Gang members hold up gang signs in a police precinct cell in San Salvador in April 2004. They were arrested as part of the Super Mano Duro plan to eradicate gang violence. © Luis Romero/AP Photo

Targeting Armed Violence

PUBLIC HEALTH INTERVENTIONS

9

INTRODUCTION

Armed violence is a widespread social problem that affects communities around the globe. Growing recognition of the detrimental effects of armed violence on the health of populations, the economies of countries, and the ability of governments to ensure the security of their citizens has prompted calls for action to prevent future violence. A number of international initiatives—the Geneva Declaration, the World Health Organization's Violence Prevention Alliance, the Inter-American Development Bank's Violence Prevention programme, the UN Development Programme's Violence Prevention and Small Arms Control programmes, and the Oslo Ministerial Declaration—indicate mounting political support for armed violence prevention programming.

This international recognition of the threat of armed violence has not yet been followed by widespread serious action, commitment of resources, and long-term strategies at the national level. While the situation has improved, violence remains a public health concern, and armed violence prevention measures are still needed to further reduce the burden of violence and to prevent violence from occurring.

A number of armed violence reduction strategies and programmes have been implemented around the globe. In Colombia, the government has increased the police presence in the cities and the military presence outside the cities to deter crime and violence and improve law and order, while also engaging the youth through social outreach programmes aimed at reducing the country's culture of violence (Ceaser, 2007, p. 1601). Several countries in Latin America have implemented alcohol bans during elections or other large public events or holidays, reduced opening hours of bars, or changed drinking laws in order to reduce the high incidence of violence related to alcohol abuse (Ceaser, 2007, p. 1602). In Jamaica and Burundi, governmental and non-governmental agencies collaborate in the running of crime observatories, which collect and collate information about armed violence in order to better inform and guide prevention strategies. In Mozambique, the government has established a national commission for violence and injury prevention, while in Johannesburg, South Africa, violence prevention has been integrated into the city's human development agenda (WHO, 2007b).

An important question needs to be answered: what is an effective intervention to prevent armed violence or reduce the harmful effects of armed violence? Currently, while a number of programmes show promise in preventing violence or reducing its negative impacts, no clear answer exists about what works best. In part this inability to answer the question results from a lack of necessary data on the problem of armed violence and from the scarcity of rigorous evaluations of existing and past interventions. In addition, information pertinent to understanding armed violence comes largely from high-income countries and the interventions implemented in these countries. Far less information has come from low- and middle-income countries about the kinds of armed violence prevention interventions being implemented there and the impact of these programmes. To date, armed violence prevention programmes that do

not work or have not been evaluated are more widely used than those shown to be effective, because of the lack of clear evidence of what works and what does not. What practitioners need is a guide for armed violence reduction programming and implementation.[1]

This chapter considers the following questions:

- What is a 'public health' intervention?
- What types of interventions are available?
- Which interventions have demonstrated positive results?
- What lessons have been learnt?
- What steps need to be taken to improve interventions?

This chapter is divided into three sections. The first section defines what is meant by a 'public health intervention', followed by a discussion of a range of available interventions developed to counter armed violence. The second section provides two cases studies, one in a high-income country, and the other in a developing country. The first case study provides an overview of the problem of armed violence in the United States, a pioneer in the public health approach to armed violence prevention, and then discusses two promising programmes in detail. The second case study focuses on El Salvador and the ways in which this country has tried to control the rising burden of armed violence. The third section identifies a number of lessons learnt from these case studies, as well as from various other studies since the late 1980s.

No single intervention can address the complex, multi-causal problem of armed violence.

The main conclusions include the following:

- No single intervention can address the complex, multi-causal problem of armed violence. Instead, intervention strategies must address multiple risk factors by combining the strengths and capabilities of a wide range of actors, from police and judicial officials to local government officials, local organizations, neighbourhoods, and families, and incorporating a range of interventions targeting specific contexts and risk factors.
- A criminal justice approach to reducing crime through targeted policing, arrests, and prosecution can be effective, but it is insufficient alone to produce widespread violence prevention results. Programming tailored to communities, families, and individuals provides an appropriate complement to law and order tactics, and has shown promising results in preventing violent crime.
- Effective strategies target three important elements of the overall violence equation: the actor who commits acts of violence, the instrument used in perpetrating an act of violence, and the environment in which violence takes place.
- Characteristics of successful intervention strategies include being evidence-based, credible, cooperative, tailored to the community and its context, targeted at both the supply and the demand of firearms, and publicly, politically, and financially supported at all levels.
- While many armed violence prevention programmes exist in the United States, they also exist in many other countries. However, to date much more is known about programming in the United States than in these other countries. It remains unclear whether successful interventions in the United States can be replicated elsewhere. Efforts should be made to broaden knowledge about various existing prevention programmes, to develop means by which countries can share lessons learnt, and to replicate successful interventions in other communities and countries in order to generate a shared understanding of what works, where, and why.

UNDERSTANDING PUBLIC HEALTH INTERVENTIONS

A public health intervention is any programme designed to prevent or to reduce the actual level of armed violence or the perception of violence in a given population (Lab, 2008, p. 234). For the purposes of this chapter, violence is defined as 'the intentional use of physical force or power, threatened or actual, against oneself, another person, or against a group or community, that either results in or has a high likelihood of resulting in injury, death, psychological harm, maldevelopment or deprivation' (Krug et al., 2002, p. 5). Armed violence, more specifically, is the use of an instrument or tool to commit an act of violence. This instrument can be a knife, a stick, a broken bottle, a firearm, or any range of items used to intentionally inflict harm on another individual or oneself. Since a large percentage of armed violence in the world is committed with firearms, this chapter focuses where possible on small arms-related violence (PUBLIC HEALTH APPROACH).

Public health interventions are based on a four-step process that includes problem identification, data gathering and analysis, programme development based on data analysis, and assessments of implemented programmes (PUBLIC HEALTH APPROACH). Many other social and natural science disciplines use a similar problem-solving approach. However, the public health approach possesses some unique characteristics worth noting. First, the public health approach focuses on problems that affect community (or population) health. These range from communicable and non-communicable diseases to unintentional injuries to intentional injuries and armed violence. Second, public health data is collected in a scientific fashion, often through epidemiological surveillance, crime statistics, or victimization surveys. Third, the public health approach seeks to identify risk and resilience factors for populations. In other words, the approach does not necessarily seek to understand the root causes of violence, but instead focuses on identifying those factors that raise the risk of violence for individuals or for a given population. Fourth, when public health interventions are designed they typically focus on preventive efforts aimed at high-risk groups within the population, though they also include broader programmes for the population as a whole.

The public health approach seeks to identify risk and resilience factors for populations.

Public health interventions include measures to reduce the risks of individuals engaging in violence and increase the resilience of individuals and communities to violence. Some interventions focus on preventing armed violence, others on reducing the rate of armed violence, and still others on reducing the harm caused by armed violence. Some target the instrument of violence—firearms—while others target the behaviour of individuals. It is important to note that the public health approach, while supporting efforts to change individual behaviour, often focuses on changing the environment (whether social or physical) in which people act on the presumption that it is easier to alter the environment, and therefore the risks of violence, than it is to change behaviour (Hardy, 2002; Hemenway, 2001). An example, seen from the public health and criminal justice perspectives, respectively, should illustrate the difference in approach. A study of injuries resulting from fights in bars indicated that the majority of wounds resulted from the use of bar mugs as weapons during the fight. From the public health perspective, a solution could be to substitute plastic cups for the heavy bar mugs (Moore, 1995, p. 245). From a criminal justice perspective, a solution could be either to hire more security personnel on nights identified as more problematic or to arrest those who engage in fights.

The public health approach incorporates a wide range of possible interventions, which can be categorized in a number of ways. These typologies can be based on the level of intervention: primary, secondary, and tertiary (Krug et al., 2002); the target population: universal, selected, indicated (Wasserman, Miller, and Cothern, 2000) (see Table 9.1); the sector involved in implementing the intervention: police, judiciary, health, education; or the level at which the intervention is aimed: individual, family, community, society (Krug et al., 2002). These typologies are more generic in nature and could be used to address a broad range of public health issues, not just armed violence.

