has also issued recommendations for preventing workplace violence and has conducted research on the problem. However, NIOSH does not have regulatory powers.

The general duty clause of the 1970 Occupational Safety and Health (OSH) Act (Section 5(a) (1)) requires employers to provide “employment and a place of employment which are free from recognized hazards.” An interpretation of the general duty clause written by OSHA’s solicitor in 1992 acknowledged that an employer could be found in violation of the Act for failing to take “feasible steps” to protect employees from violence and injury when the risks are “significant enough to be recognized hazards.”

The applicability of the general duty clause hinges on whether violence is a recognized hazard. In the 1990s, OSHA acted under the general duty clause to initiate enforcement actions against several employers for failing to protect workers against violence. That practice was curtailed after a property management company appealed a citation for failing to protect employees against violent clients, and won. In that case, an administrative law judge ruled that although a risk of violence existed, the employer did not have a duty to act because the risk was not recognized (Barish, 2001). OSHA has not pursued citations under the general duty clause since this ruling, but it could do so in the future if the existence of a recognized hazard were demonstrated. It should be noted, however, that government agencies, small employers, and the self-employed are not governed by the 1970 OSH Act.

To augment the limited federal response, several states have passed legislation or issued regulations aimed at preventing workplace violence. Most of these mandatory measures are directed toward violence in specific industries. Florida, Virginia, and Washington require certain retail businesses to take steps to prevent robbery-related violence.

Washington and California have regulations to prevent violence in health care settings. These two states also have passed laws that include language similar to the general duty clause of the OSH Act. As interpreted, these laws require employers in industries known to have a high risk of violence to take steps to reduce hazards (Howard and Barish, 2003).

Some local jurisdictions have also enacted ordinances or regulations that require certain employers to take action to prevent workplace violence. Most locally-mandated measures are generally directed toward protecting taxi drivers, who are at an exceptionally high risk of fatal assault during a robbery. These local requirements vary, but most require the taxi company to implement new policies and procedures as well as equip their cabs with security equipment, such as surveillance cameras, bulletproof partitions, and vehicle locating systems. Legislation that would allow taxi drivers to carry guns for protection has also been proposed in Washington, D.C., but to date it has not been adopted.

Referring again to Table 1, most measures taken by government agencies are intended to prevent robbery (Type I) or client violence against workers (Type II). Currently, no federal, state, or local government has acted to reduce the risk associated with co-worker violence (Type III). Workplace violence associated with personal relationships (Type IV) has not been addressed either. However, some states do allow employers to obtain a restraining order in cases of domestic violence to prevent a violent partner of an employee from entering the workplace.

Industry Responses

Employers have adopted a broad spectrum of responses to all types of workplace violence. Generally, they include one or more of the following:

- Enhancing physical security through environmental controls
- Developing workplace violence prevention policies
- Implementing threat assessment and management procedures
- Training employees in violence prevention
- Employing a security staff
- Screening customers, clients, and visitors
- Screening potential employees
- Referring workers to employee assistance programs

- Enforcing zero tolerance standards toward threats and violent behavior from employees
- Prohibiting weapons on company property

The last four measures are intended primarily to prevent co-worker and personal relationship (Types III and IV) violence. In general, employers have paid more attention than regulatory agencies to preventing violence of these types.

Responses to a Pinkerton survey of Fortune 1000 companies in 2003 indicated that these large employers view workplace violence as a principal security threat to their operations. A 2008 study in North Carolina by Ta and Loomis found that most employers in that state used some preventive measures, but few had a comprehensive approach that included environmental and administrative procedures.

A 2006 national survey of employers' workplace violence prevention practices conducted by the Bureau of Labor Statistics (BLS) for NIOSH shows that most employers have some type of measures in place to prevent workplace violence: 72% of employers use at least one physical security measure such as access control or improved lighting; and 52% use electronic security measures such as alarms and surveillance cameras. Other measures are less common: 43% of employers screen potential employees for a history of violence, and only 2% employ a security staff.

