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Environmental Evaluation for Workplace Violence in Healthcare and Social Services

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Abstract

Problem: Federal policy recommends environmental strategies as part of a comprehensive workplace violence program in healthcare and social services. The purpose of this project was to contribute specific, evidence–based guidance to the healthcare and social services employer communities regarding the use of environmental design to prevent violence. *Method:* A retrospective record review was conducted of environmental evaluations that were performed by an architect in two Participatory Action Research (PAR) projects for workplace violence prevention in 2000 and, in the second project in 2005. Ten facility environmental evaluation reports along with staff focus group reports from these facilities were analyzed to categorize environmental risk factors for Type II workplace violence. *Results:* Findings were grouped according to their impact on access control, the ability to observe patients (natural surveillance), patient and worker safety (territoriality), and activity support. *Discussion:* The environmental assessment findings reveal design and security issues that, if corrected, would improve safety and security of staff, patients, and visitors and reduce fear and unpredictability. *Impact on industry:* Healthcare and social assistance employers can improve the effectiveness of violence prevention efforts by including an environmental assessment with complementary hazard controls.

Keywords: Workplace violence prevention; Participatory action research; Environmental assessment; Healthcare workers; Occupational injury

1. Problem and purpose

Risk factors for Type II workplace violence, defined as violence toward employees perpetrated by a client or customer, include overcrowded waiting areas in healthcare, working in isolation from coworkers, working in a high crime area, having a mobile workplace, transporting patients, poor environmental design, access to firearms, and working with volatile patients. Environmental approaches to reducing the risk of violence toward healthcare and social assistance workers are recommended (National Institute for Occupational Safety and Health [NIOSH], 1996), but have yet to be evaluated for their impact on violence prevention. Ideally, violence prevention would be an important consideration addressed in the design of a new facility and in advance of a major renovation project.

The U.S. Occupational Safety and Health Administration (OSHA) recommends environmental design and security technologies for violence prevention in healthcare in the context of a comprehensive program (OSHA, 1996, 2004, 2008). A comprehensive workplace violence prevention program as outlined in the OSHA guidelines includes hazard assessment and control elements, along with management commitment/employee involvement, recordkeeping and evaluation, and employee training. Evaluation of the impact of environmental design and security technology toward reducing Type II workplace violence has been limited.

Furthermore, the process by which employers select, implement, and evaluate environmental design and security technology has not been adequately described or tested.

To contribute specific, evidence–based guidance to the healthcare and social services communities regarding the use

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of environmental design to prevent violence, we examined environmental survey reports from two workplace violence prevention research projects to accomplish the following:

1. Identify security technology and/or architectural design risk factors for violence in public mental health and addiction treatment facilities.
2. Examine staff perception of those hazards and of potential control measures to reduce violence in their workplace.
3. Describe the process by which environmental hazard assessment findings are included in the hazard assessment and control phases of a comprehensive workplace violence program.
4. Propose a working paradigm for involving direct care staff in design and security assessment and procurement decisions in their facilities.

2. Background

Reducing injury through environmental design, an approach long promoted by injury epidemiologists (Haddon, 1972, 1974) appeals to public health practitioners because this approach does not depend on changing personal behavior and because the controls can be broadly applied to protect a large population (e.g., the introduction of airbags into automobile design and production; Haddon, 1974; Peek-Asa & Zwerling, 2003). Preventing exposure to occupational hazards through engineering controls is a parallel concept. "Engineering out" job hazards via elimination of, substitution of, or enclosure of a hazard or redesigning a job improves job safety without depending on permanently and consistently changing workers' behavior (Harris, 2000). In the area of workplace violence prevention, examples exist for the successful use of environmental design to control community, residential, and retail crime (Mair & Mair, 2003; Peek-Asa & Zwerling, 2003). In addition, the field of criminal justice can inform efforts of preventing workplace violence.

Some research has been conducted assessing environmental design controls for workplace violence, including a study by Gates, Ross, and McQueen (2006) who examined workplace violence in five facilities with emergency departments in a mid–western U.S. city. Facilities included a Level 1 Trauma hospital with separate medical, psychiatric, and air care, and four facilities with a general emergency department. They found that 32% of surveyed staff (n = 115) worked in facilities where patient and triage areas were open to the public; 25% reported that weapons were easily brought into their facilities; and 22% noted a lack of metal detectors or alarms in their emergency department. Sixty percent felt that long waiting times contributed to violence in their facilities (Gates, Ross, & McQueen).

The Bureau of Labor Statistics recently completed a representative survey of U.S. employers, both private sector and public sector, looking at the prevalence of security and environmental design features in American workplaces. This survey also examined risk factors, experiences of workplace violence, and workplace violence prevention programs. The survey represents 7.4 million U.S. establishments that employ over 128 million workers. Remarkably, a key finding of the study noted that nearly 5% of the workplaces had experienced at least one episode of workplace violence in the past year, but most reported that this experience did not prompt any changes in programming or procedures. Healthcare and social assistance workplaces were more likely to experience Type II violence; however, state government workplaces reported the highest percentages of workplace violence episodes overall (32%) in the past year. Forty–three percent of private sector healthcare and social service employers and 80% of state government healthcare and social assistance workplaces control or limit access to the workplace compared to 31% of all establishments. In terms of measures such as surveillance cameras, metal detectors, and personal alarms, private sector healthcare and social assistance workplaces are less likely than state government settings to utilize surveillance cameras (12.1% vs. 50.7%), metal detectors (0.2% vs. 20.6%), and employee personal alarms (2.0% vs. 15.4%). These findings provide national baseline data for benchmarking improvements in workplace violence prevention programming (Bureau of Labor Statistics [BLS], 2006).

2.1. Crime Prevention Through Environmental Design (CPTED)

Security and design theory and interventions that have been applied to the retail environment (Casteel, Peek-Asa, Howard, & Kraus, 2004; Peek-Asa, Casteel, Mineschian, Erickson, & Kraus, 2004) may have application to the healthcare environment. One such paradigm is an approach known as Crime Prevention Through Environmental Design (CPTED; Crowe, 1991; Jeffery, 1971; Peek-Asa & Zwerling, 2003; Smith, 2004). The elements of CPTED include natural surveillance, access control, territoriality, and activity support. Applied to the healthcare environment, *natural surveillance* is the ability for the care providers to view a patient population in the ward, recreation, or program environment and to be viewed by the patients and other staff. *Access control* addresses entry to the facility, as well as the ward entrances, sleeping areas, offices, program areas, and medication and storeroom. This also includes the door type and traffic floor patterns to control patient movement. *Territoriality* is a concept that connotes an effort to empower the legitimate occupants of a space over the criminal elements who would occupy a space. In healthcare, this might apply to the nurses' station, therapists' offices, medication areas, program areas, and parking lots. Ideally, legitimate occupants of a space (staff and patients alike) develop a sense of "proprietorship" that discourages crime and violence. An element included in later CPTED work addresses *activity support*. For example, environmental design may encourage safe behavior and impact quality of care when program areas are clean, have adequate temperature control, are well–lit, not excessively noisy, and are comfortable for activities such as recreation, rest, group therapy, or private examination.

2.2. Ecological approach

Another approach that is used to study crime in other sectors that may have application to healthcare is an ecologic approach that includes community crime data to understand industry specific crime. For example, in a study of liquor stores in