Table 9.1 Targeting interventions

Type of intervention	Target of intervention	Strategies for reducing violence*
Universal	Entire at-risk community	• Poverty reduction strategies • Job creation programmes • Social services availability
Selected	High-risk group with the potential to commit violence	• Incentives to finish school • Social skills training • Conflict resolution education
Indicated	High-risk group that has already committed violence	• Targeted policing • Tracing firearms used in crimes

* Examples added by author
Source: Wasserman, Miller, and Cothern (2000)

When addressing armed violence in particular, the framework for thinking about prevention and harm-reduction should include an explicit recognition of the weapon used to commit acts of violence, i.e. small arms.[2] One promising strategy is to design interventions focused on controlling the instrument itself (see Table 9.2). Under this strategy, interventions address how firearms are used, who can possess them, the level of lethality of firearms, and the number of firearms in circulation (Sheppard, 1999; Mercy et al., 1993; Powell, Sheehan, and Christoffel, 1996). For example, legal measures imposed to restrict the types of firearms available can reduce the harm caused by firearm injury, e.g. a pistol

Table 9.2 Interventions targeting firearms

Type of intervention	Examples of interventions
Change how firearms are used	Restrictions on where guns can be carried Restrictions on concealed weapons Safety education Personalized weapons to prevent unauthorized use Consistent and credible punishment for misuse Metal detectors in schools and other public places
Affect who has firearms	Licensing and registration policies Age restrictions on ownership Mandatory background checks Waiting periods Interdiction of illegal firearm trafficking Targeted policing of gangs
Reduce lethality of firearms	Protective clothing (e.g. bullet-proof vests) Restrictions on the types of weapons/ammunition available for purchase Restrictions on size of magazines Bans on particularly harmful firearms and ammunition
Reduce number of firearms	Restrictions on licensing Bans on civilian ownership Increased taxes on firearms Incentives for disarmament Reductions in demand (e.g. improve security)

Sources: Based on Mercy et al. (1993); Powell, Sheehan, and Christoffel (1996)

carries fewer rounds of ammunition than an assault rifle, therefore its scope of injury is less than that of an assault rifle, and likewise the injury caused by the bullet of a pistol is far less than that caused by a round from an assault rifle. Another example comes from prevention, rather than harm reduction. The use of child-safe locks on guns could prevent the occurrence of shooting accidents by children playing with unsecured firearms in the home (Teret and Culross, 2002).

Another promising strategy comes from looking at the interaction of the agent, instrument, and environment (see Table 9.3).[3] This strategy not only targets the instrument of violence and the individuals using firearms, but also seeks to reduce the opportunities for armed violence and to alter the contexts in which individuals would need or choose to use firearms.

Table 9.3 **A three-pronged strategy for addressing intentional armed violence**

Target of intervention	Intent of intervention	Examples of possible interventions
Actor	Keeping weapons out of the hands of criminals or unlawful users	Laws on possession of firearms Laws on the legal use of firearms Targeted and hot-spot policing
	Reducing the propensity of actors to turn violent	Reducing drug and alcohol availability Programmes to help high-risk youths finish school Alternatives to gang membership
	Taking chronic offenders off the streets	Targeting chronic offenders
Instrument	Preventing illegal access and criminal misuse	Personalized guns Tracing arms used in crimes Registration of firearms
	Detecting illegal weapons	Metal detectors in schools Regulatory inspections Police targeting of suspected illegal gun dealers Enforcement of laws prohibiting straw purchases
	Reducing negative effects of injury with weapons	Restrictions on specific types of weapons and ammunition Laws on safety requirements
Environment	Reducing incentives and opportunities to use firearms	Targeted and hot-spot policing Zero-tolerance policy for gang violence backed by punishing violence when it occurs ('pulling levers strategy') Increasing probability of prosecution for gun crimes Public information campaigns
	Addressing community risk factors	Reduce number of gangs De-concentration of poverty Equal access to social support services Changing cultural norms about violence

Source: Author, based on OECD-DAC Guidance discussions

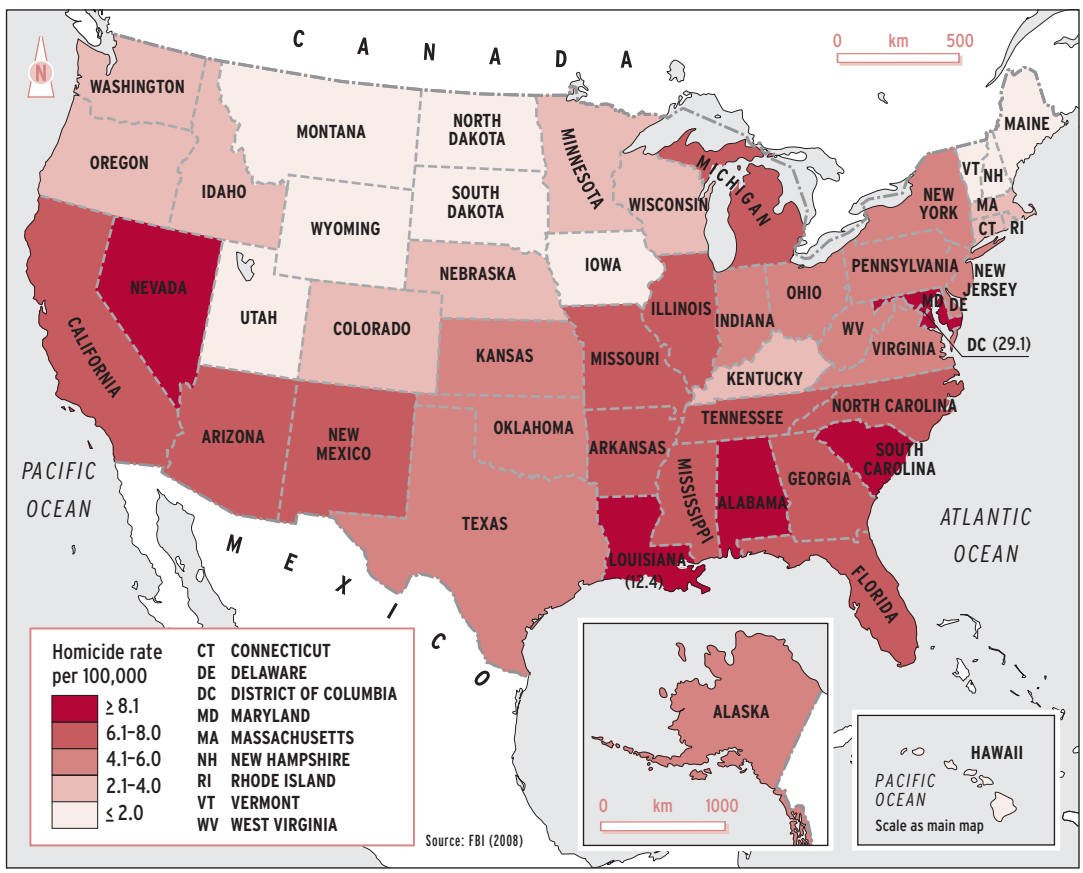
INTERVENTIONS IN CONTEXT

What is known about armed violence prevention programming is largely based on programmes implemented in high-income countries, with a great deal of these programmes and assessments coming from the United States. Limited knowledge exists about programming in low- and middle-income countries in terms of the types of programmes that are being implemented, the contexts of violence, capacity to manage and respond to violence, and the programmes that have proven effective.

Some tentative conclusions can be drawn from previously implemented and evaluated programmes. Such assessments form the basis for the implementation of armed violence prevention programmes in other contexts. However, programme effectiveness and success depend on the context, resources, and capacity available in any given community. Successful programmes in one context might not produce the same results in another context. A future step is to start to identify whether successful programmes in one context can be translated into successes elsewhere. The first step is to better understand what works, and the next step is to see whether positive results can be replicated in other communities and in other countries.

The following presents a discussion of armed violence prevention programming in two different contexts: the United States and El Salvador. The United States provides the opportunity to investigate the best-case scenario: good data on crime and violence, a number of interventions implemented, and at least some rigorous reviews of interven-

Map 9.1 **Homicide rates by state (per 100,000), United States, 2006**

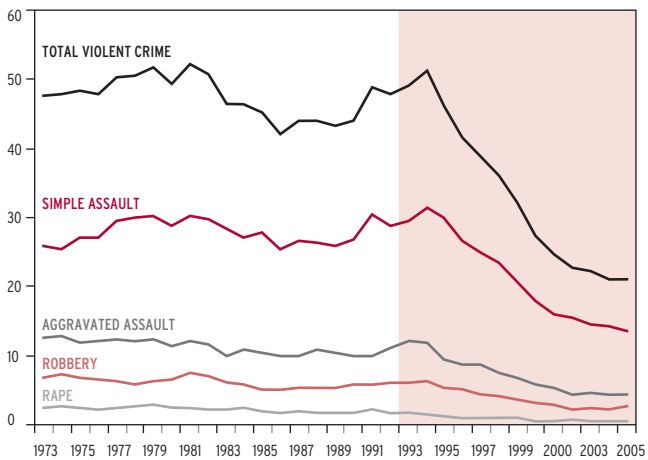


tions. This case highlights the difficulties of addressing armed violence even under good circumstances, and offers some insights into programmes that could be adopted elsewhere. El Salvador provides a more typical scenario facing many countries with high levels of armed violence—low levels of income, weak law and order, and great social inequality—and highlights many of the challenges of addressing armed violence, while also offering some insights into what has worked. Each study beings with a discussion of the nature of the armed violence problem in the country followed by examples of current armed violence prevention programmes and evidence of the success of these programmes in reducing the rates of violence crime and armed violence.

