No. 196

Occupational Health and Safety Risks Faced by Police Officers

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Police officers face a range of risks at work: homicide, assaults, communicable diseases, injuries during car crashes and regular abuse. The risks vary according to the task being undertaken (for example, whether performing traffic duties, attending street disturbances, arresting offenders, guarding prisoners in watchhouses or in hospital, or transporting offenders to court). This paper is based on a comprehensive international literature review of police occupational health and safety, and identifies key risk factors. A subsequent Trends and Issues paper (number 197) focuses on prevention strategies.

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Police have a high-risk job compared to many others (see Driscoll et al. 1999; NOHSC 1999). About one officer per year is killed in Australia, many are assaulted, and others contract a range of illnesses from work. The dangers are not just physical. The daily "civilian combat" of United States police officers has been compared with warfare:

> The police officer is expected to be combat-ready at all times...[facing] a continual sense of danger from an unknown enemy...While the Vietnam veteran was at war for a minimum of nine months, police officers alternate between the violence of the street (e.g., shootings, witnessing death and mutilation, dealing with abused children) and the normalcy of civilian life on a daily basis. (Violanti 1999a, p. 5)

The Risk of Death and Homicide

Homicide is more common for United States officers doing undercover work, making arrests, conducting drug raids, attending domestic disputes or pursuing speeding motorists (Clarke & Zak 1999; Knight 1999; Flannery 1996). Among such homicides there are three common features:

- most killers have a personality disorder;
- victim officers tend to be "good natured" and use physical force as a last resort; and
- homicides often follow lapses in established procedures for arrest, traffic stops or waiting for back-up (Builta & Ward 1995; McDonald 1995; FBI 1992; UCRS 1992).

A few officers in the United States have been killed off-duty, most commonly after intervening in robberies, or when on-duty police mistook them for gang members (Davis & Pinizzotto 1996). Some died through unintentional firearm discharges, typically when officers ignored firearms safety rules while unloading and disassembling weapons (Button 1999). However, since police homicides have remained relatively constant in a time of increased availability of firearms and illicit drugs, it seems that body armour, medical technology and training strategies are keeping pace with the threats (Graham 1996; Builta & Ward 1995).

In Australia, about one officer per year is murdered (Driscoll et al. 1999; Estreich 1999; CJC 1996; Swanton & Walker 1989). Webster (1999) recorded 187 officer homicides in Australia since 1830, most through shooting (114), spearing (24; although none since 1933) and stabbing (12). Two notable incidents were the bombing of the National Crime Authority office in Adelaide in 1994 and the 1989 shooting of Assistant Commissioner Colin Winchester (anon 1995; Webster 1999). Police vehicle crashes result in more deaths. Particular risk factors when driving include darkness, reduced peripheral vision when speeding, changing effects from high to low beam, emotional consequences from adrenalin rushes, and speeding on unfamilar roads and in inclement weather (Payne & Fenske 1997; Swanton & Walker 1989; Swanton 1987). A few officers commit suicide (see discussion below).

The Risk of Assault

The number of assaults far exceeds fatalities and is probably increasing over time (Builta & Ward 1995). In the United Kingdom, up to 14 per cent of officers are assaulted each year, most commonly constables or sergeants (Budd 1999; Brown 1994; Mayhew, Elliot & Dowds 1989). One study found assaults in the United Kingdom usually occurred during public disorder incidents (22%), disputes (21%), traffic stops (17%), foot patrols (10%), catching criminals red-handed (10%), searching premises or arresting suspects (7%), or dealing with prisoners (6%) (Brown 1994, pp. v, 21). The risks were highest between 10pm and 3am, and around licensed premises (Brown 1994). In Scotland, nearly three-quarters of police believed policing was becoming more dangerous, that many offenders were out of control through drugs and alcohol (53%), and that weapons such as knives were being used more frequently (Mitchell et al. 1998). In the United States, a similar pattern has been identified. Kaminski and Sorensen (1995) analysed 1,187 incidents

in-depth and found that:
- the majority were unarmed attacks;
- there was no variation in severity by gender of officer or offender;
- fewer years of service were associated with increased risk; and
- officers with higher education levels were less frequently assaulted.