The BLS survey also revealed that only 30% of employers have a violence prevention policy of any kind. Among those with policies, 82% have programs or policies addressing co-worker violence, 72% addressed customer/client violence, 52% addressed criminal violence, and 45% addressed domestic violence.

The survey also showed that the steps taken by individual employers vary according to industry, ownership (private sector or government), and size. Large employers with more than 250 workers and government agencies are considerably more likely to have several types of preventive measures. Policies and programs to prevent criminal violence are more common in service-providing industries (including retail) than in goods-producing industries or government.

Because the most serious forms of workplace violence tend to be gun-related, effective prevention measures must specifically address firearms. Results from the North Carolina study estimated that 88% of employers in the survey prohibited employees from having guns at work (Loomis, Marshall, & Ta, 2005). Prohibiting weapons on company property has been recommended as a component of benchmarking programs that incorporate best practices as a way to prevent violence in the workplace (Nalla, Morash, Vitoratos, & O'Connell, 1996). Although at least two-thirds of workplace homicides are associated with robber-

ies, other types of workplace homicide are more likely to be committed with guns, so this policy is especially important for preventing co-worker and personal/family violence at work.

Many employers have adopted gun-free policies in response to the increased availability of weapons in shall-issue states. However, very little information is available about the number of employers who prohibit weapons or about the details of their policies. The BLS survey did not ask about employers' policies toward weapons. The survey did report, however, that only 2% of employers have staff with the authority to seize weapons and that large employers and government agencies were more likely to engage in this practice.

Because no other data on policies toward weapons carried by employers, customers, or visitors could be found, a sample of security practitioners was polled to elicit responses. The ASIS International Foundation provided a list of potential respondents. Those selected repre-

sented a cross-section of industries and regions in the United States. Participants were interviewed by telephone using a standard topic guide (see Appendix).

All of the practitioners reported that their organizations prohibited the possession of weapons by employees other than security staff. The details of policies toward employee weapons varied, but in each case possession of a gun in violation of company policy could result in termination. Practitioners also reported that, when allowed to do so by law, their organizations prohibit the possession of weapons by non-employees entering the workplace. The companies' motivation for implementing such policies stems from a concern for both the safety of employees and clients and the desire to limit exposure to legal liability if a shooting were to occur. Practitioners particularly stressed concerns about co-worker and personal/family violence in connection with guns in the workplace.

Effective Responses

WEIGHING THE EFFECTIVENESS of various responses applicable to specific situations requires the analysis of multiple security options. A synopsis of the various possibilities follows.

Prevention Measures

Not enough rigorous research has been conducted to gauge the effectiveness of mandatory or voluntary measures for preventing workplace violence. To date, most research has focused on the use of the crime prevention through environmental design (CPTED) concepts used to prevent robbery-related, or Type I violence, in retail businesses (Casteel & Peek-Asa, 2000; Marshall et al., 2003). However, the specific measures that have been evaluated differ from study to study.

Reviews of this research show that CPTED measures can be effective in preventing robbery. But the benefits of CPTED are less clear when the goal is to prevent injuries to workers, including gun-related injuries (Marshall et al., 2003). In the most in-depth studies, using bright lighting, limiting night hours, and having more than one worker on duty appeared to reduce the risk of workplace homicide, but other measures, including video cameras, cash drop boxes, and warning signs did not (Loomis, Marshall, Wolf, Runyan, & Butts, 2002). Research also shows that combinations

of environmental and administrative measures appear to be substantially more beneficial than individual measures used alone (Loomis et al., 2002; Marshall et al., 2003).

While specific strategies for reducing gun-related injuries to workers remains elusive, the effectiveness of tactics for preventing other types of workplace violence has primarily been evaluated in the health care industry where client or Type II violence is the major concern. Results suggest that providing employees with information about workplace violence, identifying high risk patients, and training employees to handle aggressive patients can prevent injuries to health care workers (Runyan, Zakocs, & Zwerling, 2000).