The United States

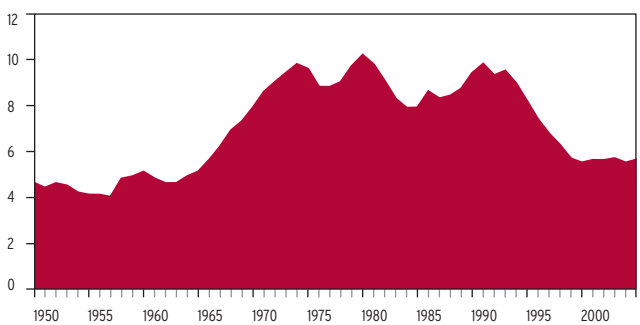
Since the mid 1980s, violence—and the resulting mortality and morbidity—has been recognized as a pressing public health concern in the United States (PUBLIC HEALTH APPROACH). This recognition led to a more concerted effort to understand the causes, risks, and consequences of violence as well as subsequent efforts to reduce the burden of violence through armed violence prevention programming across a number of sectors. While many point to tougher laws and harsher sentencing as the reason behind the decline in violence levels since the late 1990s, other factors, such as a growing economy, better employment opportunities, and violence reduction strategies, are likely to have played a role as well (Sniffen, 2000). Despite the overall decline in reported violent crime, violence continues to exact a heavy toll in the United States (see Map 9.1), with high homicide rates in a number of states, and extremely high rates in Louisiana and DC.

Figure 9.1 **US violent crime rates (per 100,000), 1973–2005**



Notes: Murder is not shown because the 0.1 rate found through the survey fell below the threshold of the diagram. The Department of Justice redesigned the National Crime Victimization Survey in 1993. The data before 1993 has been adjusted to make it comparable with data collected since 1993.
Source: USDoJ (2007)

Figure 9.2 **US homicide rate (for all weapons) (per 100,000), 1950–2005**

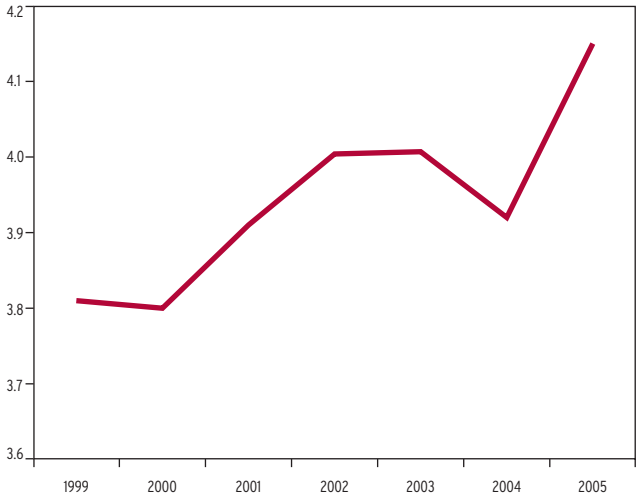


Source: FBI (2007b)

According to the US Bureau of Justice, the level of violent crime in the country fell to its lowest level in 2005 since the early 1970s (see Figure 9.1). Violent crime includes rape, robbery, assault, and homicide.

While this assessment offers some good news, a closer look at homicides, and more specifically homicides involving firearms, paints a more cautious picture of the situation. After a significant rise in the 1960s, the homicide rate in the United States has followed a number of peaks and valleys (see Figure 9.2).

Figure 9.3 **US firearm homicide rate (firearms only) (per 100,000), 1999–2005**



Source: CDC, WISQARS (2008)

The homicide rate hit its highest peak in 1980 at a rate of 10.2 per 100,000, and then nearly reached this rate again in the early 1990s. After 1994 the rate of homicides fell to just over 5 per 100,000 in 2000, and stabilized at this rate for the following five years.

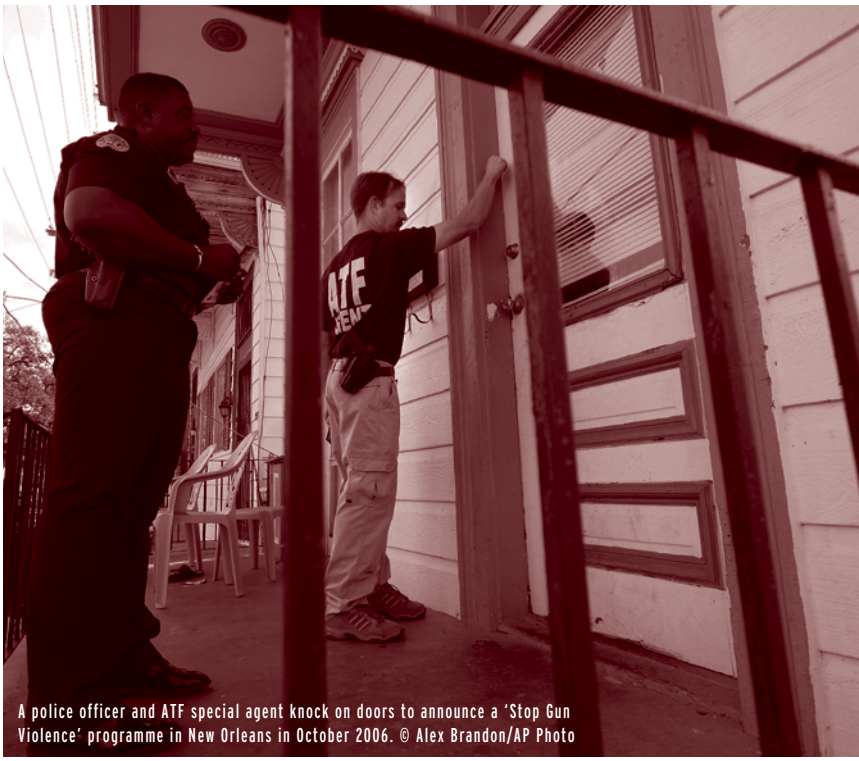
Although the homicide rate (ratio of homicides to population size) and the number of homicides (raw number of homicides committed) follow roughly the same pattern, it is important to note that, while the homicide rate remained relatively stable between 2000 and 2005, the number of homicide victims has been gradually increasing since 1999 (FBI, 2007b). The number of homicides remains well below the peaks of 1980 and 1991, though still significantly higher than in the 1960s. Just as the number of overall homicides has begun to edge slowly upward, so too did the number of homicides committed with firearms until 2004 (see Figure 9.3). However, in 2005 the rate of violent crimes committed with a firearm increased once again from 1.4 to 2.0 victims per 1,000 persons (Catalano, 2006, p. 10). While these increases have not been dramatic, they do give cause for concern, especially if these upward trends continue.

An important part of understanding this violence, particularly from a public health perspective, is identifying the primary offenders and victims of violence and their respective risk and resilience profiles (RISK AND RESILIENCE). In the United States 'males represent 77 per cent of homicide victims and nearly 90 per cent of offenders' (FBI, 2007a). Violence is an important problem among young males. The majority (59 per cent) of violent incidents and homicides in 2000 involved males aged 15 to 44 years (Corso et al., 2007, p. 476, table 1). In 2004 'homicide was the second leading cause of death for young people ages 10–24' with an average of 15 young people being murdered each day (CDC, 2007). Firearms were used in 81 per cent of homicide deaths in this age group (CDC, 2007), and in 70 per cent of all homicide deaths (Catalano, 2006, p. 2). Violent crime is more common among those of black or Hispanic origin than those of white or other origin (Catalano, 2006, p. 6). Violence rates are higher among the low-income population than the high-income population, with the rate declining as average household income increases (Catalano, 2006, p. 6). These national statistics provide insight into the overall picture of violence in the United States, and can be used to guide national legislation and national approaches to reducing armed violence. They also suggest factors that should be considered at the sub-national, community, and neighbourhood levels when designing intervention strategies.

The majority of armed violence prevention programmes in the United States are not rigorously evaluated for their ability to prevent or reduce violence. A number of factors contribute to the lack of evaluations and the difficulty in implementing them. Evaluations are expensive to conduct. They require baseline data against which interventions can be compared. This baseline often does not exist. Even where it does exist, the lack of control case studies as well as the numerous factors that contribute to violence make it difficult to assess the impact of a single programme. In places with

numerous interventions it becomes more difficult to determine which programmes have a positive effect. Given these difficulties, evaluations often entail assessments of the process of implementing a programme, rather than judging the impact of the programme on reducing armed violence.