In Australia, assaults are relatively common (perhaps 10 per cent of officers each year are victims) and usually involve fists, body fluids, syringes or bottles (CJC 1996; Swanton & Walker 1989). More male officers are assaulted than females, undoubtedly because there are far more male police—only 16.4 per cent of the 43,048 Australian sworn officers in June 1999 were female (AIC 1999). Some seriously assaulted officers return to work on alternative duties while others are permanently disabled (Clark 1987).

Officers are most at risk of being assaulted when attending domestic disputes, as these are particularly unpredictable.

The following features are common to assault-related injuries:
- most are minor and do not require time off;
- they occur more frequently on weekends and in the evening;
- they are common during an arrest or while restraining or escorting suspects;
- most injuries are to the head, face, upper limbs or torso;
- constables have the highest rate, followed by sergeants;
- most assaulted officers are young, with seven years or less experience;
- female officers have fewer serious injuries, possibly due to different task allocations;
- physical force is the most common cause of injury, followed by contact with body fluids (for example, blood), impact with a wall or the ground, blunt instruments or pointed objects (for example, a nail)—knives and firearms are rarely used.

It is important to note that occupational health and safety legislative reporting requirements may increase reporting of

assaults, as will increased concern about hepatitis B and C and HIV (CJC 1996; Wright 1990).

There are three explanations for the youth and lower rank profile of assaulted officers: experienced officers are promoted into supervisory ranks; junior officers may be frequently assigned to higher-risk duties, such as evening patrols around licensed premises; and older officers may have sufficient experience to recognise warning signs of high-risk situations and take additional precautions (Swanton 1985, cited in Wright 1990).

Assailant Characteristics

Assailant characteristics are similar across Western industrialised countries. Assailants are usually:
- male;
- alcohol or drug affected;
- aged between 15 and 29;
- unmarried;
- persons with prior convictions;
- unemployed or working in a low status job; and
- disproportionately Indigenous.

Many have:
- had little contact with their fathers;
- come from homes where violence was used to resolve disputes; and
- committed robberies to sustain drub habits (Pinizzotto, Davis & Miller 1998; Brown 1994; UCRS 1992; Wright 1990).

As one offender has noted:

> Heroin makes you feel invincible; cocaine makes you feel defensive and somewhat paranoid...When you're on drugs, you're irritable and cranky and may be quicker to use a gun. (cited in Pinizzotto, Davis & Miller 1998, p. 18)

The Risk of Communicable Disease

While investigating crimes, conducting searches, taking samples, or arresting suspects, police can be exposed to infectious organisms. During the body search of a suspected drug user or his/her premises, there is always the risk of a puncture wound from secreted needles which may be contaminated with HIV, hepatitis B or another

debilitating virus or bacteria (Bigbee 1987). Police can also contract hepatitis B from the saliva of infected offenders, from their vomit or faeces in padded cells, or while restraining a suspect who bites. Tuberculosis can be contracted through airborne cough droplets. (A virus is a living parasite that invades cells but for which medical treatment is not always available. Bacteria are single-cell living organisms that are usually susceptible to treatment with antibiotics.)

With the HIV/AIDS virus, the perception of risk far exceeds the probability. Only about one in 250 exposure incidents results in transmission (Heiskell & Tang 1998). For example, in a study of United States health care workers, 99.7 per cent of needlestick pricks and 99.9 per cent of eye, nose or mouth exposures did not lead to infection (Centers for Disease Control and Prevention, cited in Flavin 1998). Risks increased with greater amounts of blood, or if the source of the blood died within 60 days of the exposure (that is, they had a higher viral load), although the probability of infection decreased by around 80 per cent if zidovudine (AZT or ZDV) was administered immediately following exposure (Flavin 1998). However, if infection does occur, the disease is incurable and fatal (Flavin 1998). The Federal Bureau of Investigation (FBI) identified only seven officers throughout the United States who contracted AIDS through on-duty transmissions between 1981 and 1991, although 31 contracted hepatitis B (Heiskell & Tang 1998).