The effectiveness of environmental and administrative measures in preventing homicides not associated with robberies in general industry was examined in the North Carolina study. The results are inconclusive, however, because of the small numbers (Loomis et al., 2002). Very little research has been conducted on similar measures in other settings.

Employer Policies

An extensive search of the academic and professional literature carried out for this report found no studies that had directly investigated the role of weapons carried by customers, clients, or other non-employees with legitimate connections to the workplace or workers. The association

Compared to workplaces that prohibited all kinds of weapons, workplaces that allowed guns were 6.8 times as likely to have had a worker killed on the job.

between employer policies toward weapons and workplace homicide was examined in the North Carolina study. Various aspects of the results from this large study of workplace homicide were reported were in the American Journal of Epidemiology (Loomis, et al., 2001), the Journal of the American Medical Association (Loomis, et al., 2002), and the American Journal of Public Health (Loomis, et al., 2005).

In this third analysis, North Carolina researchers sampled workplaces in that state from 1994 to 1998. Their study included 87 “case” workplaces where homicides occurred in the study period and 177 “control” workplaces that had not experienced a homicide during the prescribed timeframe. The purpose of the study was to determine whether allowing guns at work was associated with increased or decreased risk of homicide.

In telephone interviews, employers were asked whether employees were allowed to have guns, knives, bats, chemical sprays, or any other weapons with them while at work. Respondents

were given a range of responses: the weapon was specifically allowed, the weapon was prohibited, the employer did not have a formal policy regarding that weapon, or the respondent did not know the employer’s policy. Detailed information was obtained about other risk factors for workplace homicide at the same time.

Data from workplaces that had not had an employee death show that most employers (about 88%) had a policy about weapons, and most of those (62%) prohibited weapons of all types. However, 12% of the employers in the study allowed guns on the job. Compared to workplaces that prohibited all kinds of weapons, workplaces that allowed guns were 6.8 times as likely to have had a worker killed on the job; this increase in risk was statistically significant (95% confidence interval of 3.5 to 13).

In contrast, workplaces that prohibited guns but allowed other kinds of weapons were only 1.4 times as likely to experience an increase in the risk of having a homicide, which was statistically insignificant. The risk of workplace homicide was

still 4.8 times higher and statistically significant (95% confidence interval 1.7 to 14) in workplaces that allowed guns. (This conclusion was reached after statistical adjustment for other indicators of inherent risks in the workplace, such as the type of business, its location and hours of operation, and the presence or absence of safety measures.) The authors concluded that, regardless of their intent, employer policies allowing guns on the job seem to increase the risk of fatal violence in the workplace.

The study has several limitations that were acknowledged by its authors. The most important limitation is that it was a study of policies, not of individuals; its design did not allow questions to be asked about whether employees actually had weapons, whether workers' guns were used when violent events occurred, or about the relationships of perpetrators and victims. Employers' reasons for allowing guns were also unknown. In addition, the data was collected in one state during a four-year period and its conclusions may not be generalized to apply to other places and times.

The 2005 North Carolina study has been cited in support of tighter controls on guns in the workplace. But it has also been criticized by advocates of less restrictive gun policies.

A critique posted on the National Rifle Association's Web site alleges that the authors failed to consider whether workplaces at high risk of crime were also more likely to allow guns and that they ignored information about workplaces' experience with crime (National Rifle Association Institute for Legislative Action, 2005). In fact, these issues were carefully considered in the North Carolina study. The reduction in the relative risk from 6.8 to 4.8 after adjusting for known risk factors shows that, although workplaces that allowed guns were inherently more risky, they were still more likely to have a homicide after accounting for the difference in background risk.