A number of studies suggest that a large percentage of implemented programmes that are evaluated are ineffective. The Centre for the Study and Prevention of Violence conducted a study of more than 600 programmes, finding 11 to be 'model' programmes and 18 to be 'promising' (CSPV, 1996). The US Department of Justice reviewed 400 programmes, identifying 89 as 'promising' or 'innovative' (Sheppard, 1999). Another report found that of more than 50 programmes identified, fewer than half had received formal, rigorous evaluations, and of these only eight programmes had proven effective in reducing violence (Rosenberg et al., 2006, pp. 762–63). While there must be some method of trial and error in designing and implementing programmes, since otherwise innovation and knowledge advancement would cease, these studies suggest that more needs to be done in the way of



A police officer and ATF special agent knock on doors to announce a 'Stop Gun Violence' programme in New Orleans in October 2006. © Alex Brandon/AP Photo

Box 9.1 'Consent-to-Search' programme

The overall homicide rate in St. Louis increased in the late 1980s and early 1990s. In particular, homicide rates among young black males reached astonishing levels at 380 per 100,000 for the 15–19 years range and 600 per 100,000 for the 20–24 years range. At least 97 per cent of these deaths resulted from firearms. One response to the problem came in the form of the Consent-to-Search programme initiated in 1994. Under this programme, police identified high-risk youths with the help of community members, and then visited their homes and asked parents' permission to search the house for illegal weapons. The community supported the programme as a result of the involvement of the community, the response of the police to a problem identified by the community, and the promise not to prosecute youths for weapons found in homes. Although seen as effective by the community and the police units carrying it out, the programme did not receive support throughout the police department. The police did not think the programme worked and wanted to take a tougher stance against crime. Without any structured assessments of the programme, little evidence existed to demonstrate that it worked. As a result, the police changed tactics in 1996 to a more aggressive approach that included arrests and prosecutions and relied very little on community information or support. This approach failed to produce positive results. Although the police changed their approach again in 1998 with an effort to return to some of the positive aspects of the first programme, the strategy failed to produce results and was terminated in late 1999. A review of the three phases of this strategy suggests that the first phase demonstrated the largest effect, with police seizing 510 weapons in 18 months, compared with the seizure of 31 and 29 weapons in the two subsequent phases, each 9 months in duration.

Source: Based on NIJ (2004)

evaluating programmes and implementing those deemed most promising. Definitive proof need not be the threshold at which programmes are selected for implementation. Programmes should be implemented that demonstrate promising or positive effect, but, equally, further work should be done to provide a guide to what is effective and in which contexts. Sometimes perceptions of effectiveness are inaccurate and can lead to the cancellation of effective programmes or the promotion of ineffective ones (see Box 9.1).

It is well known that criminal violence tends to be concentrated within specific individuals, groups, and neighbourhoods (Kennedy, 1997, p. 449). In response to this, many armed violence prevention strategies focus on these areas of concentration by either targeting 'hot-spot' neighbourhoods that exhibit high levels of crime and violence or concentrating on high-risk individuals, such as chronic offenders, and high-risk groups, such as street gangs. The following discusses two initiatives that have been implemented in the United States to reduce armed violence. These initiatives target high-risk offenders in different ways. The first initiative aims to prevent high-risk offenders from gaining access to firearms. The second initiative aims to reduce the rate of violence committed by high-risk groups through targeted policing, arrests, and interdicting the movement of illegal weapons.

Reducing criminal access[4]

One promising strategy based on the public health model to reduce armed violence is to reduce criminal access to firearms (Webster, Vernick, and Hepburn, 2002; Webster, Vernick, and Teret, 2006). Reducing criminal access refers to efforts to prevent high-risk individuals from gaining access to firearms. Such high-risk individuals include convicted felons, certain persons convicted of domestic violence misdemeanours, those deemed insane or having been committed previously to a mental institution, and minors, especially those involved in gangs. While federal laws prevent the sale of firearms to these individuals by arms dealers, there is no national firearms registration database to track firearm ownership, and high-risk individuals can access firearms in a number of ways, including second-hand sales and 'straw purchases'.

This Colorado gun dealer alerted federal authorities when four young people in black trench coats attempted to purchase a machine gun several weeks before the shooting rampage at Columbine High School. © Jeff Mitchell/Reuters

Second-hand sales involve the sale of a previously owned firearm to a new owner. The majority of US states do not require owners to report the private sale of their firearm to another individual. In most states, individuals and unlicensed vendors can also buy and sell firearms at gun shows with relatively few restrictions, regulations, or reporting requirements (Wintemute, 2007,

Box 9.2 **Mayors Against Illegal Guns**

New York City Mayor Michael Bloomberg, famous for promoting a strategy of addressing illegal guns through sting operations on firearms dealers identified as the source of a high percentage of firearms used in crimes, launched Mayors Against Illegal Guns in April 2006 with 14 other mayors in an effort to tackle illegal gun crime.

Several key principles form the basis for the work of the coalition: punish criminals involved with illegal guns; target and hold accountable irresponsible gun dealers; oppose federal efforts to restrict access to and use and sharing of crime gun trace data; work to enable the detection and tracing of illegal guns; and support all local state and federal legislation that targets illegal guns (Mayors Against Illegal Guns, 2007). By late 2006 more than 50 mayors had joined the effort. This initiative aims to share knowledge, tactics, and skills among cities in order to remove illegal guns from circulation. This initiative has grown significantly and now includes more than 250 mayors in more than 40 states. These public officials work in partnership with law-enforcement and public-health officials to reduce armed violence and the circulation of illegal firearms (Mayors Against Illegal Guns, 2007). Public-health scholars are assisting the campaign by highlighting a number of promising strategies based on research on firearm trafficking (Webster, Vernick, and Teret, 2006).

Sources: Mayors Against Illegal Guns (2007); Webster, Vernick, and Teret (2006)

p. 150). In the United States alone about 270 million civilian-owned firearms were in circulation in 2007 (Small Arms Survey, 2007, p. 47). The second-hand market thus provides a large market for easily purchased firearms with little in the way of paper trails to follow should the firearms be used to commit crimes. However, despite this availability, there is evidence that criminals prefer new firearms. Interviews with convicted felons and data from firearms traced to crimes suggest that many young criminals prefer new firearms to second-hand ones (Webster et al., 2002, p. 66).

All sales of new firearms must take place through federally licensed gun dealers in accordance with federal and state laws, which include background checks of applicants. However, these dealers are not always required to register the firearm purchase with a state database; this depends on state law. This provides a loophole for purchasers to sell the firearm, without restriction, to another private individual. If this sale is intended to provide a weapon to an individual who is ineligible to purchase one, this is called a 'straw purchase'. While some states do have strong laws against straw purchases, these laws are often undermined by the weak laws in neighbouring states (Webster, Vernick, and Hepburn, 2001, p. 188). This suggests that, while laws are important, and their enforcement equally important, additional interventions will be needed to address the problem of criminal access to firearms.

One strategy that has gathered support is police sting operations against firearms dealers (see Box 9.2). In the 1990s a number of police departments conducted sting operations on firearms dealers identified as having sold a high proportion of guns used in criminal acts. The sting operations involved police officers posing as potential buyers who were clearly purchasing firearms for other individuals who were not eligible to own a firearm. Studies suggest that these operations—or the threat of them—led to changes in dealer practices that have produced positive effects in Chicago (Webster et al., 2006), Milwaukee (Webster, Vernick, and Bulzacchelli, 2006), and New York City (Cardwell, 2006). These successes have encouraged other cities to adopt similar approaches to reducing armed violence.

A review of the tracing of firearms used in crimes indicates that a little more than one per cent of firearm dealers are responsible for more than 50 per cent of the firearms recovered from crimes (ATF, 2000a, p. 2). Public health research suggests that this finding cannot be explained by the location of the stores alone and that sales practices and 'local gun tracing policy' are likely to account for at least part of this trend (Wintemute, Cook and Wright, 2005, p. 361). However, there is no agreement on this. Some suggest that the store's proximity to high-crime areas might be more important to this finding (Ludwig, 2005, p. 688) than the sales practices of any given store. Furthermore, it remains unclear how widespread straw purchase practices are for obtaining firearms used in crimes.

The US Bureau of Alcohol, Tobacco and Firearms (ATF) found that from July 1996 to August 1998 nearly one-third of illegally diverted firearms came from straw purchases, though it remains unclear what percentage of these were used in crimes (ATF, 2000b, p. 18). More research is needed in this area. For those firearms that are bought with criminal intent, there is evidence to suggest that sting operations have contributed to the reduction of firearm availability for criminals.