Offenders infected with hepatitis B and C pose a significant risk to exposed police and custodial officers. Hepatitis B is highly infectious, with perhaps one in three exposures resulting in transmission. It can live for some time outside the human body (for example, for over a week in dried blood or saliva on clothing) and is a widespread disease for which there are no absolute cures (Heiskell & Tang 1998). Police can be infected if a hepatitis B-infected person spits or bites an officer, if a contaminated sharp cuts skin, or if contaminated crime scene

evidence infects officers or forensic laboratory staff (Bigbee 1987). The symptoms of hepatitis B include flu-like fever, aching muscles, loss of appetite, prolonged nausea and vomiting, and jaundice (Heiskell & Tang 1998). Importantly, those infected may be asymptomatic for weeks yet are able to pass on this highly contagious disease. Following infection, the duration of the illness is usually under six months, although some will become carriers and an unlucky few will suffer significant liver impairment or cancer (Heiskell & Tang 1998). Police most at risk are those:

- working in drug squads;
- who conduct body searches on offenders;
- on watchhouse duty;
- in stations without appropriate infection control procedures; and
- in predominantly East Asian and Indigenous Australian communities—because of the extremely high prevalence of the disease amongst these groups (Page 1987).

The Risk of Stress and Fatigue

Police suffer stress through constant exposure to danger, traumatic events, prisoner threats, conflicting task demands, short-staffed stations, court appearances (often requiring detailed recollection of events from years earlier), departmental inquiries and work in isolated rural areas (Mitchell 1999; Paton & Smith 1999; Mitchell et al. 1998; Violanti 1996; Stack & Kelley 1994; Mahon 1990; Swanton & Walker 1989; Turner 1987). Indicators include absenteeism, irritability, concentration difficulties, insomnia, general fatigue, workers' compensation claims, inappropriate coping strategies (such as alcohol abuse) and a range of psychosomatic symptoms. Stress risks may be increased for female officers because of the need to adapt to a male-dominated profession, and amongst probationary police due to insecure employment (Swan 1990; Aberdeen 1987). Further, because police are usually highly cohesive, major traumas impact on the whole force through a

"ripple" effect (Paton & Smith 1999; Violanti 1996). Police support personnel such as despatchers are also at risk because of complex roles involving incoming calls, despatch of officers, distressed callers, multiple unit coordination, limited job control, shiftwork, and divisions between civilian staff and sworn officers (Mitchell et al. 1998; Burke 1995).

Chronic fatigue often follows shiftwork with extended hours; this is especially common amongst detectives (Figley 1999; Vila & Taiji 1999; Turner 1987). Like many essential service workers, police can be rostered at almost any time over a 24-hour, seven-day roster. The ill effects of shiftwork have been well documented, including gastrointestinal upsets, psychosomatic disorders, weight gain and serious long-term disorders such as coronary heart disease (Bohle 2000; Patterson 1997; Violanti 1996; Stack & Kelley 1994; Swan 1990). Night work involves disruption to the normal body circadian rhythm and results in decreased capacities at low biological points; that is, between 2am and 4am (Patterson 1997). Inevitably, the ability to perform complicated tasks, maintain alertness, recognise warning signs of impending violence, work in unpredictable environments, manipulate vehicles in high-speed chases, or maintain good interpersonal skills with members of the public, can be compromised at low points of the circadian rhythm (Vila 1996).

Burnout, or "compassion fatigue", may follow extensive shiftwork, unremittingly stressful conditions, intolerable demands, malicious offenders, the observation of illegal activity by a co-worker, autocratic management, participating in fatal high-speed chases or special operations with high risks, and unfair performance evaluation and promotion practices (Alexander 1999; Figley 1999; Mitchell et al. 1998). For example, undercover police do work that is physically, emotionally and intellectually demanding. A New Zealand psychiatrist identified significant repercussions:

- chronic fatigue;
- emotional let-down with the betrayal of criminal "friends";

- nightmares; and
- subsequent work-related conflicts and relationship difficulties, with 16 per cent having major psychological sequelae (Macleod 1995).