The study's authors also considered the history of other crime in the workplace, although the results were not reported with the study's main findings. When experience with crime was evaluated along with other risk factors, workplaces that allowed guns were 7.9 times as likely to have had a homicide, a result that was also statistically significant (95% confidence interval 2.4 to 25) after controlling for other risk factors. This increase in risk may have occurred because workplaces where crimes had occurred previously were less likely to allow guns.

Although the North Carolina study leaves several key questions unanswered, it is the only study to date that has examined the effect of weapons policies on workplace homicide.

Future Responses

ALTHOUGH GOVERNMENT, EMPLOYERS, and other organizations have responded to the problem of workplace violence in a variety of ways, it is not clear how effective those responses have been. Rates of nonfatal and fatal workplace violence have gone down since the early 1990s, but so have the rates of violence in non-work settings (Hendricks et al., 2007). A notice on the OSHA Web site suggests that this decrease is largely a result of organized efforts by government and employers. However, it is difficult to say whether the change is really a result of those actions or a side effect of a more general decline in violent crime. Whatever the reasons for the recent decrease in workplace violence, continued efforts are justified because violence is not just costly; it is also preventable.

Future responses to prevent gun violence in the workplace should be based on solid evidence from well-conducted research. It is helpful to consider possible responses in connection with the type of violence and the agent or firearms used in the attack and the measures available to control the attack. The following discussion of possible responses to gun-related violence in the workplace is structured around the classifications of violence and weapons in the workplace shown in Tables 1 and 2 earlier in this report. The ability of employers to enforce a no-weapons policy is also discussed.

External Violence

Violence perpetrated by people with criminal intent and no connection to the workplace or to employees (Type I) is likely to remain the focal point of preventive efforts because it is the most common form of fatal workplace violence (about two-thirds of all workplace homicides, according to the U.S. Department of Labor). Government agencies and retail industries have already focused their attention on Type I violence, and this scrutiny should continue.

To date, OSHA, for example, has chosen not to regulate weapons in the workplace, but this position could change. It is conceivable that employers who fail to take feasible and effective action to protect workers from known risks of violent crime could be found in violation of the OSH Act, if OSHA were to take a more aggressive approach to workplace violence.

Because there is broad social agreement that criminal activity should be prevented or punished, most measures against Type I violence have not been especially controversial. This may change, however, if proposals to arm certain groups of workers, such as taxi drivers, airline crews, and university employees, are adopted or if more employers allow workers to protect themselves with guns, either voluntarily or as required by state law.

The findings of the North Carolina study on employer policies toward guns suggest that if workers were permitted to have guns on the job, the risk of fatal violence would increase. It is important to note, however, that a single study in one state may not be a reliable basis for policy. Not enough information is available to judge whether armed workers would be an effective deterrent to Type I violence. But employers could face significant liability if armed workers mistakenly harmed an innocent person.

Personal or Family Violence

Personal or family violence that spills into the workplace (Type IV) is similar to violence perpetrated by individuals with no connection to the workplace or its employees (Type I). Data suggest that Type IV violence is often planned: perpetrators know how to locate their victims at work and enter with weapons in their possession. Violence perpetrated by former employees also fits into this category; while those individuals no longer have a relationship with the employer, they may maintain personal relationships with former coworkers or supervisors.

No research has specifically evaluated measures for preventing this type of violence. Legal and security experts have found that some common measures intended primarily to prevent Type

I violence apply, however, including controlling access to the workplace and using security staff. Physical security measures and policies to control weapons in the workplace are also recommended.

With the advent of more liberal state laws on concealed weapons, it is useful to distinguish between personal violence that is not planned but erupts in the workplace and personal violence that is planned. No-weapons policies that bar guns from the workplace may be effective in preventing the first type of situation from becoming lethal. Although a policy might not deter a determined perpetrator carrying a weapon from committing a lethal act, it does demonstrate that the employer has taken reasonable precautions to prevent a foreseeable hazard.