The ATF is responsible for the federal regulation of firearms. In 1997 the ATF established the National Tracing Center (NTC), which traces guns used in crimes. The oversight role of the ATF is limited by modest resources and legal restrictions on its scope of operations. Federal legislation has further reduced the ability of the ATF to perform its oversight function. For example, in 1986 the federal Firearm Owners Protection Act significantly weakened the ability of the federal ATF to prevent diversions by limiting its capacity to conduct routine, on-site inspections of gun dealers to no more than one per year (actual inspections are much less common), imposing a higher standard of proof for certain violations, and weakening penalties for violators.

In 2003 Congressional Representative Todd Tiahrt introduced an amendment to the 2004 Commerce, Justice and State appropriations bill, known now as the Tiahrt Amendment, which significantly reduced the ATF's ability to share gun-tracing data from crimes, including preventing the ATF from publicly publishing its trace data. The Tiahrt Amendment has remained a part of this spending bill since this time, although it has undergone important changes. In 2005 and 2006 the provisions of the amendment further restricted access to crime gun data by imposing constraints on sharing information across geographical jurisdictions, preventing the use of such data in civil court cases, and adding criminal liability for law-enforcement officers who violated these conditions. In August 2007, for the first time in several years the ATF published the tracing data on firearms used to commit crimes in 2006.[5] This change in policy was followed by a change in the Tiahrt Amendment in December 2007. The modified amendment eliminates both the threat of prosecution of police officers who utilize this data to map illegal gun trafficking and the geographic restrictions on access to data, while also enabling both the ATF to publish yearly summary statistics of gun-tracing data

Box 9.3 The Boston Gun Project: Operation Ceasefire

In 1995 city officials in Boston began the development of the Boston Gun Project, leading to the implementation of the Operation Ceasefire intervention in 1996. The project aimed to reduce youth homicide and youth firearms violence in Boston. This project, based on a problem-solving approach, focused on the use of strategic policing to target the source of the youth violence: illegal guns and gangs. Strategic policing involves 'problem identification, analysis, response, evaluation, and adjustment of the response' (Braga et al., 2001, p. 4): a process very close to the public health approach.

Research showed that 'youth homicide was concentrated among a small number of chronically offending gang-involved youth' (Braga et al., 2001, p. 5). Based on this, officials designed a two-prong strategy of law enforcement directed at illegal firearms traffickers and a strong deterrent aimed at gang violence. The former involves tracing firearms used in crimes and focusing policing on those traffickers used by gangs and whose weapons have the shortest time period from purchase to crime. The latter involved a 'pulling levers' strategy (Kennedy, 1997) of communicating with gang members, a clear zero-tolerance message, and backing this up by using all legal means to punish violence when it occurred. This programme was not designed to eliminate gangs or all gang behaviour, but instead 'to control and deter serious violence' by gangs (Braga et al., 2001, p. 8).

The Boston Gun Project has been widely viewed as successful. One evaluation of the project indicated that the project resulted in a 63 per cent decline in youth homicide (Braga et al., 2001, p. 17). This project has since served as a model for interventions aimed at reducing youth armed violence, in particular gang violence. A number of cities developed programmes based on this framework, including Baltimore, Indianapolis, Los Angeles, and Minneapolis; and these programmes showed early positive results (Braga et al., 2001, p. 27). This project also served as the foundation for the US Department of Justice's Project Safe Neighbourhoods initiative (Decker et al., 2007, p. 2).

and federal-law enforcement officials to share gun-tracing data for criminal investigations and prosecutions and for national security and intelligence purposes (Mayors Against Illegal Guns, 2008). Although these changes improve the prospects for information sharing, they do not remove all of the constraints introduced by the original Tiahrt Amendment.

Addressing gun violence

In 2001 US President George W. Bush 'made the reduction of gun crime one of the top priorities of the U.S. Department of Justice' (McGarrell et al., 2007, p. i). The primary vehicle for this policy was Project Safe Neighborhoods (PSN). This project incorporated five strategic tactics learnt from past successful initiatives: 'partnerships, strategic planning, training, outreach, and accountability' (McGarrell et al., 2007, p. i). The strategic planning element of this strategy put forward, though not explicitly, a public health approach to tackling gun crime: 'Strategic problem-solving involves the use of data and research to isolate the key factors driving gun crime at the local level, suggest intervention strategies, and provide feedback and evaluation to the task force' (McGarrell et al., 2007, p. i). Each PSN project was tailored to the local community in which it was implemented. The following provides a more detailed description of one of these projects.

US Attorney General John Ashcroft announces that hiring 580 new prosecutors nationwide to fight gun crime would spread the Bush administration's message that 'gun crime means hard time'. January 2002. © Lou Krasky/AP Photo

In the Middle District of the state of Alabama, Project Safe Neighborhoods maintained a heavy emphasis on utilizing a criminal justice approach, as captured in the consistent message of '*Gun Crime* = *Hard Time*' (McGarrell et al., 2007, p. 3). While emphasizing the need for strong policing, the project also put forward a multifaceted programme for addressing high levels of gun crime in the district. The development of the programme, although not explicitly expressed in public health terms, represents an example of utilizing a data-based approach for designing effective strategic interventions that utilize a combination of 'suppression, intervention, and prevention strategies' (McGarrell et al., 2007, p. 12). This suggests an area in which public health practitioners and law enforcement officials can collaborate on violence reduction strategies.

This billboard is part of the 'Hard Time for Gun Crime' gun violence prevention awareness campaign of the US Attorney's Office in the Southern District of West Virginia. © Progressity, Inc.

A key element of the Project Safe Neighborhoods programme is an analysis of the problem of violence in a given community based on research conducted by community partners. This analysis of 'the nature and distribution of gun crime across the district' provides the basis for identifying hot spots in the community, high-risk groups, and high-risk individuals, which could then be targeted by interventions (McGarrell et al., 2007, p. 10). The perception of police officials was that gun crime was largely the result of 'chronic offenders who chose to illegally carry and use guns,' and this assessment was largely supported by the findings of the research partners (McGarrell et al., 2007, p. 11). In addition, the research indicated the concentration of crime in one city in the district, Montgomery, and attributed the lack of a deterrent for gang violence to the absence of credible sanctions at either state or federal level due to prison overcrowding in the former and a lack of federal prosecutions in the latter (McGarrell et al., 2007, p. 11).

This analysis led to the development of a tripartite strategy, including elements of suppression, intervention, and prevention. The suppression strategy focused on increasing federal prosecution for gun crimes as a means of removing chronic offenders from the streets and deterring potential offenders from committing gun crimes. The intervention strategy emphasized a community-wide dissemination of the key theme of 'gun crime equals hard time' with the intent of rebuilding the deterrent value of sanctions by emphasizing their impact under the new suppression strategy. The prevention strategy targeted youths through programming in schools to address the problem of students found with firearms, to provide alternatives to violence during the summer months, and to introduce incentives for staying in school.

The current situation in El Salvador has been called an epidemic of violence.

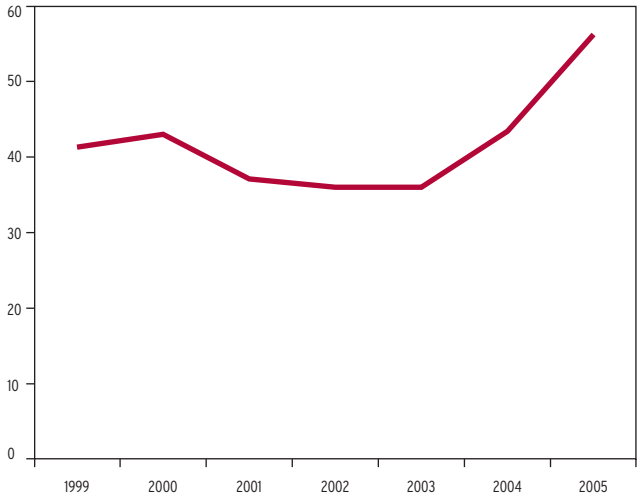
These research partners also conducted analyses to determine whether the PSN task force strategies were targeting 'the sources of the gun problem' and then collaborated with Michigan State University to assess the impact of the PSN initiative (McGarrell et al., 2007, p. 10). This assessment demonstrated positive, though not conclusive, results, suggesting the promise of this strategy. The number of federal prosecutions of gun crime offences increased significantly, arguably adding to the deterrent effect by making sanctions more credible (McGarrell et al., 2007, p. 16). The programme successfully targeted chronic offenders, removing them from the streets for an average of six years and three months (McGarrell et al., 2007, p. 16). The effect on reducing gun crime was harder to determine. While the review study suggests the programme did have an effect on reducing gun crime, this effect was not consistently large or significant. The programme appeared to reduce the number of gun assaults and homicides by small percentages, but did not seem to affect the rate of armed robbery. A similar review was not conducted on the prevention strategy.