There are three clusters of symptoms with burnout: first, a sense of debilitating physical, mental and emotional exhaustion; second, detachment and disillusionment; third, reduced self-esteem and sense of personal usefulness. Work environment factors can exacerbate burnout. These factors can include insufficient time to cope with traumatic events, lack of support for officers under threat, workers' compensation assessment tribunal hearings and a police culture that inhibits the expression of emotion. Burnout may result in resignation and severe depression, and may contribute to marriage breakdown or even suicide (Stack & Kelley 1994).

Post-Traumatic Stress Disorder (PTSD) may occur. Affected officers may be constantly on alert, have a heightened startle response, be aggressive, depressed, preoccupied with traumatic events, have flashbacks and nightmares, or indicate that they feel their work role—or life—is pointless. The clinical characteristics of PTSD, diagnostic criteria and assessment tools have been discussed in detail elsewhere (see Creamer 2000). In a recent case that went before the Supreme Court of New South Wales following an appeal by her employer, a police officer was found to have developed PTSD after interviewing between 200 and 300 children who suffered sexual, physical and emotional abuse. Management negligence in training and monitoring stress amongst police exposed to trauma resulted in the District Court of New South Wales finding the employer liable (*State of New South Wales v Seedsman;* see Editor 2000). Precipitating events for PTSD can include:

- taking a life or causing a serious injury;
- the death or suicide of a co-worker;
- natural disasters;
- gruesome events that evoke rage, disgust or grief;
- multiple fatality incidents;

- violent events, including assaults, shootings and riots;
- the death of a child;
- sexually abused children;
- an inability to save lives; and
- hostage situations (Carlier 1999; McNally & Solomon 1999; Mitchell et al. 1998; Lennings 1997; Violanti 1996; Stack & Kelley 1994; Turner 1987).

"Suicide by cop" incidents occur when suicidal individuals manipulate situations so that they are fatally shot (Paynter 2000; Scoville 1998). The majority have a history of personal problems and alcohol or drug abuse, have a mental illness, are well armed, and act calmly and methodically—although a few carry out Bonnie and Clyde-type shootouts (Homant, Kennedy & Hupp 2000; Scoville 1998). In a study of 123 "suicide by cop" incidents in the United States, it was found that most reached for, pointed or fired a weapon at an officer (89%) and threatened police or bystanders (56%). In only 22 cases was there no danger; for example, the offender used an empty gun (Homant, Kennedy & Hupp 2000). Another study estimated that more than 90 per cent of these police shootings were justified because less-than-lethal tactics (such as capsicum spray) were ineffective (Paynter 2000). Many incidents were pre-planned to gain maximum media attention and to saddle authority figures with guilt. In many cases, individuals lacked the nerve to shoot themselves but would not hesitate to kill another to accomplish their own death. Some were motivated by insurance rules restricting payment following suicide (Homant, Kennedy & Hupp 2000; Paynter 2000; Scoville 1998). Studies have estimated that "suicide by cop" accounts for between 10 and 25 per cent of all shootings by police in the United States (Paynter 2000; Scoville 1998). For police officers living with the after-effects of such an incident, it is imperative to remember that the victims wanted to die (Scoville 1998).

Police suicide directly related to work is rare and usually follows years of exposure to traumatic events, with access to a

firearm and marital dissolution contributing to risks (Danieli 1999; Alpers & Walters 1998; Violanti 1996; Stack & Kelley 1994). The impact on surviving family members may continue for decades (Kamerman, cited in Danieli 1999; Violanti 1996). As with the murder of an officer, recovery of family members— and other officers—fundamentally depends on support from the force as military-style funerals, public scrutiny, hesitancy in talking about the event, and repercussions in the criminal justice system add to distress (Shaw, cited in Violanti 1999b; Violanti 1996).