When a threat to a specific employee is known, actions can be taken to protect that employee and to prevent the threatening individual from entering the workplace. OSHA's 1996 fact sheet on preventing workplace violence recommends that employers develop and train employees in an action plan for responding to violent situations. Employer restraining orders against threatening individuals can be a useful tool where they are permitted by law. Although some commentators assert that threatened employees have the right to protect themselves by carrying weapons, a

decision to allow employees to protect themselves by carrying guns to a workplace carries significant liability for the employer and is discouraged by legal and management experts.

Customer or Client Violence

Although violence perpetrated by customers or clients (Type II) is common, most cases do not involve guns and are not fatal. As a result, this category makes up less than 10% of workplace homicides. Nevertheless, employers' concerns about this form of workplace violence have grown with the passage of "shall-issue" laws liberalizing the carrying of concealed weapons. These laws may increase the number of customers, clients, or visitors who show up at a workplace carrying lethal weapons.

As with personal violence, it may be useful to distinguish between planned and unplanned violence perpetrated by customers, clients, and visitors. Neither form of workplace violence has been researched in detail. However, anecdotal evidence from the media suggests that lethal violence involving clients is often unplanned. In such cases, a no-weapons policy barring guns from places of business may effectively prevent disagreements between clients and workers from turning fatal. If the violence is planned by a

disgruntled client with a grudge against a specific employee, then measures similar to the ones used to prevent planned personal or family violence are appropriate.

Coworker Violence

Worker-on-worker and worker-on-supervisor (Type III) violence is responsible for about 15% of workplace homicides. But they attract a disproportionate share of public attention and are a focal point for many employers' concerns about safety and liability. Employers are not only obligated to take steps to reduce known hazards in the workplace, but, where current employees are concerned, they have a special responsibility to demonstrate that they have not been negligent in hiring, supervising, or retaining their employees. In light of more liberal laws toward concealed weapons, a strict anti-violence policy and a clear, consistently-enforced policy against the possession of weapons in the workplace are considered cornerstones of responsible efforts to prevent workplace violence.

As mentioned previously, the 2005 North Carolina study found that workplaces that did not prohibit employees from having weapons on the job were two to three times as likely to have had a homicide compared to workplaces that prohibited weapons. Again, the limitations of a single study must be noted. However, if similar benefits of no-

weapons policies were shown in other studies, the results could be taken as evidence that weapons in the workplace are a known hazard that employers have a duty to mitigate.

No-weapons Policies

Unfortunately, employers' ability to implement effective no-weapons policies is being called into question by new state laws that require property owners to allow weapons on their premises under a wider range of circumstances. To date, this new legislation only expands workers' rights to keep weapons in parking areas, but it is problematic from the standpoint of preventing workplace violence. If employees have access to firearms stored in their vehicles parked at work, then the potential for workplace disagreements to become lethal increases. Survey data on employers' responses to new parking lot gun laws are not yet available, nor has their effect on workplace safety been evaluated.

It is also possible that laws already passed could be amended to further expand the areas where guns must be allowed. For these reasons, a number of professional, trade, and industry groups have joined the ABA in opposing laws that limit employers' or property owners' rights to exclude weapons, including the American Industrial Hygiene Association and the American Society of Safety Engineers.

In the absence of research data, the sample of security practitioners provided by the ASIS International Foundation was asked how they thought these laws would affect workplace safety and how their organizations would respond. All expressed concern about expanding the presence of guns in the workplace, even when limited to parking areas. None of the practitioners' organizations had yet made specific changes in procedures, policies, or equipment in response to new state laws. However, the practitioners believed that allowing guns in any part of the workplace, including parking lots, would make no-weapons policies more difficult to enforce.

Practitioners also mentioned concerns about increased potential for violence and greater exposure to liability if guns were allowed into workplaces. They also raised concerns about the threat to employers' property rights. Most practitioners said they would work as individuals, through professional organizations, or through their employers to oppose laws limiting property owners' rights to exclude guns.