The idea behind PSN is for law-enforcement officials to design innovative strategies for tackling tough crime problems that have eluded traditional criminal justice approaches. While the emphasis is on the enforcement of firearms laws, the strategy also aims to link 'federal, state, and local law enforcement, prosecutors, and community leaders' in a multifaceted approach to deter and punish gun crime (PSN, 2007). The Bush administration provided significant support for this initiative. In addition to expanding the programme geographically, the administration also committed significant funding to projects under the PSN umbrella. The Bush administration provided more than USD 1.5 billion for PSN projects between 2001 and 2008 (PSN, 2007), and a number of case study reviews of PSN projects suggest the promise of these programmes in making progress on reducing the rate of gun crime and access to firearms by chronic offenders.[6]

El Salvador[7]

The current situation in El Salvador has been called an epidemic of violence (BBC, 2004). El Salvador had become one of the most violent countries in the world by the late 1990s, and has one of the highest homicide rates in Latin America. The national homicide rate rose 25 per cent between 2004 and 2005 (USDoS, 2007b) and by 2006 El

Figure 9.4 **National homicide rate (per 100,000), El Salvador, 1999–2005**



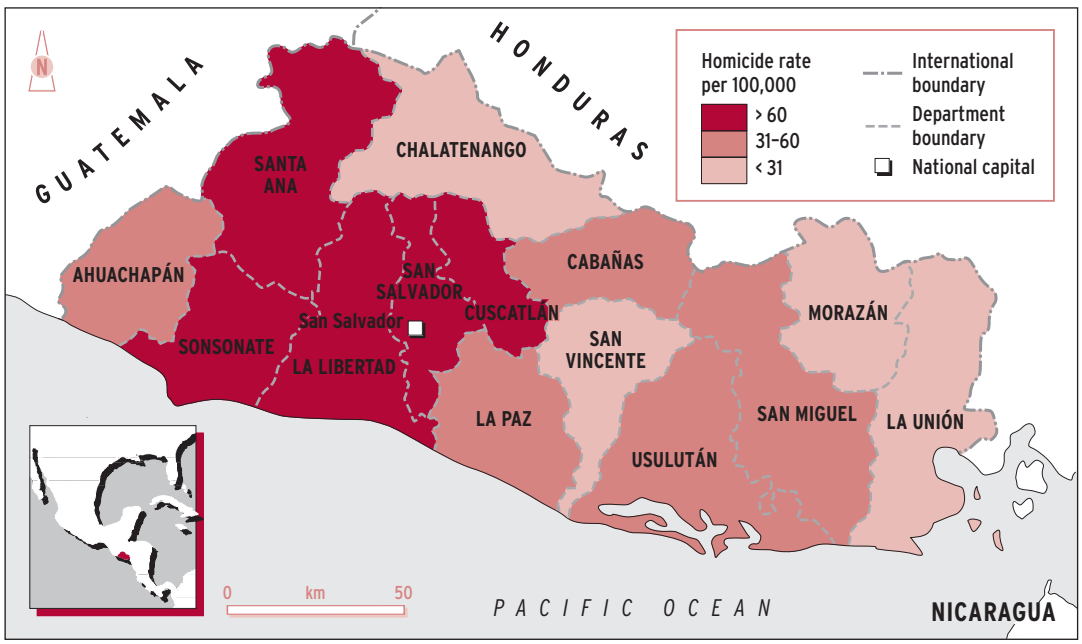
Source: IML (2006)

Salvador registered 56.2 homicides for every 100,000 inhabitants[8] (Comisión Nacional, 2007, p. 25).

The majority of the recorded homicides and injuries in El Salvador are caused by small arms and light weapons. Firearms are used in 80 out of every 100 murders (UNDP–El Salvador, 2006, p. 5), and an estimated half-million firearms are in circulation in the country, although only 211,577 have been registered nationally.[9] Evidence suggests that violence and insecurity have plagued the country since the 1990s[10] despite stringent government measures, such as the national plans *Mano Dura* (Operation Hard Hand) and *Super Mano Dura* (see Box 9.6), put in place to limit the civilian use of firearms (Ávila, 2006, p. 77).

Homicide rates remained steady from 1999 to 2003, with a slight decline between 2001 and 2003 (see Figure 9.4). Since 2003 homicides have consistently increased each year. As in many other parts of the world, violence and homicide pose a particularly large problem for persons under the age of 40. According to the El Salvador National

Map 9.2 **Homicide rates by department (per 100,000), El Salvador, 2006**



Sources: Comisión Nacional (2007, p. 26); IML (2007)

Box 9.4 Deportation policies adding to gang problems

Gangs, known as *maras* in Central America, contribute to the increasing rate of violence and destabilization in the region (Comisión Nacional, 2007, pp. 39–40). Part of the regional epicenter with Guatemala and Honduras, El Salvador is home to some of the largest and most violent gangs. Two such gangs include the Mara Salvatrucha (or MS-13) and the Eighteenth Street Gang (or M-18). Both are believed to have originated in Los Angeles, California. A conservative estimate in 2006 suggested that at least 100,000 gang members operate in Central America and are involved in violent crimes, including murder, rape, human and drug trafficking, smuggling, extortion, and kidnapping (Lakshmanan, 2006).

Today, maras have links to an estimated 8,000–10,000 gang members across the United States. Major gangs, in particular MS-13 and M-18, have formed alliances with prison officials located in the United States and Central America and with cross-national traffickers. Members of these gangs are notorious for beheadings, mutilations, and torture-killings of rival gang members and those believed to be informants. Given their sophisticated methods and their involvement in violent crime and illegal trafficking, maras are increasingly posing a threat that reaches across national borders (Lakshmanan, 2006).

The transnational nature of gangs today is the result of several factors: a lack of services and opportunities, migration, and deportation trends (USAID, 2006, p. 21). The Washington Office on Latin America reports that the US deportation policy embodied in the Illegal Immigration Reform and Immigration Responsibility Act of 1995 has affected gang evolution in Central America. This act enables the deportation of individuals convicted of a crime after they serve their jail sentences (WOLA, 2006, p. 4). From 1994 to 1997, the United States deported more than 150,000 people back to their countries, leaving these deportees without social networks, local language skills, or family upon their return, which has increased their proclivity to join existing local gangs (WOLA, 2006, p. 4). In 2006, 2,179 criminal aliens were deported to their home countries through Operation Return to Sender, of which 370 were assumed to be MS-13 members (WOLA, 2006, p. 4).

Many of the youth deported are believed to have originally become involved in gang activities while living in the United States, and then joined gangs in their countries of origin upon involuntary return. US deportation policies are not the only reason for the increase in the number of gangs and gang membership in Central America (USAID, 2006, p. 21), but deportation policies and practices are believed to contribute to the problem and to encourage the transnational nature of gangs through member exchange. The United States is proposing more aggressive policies and practices, such as the Alien Gang Removal Act and Operation Community Shield, which attempt to identify and deport gang members based on immigration violations. There are concerns that this could increase gang violence in Central America as well as strengthen the links between US and Central American gang members (WOLA, 2006, p. 4).

Until recently, gangs and related violence were dealt with on a national basis. Central American governments have earmarked between 5 and 25 per cent of their gross national products and received international aid for security purposes, most of which has been dedicated to gang control (VOA, 2007). Within Central America various 'tough' laws have been tried, but these have often overwhelmed the national judicial system rather than reducing the violence. For example, more than 16,000 gang suspects were arrested between 2004 and 2006 under the El Salvadoran Super Mano Dura (Super Hard Hand) plan, which targeted youth suspects with tattoos or gang-style clothing, but only one out of four of these suspects ended up in jail. The barrage of deportees from the United States has further challenged local law enforcement, leading to a blatant disregard for authority by maras. As a result, in El Salvador, Guatemala, and Honduras, soldiers have taken on the role of conducting anti-gang operations (Lakshmanan, 2006).

The growing threat of transnational gang violence combined with limited success at the national level in responding to gang violence has forced the United States, Central American countries, and Mexico to rethink their approaches. These countries are now responding through multinational coordinated efforts, based on a combination of violence prevention, rehabilitation, and prosecution. Regional cooperation includes a series of measures: the improvement of the US deportation process to help deportees become productive community members in their home countries; the enhancement of law-enforcement capabilities; and collaboration among regional police and justice officials to track gang members through joint law-enforcement activities. One such activity involves a fingerprinting strategy under the new Transnational Anti-Gang Unit in El Salvador. This unit is generating a computer database of known offenders to aid in identifying criminals who cross partner country borders (USDoS, 2007a). Additional joint efforts include programmes to keep children out of gangs, community policing, community gang reduction projects, information sharing, and training programmes. Persistent high levels of gang violence in Central America and the United States raise questions about whether the coordinated efforts are working.