The Risk of Other Injuries and Illnesses

Police suffer a range of other work-related injuries (for example, from jumping over fences during chases) and illnesses (such as hypertension) (Lennings 1997; Swanton & Walker 1989). Officers involved in arson, bomb and fraud investigations may be exposed to poisonous chemicals and vapours (with acute and long-term health effects), insecure buildings, explosions (for example, from letter bombs) as well as unbalanced or coldly calculating offenders (Mentzer 1997). Another rare risk is that officers may be taken hostage, sometimes by offenders who appear quite "clean cut" (Applegate 1998).

An escalating risk stems from clandestine laboratories established to manufacture illicit drugs such as methylamphetamine. Police can be exposed to toxic chemicals, by-products that are flammable or explosive, large concentrations of corrosives, and life-threatening concentrations of toxic vapours. Exposure may result in shortness of breath, dizziness, nausea, vomiting, chest pain and loss of consciousness. Residual chemicals can permeate walls or carpets and be absorbed through the skin or eyes (but the officer may not recognise symptoms in time for escape). Explosive booby traps can be set in laboratories or amongst crops (Graham 1996; Lauer 1993). Clandestine laboratories have been established in houses, storage sheds,

caravans and barns on remote rural properties. An exponential increase has been identified in the United States and Australia. For example, over a five-day period in 1997 in Queensland, nine separate laboratories were located (Hargreaves 2000; Sheldon 1997). Low production costs, high profits, ease of manufacture and widespread dissemination of recipes means that clandestine laboratories will be continually re-established (Graham 1996). The "cooks" in these laboratories are unlikely to follow guidelines for the safe use, storage, clean-up or disposal of chemicals and at least three die during explosions or chemical incidents each year in the United States (Hargreaves 2000; Graham 1996). Many "cooks" are intravenous drug users who, as a result of addiction, may suffer from paranoia. Their presence in a clandestine laboratory can have serious consequences for raiding police—particularly if they are armed (Sheldon 1997).

Modern technology has inadvertently unleashed other risks. For example, laser pointers (small hand-held devices like a pen that emit a red beam) are widely available to the public. There are two main types: helium neon, which is relatively safe due to low emissions; and diode, which is more sturdy, far cheaper, but can cause eye injuries (Burke 1999). The key problem for police who observe a red-dot emission on their body or vehicle is identifying whether this is a harmless prank or if the laser beam is attached to a gun (Burke 1999).

Debate continues about the potential risk of cancer and cataracts following radar patrol exposures, but no final scientific conclusions have been reached (Peterson 1995).

Finally, substance abuse is a problem for a number of police, with alcohol abuse about double that of the general population (Violanti 1999c; Violanti 1996). A New South Wales study found 48 per cent of male and 41 per cent of female officers consumed alcohol at levels harmful to their health, and a few used cannabis, ecstasy, cocaine and steroids regularly (Chilvers 1998). While alcohol abuse may impair capacity

to effectively perform tasks, the use of illicit substances is in fundamental conflict with sworn duties. For example, officers are unlikely to arrest their suppliers and may be susceptible to blackmail in return for continued supply (Chilvers 1998). Thus, quite different responses are required for officers abusing legal versus illegal substances. For example, Justice James Wood has emphasised that substance abuse amongst police is primarily an occupational health and safety issue and should be dealt with in terms of rehabilitation (cited in Chilvers 1998).

Conclusion

Police officers face a number of occupational health and safety risks on the job. At least one Australian officer is killed each year, many are assaulted, a number contract communicable diseases and there are other risks to their health and safety. These risks are probably increasing over time because of increased demands on officers, endemic shiftwork and stress, higher prevalence of communicable diseases, widespread illicit drug manufacture and use, and greater willingness amongst offenders to attack officers. Reduction of vulnerability depends on recognition of these risk factors and implementation of effective prevention strategies. These strategies are discussed in Trends and Issues paper number 197.

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