One practitioner made a distinction between current laws that require guns to be accommodated in parking areas and possible future laws that might require employers to accept concealed weapons anywhere in the workplace. He said he would question the benefits of doing business in a state with the second kind of law.

Recommended Actions

It is still too early to gauge the impact of the new parking lot gun laws, but employers should be prepared for more states to pass similar laws in coming years. No new laws have been enacted since 2007, and several bills introduced in state legislatures have been defeated. Nevertheless, new bills have been proposed in several states, and lawmakers may also attempt to amend existing laws to allow guns to be carried on the job.

Not enough is known about the effects of such laws, but the existing evidence suggests that they will have negative effects on workplace safety. Professional associations and industry groups are actively opposing these laws, and research is needed to identify violence prevention measures that can be effective in an environment where employers have no option but to allow guns in the workplace.

SPECIFIC ACTIONS TO prevent gun violence in the workplace should be supported by objective research and must fit within existing legal and regulatory frameworks. Not enough research has been done to evaluate measures that have already been used or to test new measures before they are deployed. Nevertheless, it is possible to recommend some responses either because they have been shown to be effective in preventing workplace violence or because they are likely to be effective and are consistent with employers' legal responsibilities to provide a safe working environment.

A comprehensive violence-prevention program should include the following actions.

Violence Prevention Policies

Companies should develop, publicize, and enforce a violence prevention policy for employees. Policies should be written and should specify actions that are not tolerated in the workplace. They should also include procedures for sanctions against employees who violate the policy, including termination.

Violence prevention policies can also include procedures to identify potentially violent employees and to increase the likelihood that appropriate action is taken should violence be threatened or occur. The effectiveness of these measures has not been adequately evaluated, but their

presence demonstrates that the employer is taking appropriate steps to ensure that employees are properly hired, supervised, and retained. Detailed guidance on implementing workplace violence prevention is given in the ASIS Guideline on Workplace Violence Prevention and Response (ASIS International, 2005).

Threat Assessments

In the process of collecting information for a threat assessment and carrying out its steps, the types of violence (Table 1) of greatest concern for a specific workplace can be identified. Also knowing how firearms might be used in the workplace can lead to establishing effective prevention measures.

No-weapons Policies

Enforcing a no-weapons policy for employees as allowed by law is a fundamental component of establishing effective countermeasures. Weapons policies should be written, made known to all employees, and consistently enforced. Employer policies prohibiting firearms have been shown to reduce the incidence of homicide in the workplace, and they demonstrate a commitment to safety.

Establishing a gun-free workplace policy for clients and visitors as allowed by law is another positive step. In states that permit concealed

weapons, setting such a policy may require posting specific notices to inform the public that weapons are prohibited. Some employers take additional steps to enforce no-weapons policies by installing metal detectors or initiating inspections by security personnel. The effectiveness of these measures has not been demonstrated, but their use underscores the intention to prevent foreseeable harm.

Control Measures

Tailored control measures can help to mitigate the types of violence anticipated at a workplace. For example, training employees in recognizing and managing potentially violent clients has been shown to be effective in health care settings, and pre-employment psychological screening can be effective in preventing dispute-related violence among coworkers.

Environmental and administrative controls should be implemented in groups rather than one at a time. Research indicates that several measures together are more likely to be effective in preventing injury than single measures. For example, electronic surveillance should not be used alone. Although electronic measures such as video cameras are common, research suggests that their effectiveness is limited when no other measures are present.

Research Needs

THE DIMENSIONS OF workplace violence have been adequately described in previous research, but much more study is needed on the mechanisms of workplace violence and on the effectiveness of measures to prevent it. This report identified major gaps in knowledge about the role of guns in workplace violence, employers' responses to the problem, the effectiveness of preventive measures that have already been used, and the effect of recent legislation on an employer's ability to restrict weapons in the workplace. The following types of key research are needed.