Commission for Citizen Security and Social Peace (Comisión Nacional), the vast majority of homicide victims (80.4 per cent) are males between 15 and 39 years of age. However, there was a 50 per cent increase in female homicides from 1999 to 2006 (Comisión Nacional, 2007, pp. 25–26).

Violence is a particularly urban phenomenon in El Salvador. Armed violence is concentrated in the larger cities, with suburbs that have high poverty rates and marginal communities (Comisión Nacional, 2007, p. 12). In 2006 five of the 14 administrative areas ('departments') in the country had extremely high levels of homicide, more than 60 per 100,000, while only two administrative areas reported homicide rates of fewer than 20 per 100,000 (see Map 9.2).

Reported factors that contribute to violence in El Salvador include income inequality, marginalized communities, unemployed youth, US immigration policies (see Box 9.4), and high national poverty levels (Comisión Nacional, 2007, pp. 12–13). The widespread circulation and proliferation of firearms in the civilian population (UNDP, 2005, p. 27), organized crime, and narco-trafficking contribute further to the growing violence. Violence manifests itself in a variety of ways, including homicide, intentional injuries, crime, robbery, physical and sexual aggression and violation, intra-familial violence, child abuse, psychological trauma, extortion, and gang violence.

According to a national poll in 2007, violence and delinquency remain common concerns of the population (Comisión Nacional, 2007, p. 32). A 2004 national study of victimization and perceptions of security revealed further evidence of widespread feelings of insecurity. In the study, 12.8 per cent of respondents reported being a victim of a violent crime, and, of these respondents, 43.8 per cent reported that the crime took place on the street or in a public place (Cruz and Giralt, 2005, pp. 1, 2, 51). In addition, 76.9 per cent reported feeling insecure on buses (p. 95), while others reported insecurity in markets, plazas, parks, and their communities, and more than 40 per cent indicated a change in their chosen marketplaces and recreational sites in response to the insecurity (p. 96).

In El Salvador, female homicides increased by 50 per cent between 1999 and 2006.

Armed violence awareness

Since the late 1990s El Salvador shifted its focus to the prevention of armed violence. Despite political polarization that led to stalemates on nearly every issue, armed violence reduction proved the only issue that has recently received unanimous support among politicians and civil society alike.[11] Within this context, the office of the United Nations Development Programme (UNDP office in San Salvador (UNDP–El Salvador)), in collaboration with its local partners, was instrumental in laying the foundation for armed violence prevention efforts.

In 1998, UNDP–El Salvador sought advice from local and international experts on the problem of armed violence and how to address it. In 2000, UNDP–El Salvador and the National Council for Public Security commissioned research to document the scope, magnitude, and cost of armed violence in El Salvador. This study provided information on the causes of violence, key actors, important risk factors, the health and social costs of violence, and a review of related existing legislation. It also provided a baseline for understanding the problem and developing programmes to reduce armed violence, and resulted in a number of actions taken by a variety of actors. These included efforts to unify relevant data and national sources, the computerization of police crime and hospital entry reports, additional research into armed violence, and the integration of new actors into armed violence prevention efforts (Appiolaza and Godnick, 2003, p. 48). Finally, it laid the framework for ongoing advocacy with government and party representatives on the need to reduce national armed violence.

El Salvador used some of the successful experiences of Colombia to guide its own understanding of armed violence prevention programmes[12]. Interventions implemented in Colombia, including regulations and programmes focused on organized crime, urban violence, and arms control, gained international and regional attention in the 1990s (Small Arms Survey, 2006; Aguirre et al., 2005). Armed violence research provided the basis for the adoption of a number of national and municipal level interventions to counter the high homicide rate and widespread percep-

Box 9.5 Medellín Plan Desarme–a local disarmament plan

In 1991 homicide rates peaked in Medellín, Colombia, at 381 homicides per 100,000 people[13]. This rate dramatically declined in the following decade, from 224 homicides per 100,000 inhabitants in 1995 to 160 in 2000 and 57 in 2004 (Alcadía de Medellín, 2008). In 2007 the homicide rate dropped to 26.3 per 100,000[14]. Contributing to this reduction in homicide rates are the various national regulations, municipal-level action plans, private and civil society sector initiatives, and disarmament, demobilization, and reintegration programmes in the country. The Medellín Plan Desarme has furthered the reduction of homicides. Plan Desarme is a municipal-level intervention implemented in 2004 by UNDP–Colombia in partnership with the Medellín Mayor's Office and the Metropolitan Area of the Aburra Valley. The main objective of the plan is to contribute to the prevention and reduction of violent deaths and injuries of civilians by firearms through a cultural change to confront the problem of violence, strengthen the social fabric of the community, and develop conflict resolution mechanisms within the community.[15]

Plan Desarme emphasizes increased dialogue, public awareness, legislative reform, restrictions on civilians carrying weapons, coordination among actors, and a reorientation of social attitudes towards the censorship of violence and aggressive behaviour. The plan involves various activities, including public debates, education, youth events, symbolic use of public spaces, a public awareness campaign, coordinated research, arms destruction and arms control programmes, and encouragement of voluntary disarmament.

Medellín's Plan Desarme has demonstrated important results. These include the widespread participation of more than 100 organizations, government investment, the destruction of 80,000 weapons in 2005, the collection of an additional 41,000 weapons in 2006 and 2007, of which 28,763 were firearms, the collection of 4,049 toy weapons in 2006 and 2007, the creation of eight participatory youth groups, and the development of new public spaces for community use. Overall an estimated 420,000 people have benefited from the plan through the above and related measures to reduce violence.[16]

tion of insecurity in the country. These programmes, particularly in Bogota, included efforts to make public spaces safer, restrictions on the carrying of weapons, enhanced police enforcement, and curfews on selling alcohol (Aguirre et al., 2005). Many of these programmes showed promising results, serving as a model for other municipalities in Colombia (see Box 9.5), as well as in other countries.

Society without Violence coalition

The original UNDP-led effort and resulting data on national armed violence costs and figures provided the basis for the creation of an inclusive coalition under the name Society without Violence (Sociedad sin Violencia). This unprecedented network linked civil society, the business community, academia, public health and medical practitioners, government representatives, and personally affected civilians in a participatory and comprehensive process aimed at reducing armed violence. Funded by UNDP, the coalition aimed to reach its objective of reducing violence by limiting the number of weapons carried by civilians through judicial reforms. The coalition put forward a strategy and public awareness campaign comprising research, dialogue, capacity building, and advocacy.[17] This campaign generated additional initiatives, including an emphasis on judicial and political reforms, as well as the incorporation of social, medical, and academic perspectives on addressing violence. Although largely inactive today, Society without Violence served as a basic institutional reference point for many subsequent small arms control activities (UNDP, 2005, p. 27), including the World Health Organization's Armed Violence Prevention Programme from January 2004 to December 2007 (WHO, 2007a), the International Physicians for the Prevention of Nuclear War's Aiming for Prevention Programme (IPPNW, 2007), and the Arms-free Municipalities Project, among others (see Box 9.6).

Arms-free Municipalities Project

The Arms-free Municipalities Project (AFMP), launched in 2005, was aimed at imposing local restrictions on civilians carrying weapons. The initial pilot project, implemented at the municipal level, endeavoured to reduce violence

Box 9.6 Additional government efforts to reduce armed violence

The Government of El Salvador has responded to the evidence disseminated in the joint UNDP and National Council report regarding the costs and impacts of armed violence and resulting targeted campaigns. The El Salvador government has agreed to basic reforms of existing laws, which led to some amendments by the Legislative Assembly, including a change in legal weapon-carrying age from 18 to 21, a limit on the number of guns a household can legally own per year, and an extension of the existing temporal prohibition to carry weapons in public spaces to parks, plazas, and gas stations (UNDP–El Salvador, 2006, p. 16).

The government also took measures against gang violence. In October 2003, Decree 158, the Anti-Maras Act, was adopted. In 2003–04 the government enacted strict anti-gang reforms, firearms controls, and penalties through Plans *Mano Dura* (Operation Hard Hand) in July 2003 and *Super Mano Dura* in July 2004. None of these initiatives has helped reduce violence in the country (Ávila, 2006, p. 77); instead they have resulted in increased organization of local and transnational gangs (WOLA, 2006, p. 5).

A tax on firearms was incorporated into the existing taxation law on alcohol and tobacco in December 2005. This taxation, charged at the time of weapon registration, is earmarked for the Fondo Solidario para la Salud (FOSALUD, Health Solidarity Fund). Managed and implemented by the Ministry of Health for public services, the increase in funds is used to expand health service coverage, including through clinics and hospitals in rural areas and night provisions. FOSALUD includes normal health services provided by the Ministry of Health, other than mental health assistance and violence prevention.[18]

The National Commission on Citizen Security and Social Peace was created on 1 November 2006, tasked with seeking a consensus on overcoming the problems of violence, delinquency, and insecurity, which resulted in the articulation of a series of short-, medium-, and long-term proposals encompassing prevention, rehabilitation, reinsertion, and countering crime (Comisión Nacional, 2007, p. 5).