- Solid scientific research to determine the effects of state laws permitting the carrying of concealed weapons on crime and injury rates.
- Research that investigates the specific role of firearms in workplace violence to help understand why weapons are in the workplace, the types of incidents in which they are involved, and by whom and for what purposes they are used.
- Rigorous studies to evaluate the effectiveness of measures to prevent workplace violence with particular attention to violence between coworkers and involving customers, visitors, personal acquaintances, and family members.

- Validated surveys that describe employers' policies toward weapons in the workplace, including the numbers of employers that prohibit weapons, the reasons why they do so, and how their policies are carried out.
- Additional studies to evaluate the effectiveness of employers' violence prevention policies and no-weapons policies in a variety of geographic areas and work environments.
- Well-conducted studies that evaluate the impact of state laws extending the right to possess weapons at workplaces on rates of workplace violence.

With the results of such rigorous research in hand, legislatures, courts, regulators, special interest groups, and especially employers will be on more solid ground when designing, interpreting, and enforcing effective measures to safeguard workers and their rights.

Addendum

References

ON JUNE 26, 2008, in the District of Columbia vs. Heller, the United State Supreme Court decided that a Washington, D.C., ordinance banning the possession of handguns violates the Second Amendment of the U.S. Constitution. In a majority opinion, the court held that possession of firearms for lawful purposes is an individual right. However, the court also made it clear that the right to keep and bear arms “is not a right to keep and carry any weapon whatsoever in any manner whatsoever and for whatever purpose” and that the possession and carrying of weapons may be regulated.

Employers can expect that other gun control laws will be challenged as a result of the court’s decision and may affect laws and regulations related to the possession of guns in workplaces.

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Appendix

Script Used as a Guide for Security Practitioner Interviews

QUESTION 1: Are you familiar with the new laws that restrict employers' ability to control the carrying and storage of firearms on their property such as the ones passed recently in some states (Oklahoma, Minnesota, Kentucky, Alaska, and Kansas)?

Answer: If yes, proceed. If no, thanks for your time.

QUESTION 2: Have any of your operations been affected by laws that restrict employers' ability to control the carrying or storage of firearms on their property?

Answer: If yes, skip to Question 4. If no, ask Question 3.

QUESTION 3: Would any of your operations be affected if similar laws now under consideration in other states were passed?

Answer: If yes, ask Question 4. If no, skip to Question 5.

QUESTION 4: Could you describe briefly how your company has responded? Have policies or operating procedures been changed? Are new technologies or equipment being used? Has the company incurred direct or indirect costs (liability insurance, for example)?

QUESTION 5: Have you considered how your company might respond if such laws were passed that did affect your operations?

Answer: If yes, ask Question 6. If no, skip to Question 7.

QUESTION 6: How is your company likely to respond? Do you see changes in policies or operating procedures? Technologies or equipment? Direct or indirect costs?

QUESTION 7: How do you think employers, in general (that is, other than the one you work for), are likely to respond to these laws? Are there particular things they should or should not do?

QUESTION 8: As a security professional, do you have any other concerns about these laws and their affect on employers or on safety and security?

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In addition to his research and academic duties, Dr. Loomis is deputy editor of the journal Occupational and Environmental Medicine and chair of the Scientific Committee on Epidemiology of the International Commission on Occupational Health.



ASIS International (ASIS) is the largest organization for security professionals, with more than 36,000 members worldwide. Founded in 1955, ASIS is dedicated to increasing the effectiveness and productivity of security professionals by developing educational programs and materials that address broad security interests, such as the ASIS Annual Seminar and Exhibits, as well as specific security topics. ASIS also advocates the role and value of the security management profession to business, the media, governmental entities, and the public. By providing members and the security community with access to a full range of programs and services, and by publishing the industry's number one magazine—*Security Management*—ASIS leads the way for advanced and improved security performance.



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