In December 2006, Decree 176 was adopted. This decree enables municipalities to prohibit civilians from carrying weapons within a given municipality for a specified time period. Under the decree, any municipality has the right to apply to the Ministry of Security to impose this prohibition for a 90-day period. The criteria for gaining permission to do so include an increased rate of violence, a high number of violent incidents, an increase in firearms in circulation, the negative impact of armed violence on people, and the presence of gang delinquents. Only one of these criteria, demonstrated by police and medical records or national polls, is necessary to obtain approval. To date no application has been denied. Two municipalities are expected to maintain a consistent prohibition: San Salvador since 29 March 2007, and Soyapango since 14 August 2007.

through local restriction. UNDP–El Salvador and the National Council on Public Security, in coordination with the National Civilian Police, the Metropolitan Police Corps, and two municipalities near the capital city, namely, San Martín and Ilopango, joined efforts to implement the pilot phase of this project. The pilot phase produced mixed results and provided a model for other municipalities to follow.

According to UNDP–El Salvador (2006, p. 12), the AFMP interventions aimed to achieve six goals. These goals included: municipal-level laws restricting the carrying of arms in all public places; an increase in policing capacity to enforce this prohibition; a mass publicity campaign on the dangers of firearms and the new regulations on carrying weapons; the voluntary surrender and collection of firearms; evaluative research on the impact of the project components; and an analysis of the overall experience in order to inform legislative debate and serve as a model for other municipalities.

In the case of San Martín, many aspects of the programme could be considered successful. The project was implemented in a timely fashion beginning in August 2005. San Martín experienced a reduction in its homicide rate (UNDP–El Salvador, 2006, p. 43). Local people were active in the project implementation, including the governing mayor. The local leadership change in March 2006 did not affect the level of political support for the project. Campaign visibility was widespread, with announcements on radio stations and materials posted on billboards and buses, and in bars and restaurants (UNDP–El Salvador, 2006, p. 19). The programme also provided benefits through a number of workshops, the provision of new equipment and hiring of new officers in the security offices, and the

Salvadoran police prepare to enter the home of a suspected gang member during the anti-gang operation Super Mano Dura in Ilopango, October 2004. © Luis Rivera/Reuters

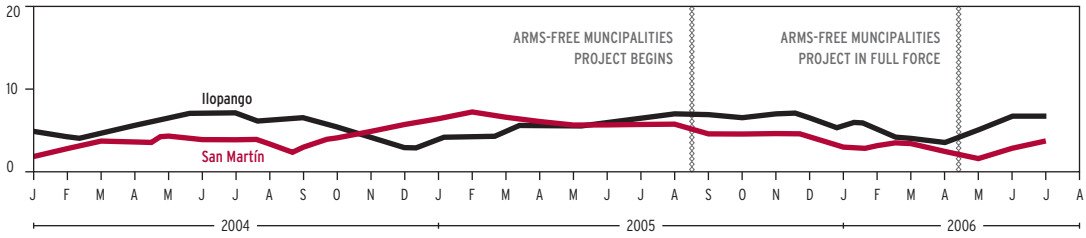
creation of a computer program for mapping criminal incidents in the municipality. The municipality successfully implemented a prohibition on carrying firearms in October 2006. Overall, the project involved cooperation among the project committees, coordination units, and local actors.

In Ilopango the programme reported fewer successes and experienced more challenges in implementation. The challenges resulted largely from disputes among political parties and the poor relations between these parties. Disagreement among the implementing partners delayed the start of the programme. The local mayor's office was not supportive in the early implementation stages, and the project was subjected to allegations of political manoeuvring (UNDP–El Salvador, 2006, p. 22). During the elections all activities stopped. Despite these difficulties, the programme in Ilopango did make some progress with the training of security officials, the provision of new equipment to these forces, and the hiring of new officers. In addition, following the elections the newly elected officials restarted the programme.

One of the major difficulties the project faced was the divisive politics of the country. The poor relations between the two major political parties generated a number of roadblocks to implementation. The local leadership of San Martín came from the ruling party, whereas Ilopango represented the main opposition party. Local leaders of Ilopango saw the AFMP as a national government platform (UNDP–El Salvador, 2006, p. 21), even through the programme was based on local perspectives and balanced political representation. Support for the programme declined in the early stages due to eroding political support for the ruling party at the local and national levels, as well as political manoeuvres by the opposition party to depict the programme as a threat to civilian rights to own firearms. This led to criticisms of the AFMP agenda and strategy. With the integration of disarmament measures into the political platform of the opposition party, critics pointed to the increased politicization of the programme. Although the project recovered some of its momentum through hours of diplomacy and lobbying by UNDP and supporting local partners, doubts remained about levels of support from some members of government (UNDP–El Salvador, 2006, p. 21). While several national and local government institutions proved to be cooperative in the process, many local government leaders consistently resisted the programme, which reduced the participation of local leaders.

Despite various difficulties, the project did report the following successes in reducing armed violence in the municipalities during 2005 and early 2006 (Jiménez, González, and Ramírez Landaverde, 2006, p. 87): in total, 64 arms-free spaces were identified and created in the two municipalities, sustained by local police vigilance; in San Martín, firearms crimes were reduced by 29 per cent and the homicide rate declined by 47 per cent; and, despite an early delay in initiating the programme in Ilopango, the municipality experienced a 24 per cent reduction in crime

Figure 9.5 **Monthly firearm homicide rates in Ilopango and San Martín municipalities (smoothed average), January 2004–August 2006**



Source: UNDP-El Salvador (2006, p. 42)

and a 47 per cent reduction in homicides. However, by April 2006, when UNDP considered the programme to be in full effect, evidence suggested that the rate of homicide had begun to stabilize or even increase once again in these municipalities (UNDP–El Salvador, 2006, p. 41), suggesting an end to the positive downward trend (see Figure 9.5). At the end of 2006, Ilopango witnessed an increase in the municipality's homicide rate (UNDP–El Salvador, 2006, p. 41).

UNDP–El Salvador (2006, pp. 55–61) reported a number of conclusions from the pilot project. The AFMP programme successfully implemented the majority of its planned activities and is considered a model for extension to other municipalities. A number of involved institutions demonstrated an ability to coordinate actions and data collection. The policing of firearms violations improved, and a database for registering and mapping crimes was established. AFMP contributed to the ongoing national debate on firearms and the means to address their devastating effects. The project also faced a number of challenges. The implementation of the project was delayed on several occasions for a variety of administrative and political reasons. The motives of politicians supporting the programme were called into question, reducing support for the initiative. It was not possible to complete a full evaluation of the project due to data limitations. Finally, it was not possible to confirm whether the project resulted in a reduction in the number of firearms purchased during the implementation period.

El Salvador is currently experiencing a snowball effect in its armed violence prevention efforts. Early activities have led to new violence prevention programmes and legislative reforms initiated by actors at all levels, increasing the momentum behind legal reform and violence reduction in the country. Project evaluations and public opinion polls are starting to record a slight decline in the level of armed violence in intervention sites, as well as a small increase in popular perceptions of security in the country[19]. The National Commission has recommended to the president specific actions to reduce violence, including an expansion of the AFMP. The sustainability of these efforts and their continued positive impact on reducing homicide rates is unknown. The challenge will be maintaining the momentum at the municipal and national levels and learning how to adequately confront other forms of violence, such as gang violence and organized crime.

LESSONS LEARNT FROM PAST INTERVENTIONS

The number of evaluations of armed violence prevention programmes, while still limited, has grown. 'The uniqueness of communities precludes a blanket prescription for all locales' (Mercy et al., 1993, p. 21). While each intervention generates lessons learnt from its own design and implementation, these insights are largely contextual to the com-

Table 9.4 Promising interventions for preventing youth from engaging in crime

Intervention	Effectiveness	Reason for success
Parenting classes	Effective	Reduces violence in the home and improves supervision and parenting
Home visits to high-risk homes	Effective	Reduces violence in the home and improves supervision and parenting
Incentives to finish school	Promising	Provides basis for employment
Conflict resolution training	Promising	Provides skills for handling conflicts through non-violent means
Life skills training programmes	Promising	Provides employment opportunities and alternatives to criminal activity

Sources: Buvinic and Morrison (1999); Wasserman, Miller, and Cothern (2000)

munity at hand, and therefore must be considered carefully when trying to replicate the intervention under different circumstances. Despite these limitations, a number of general lessons emerge from these assessments.

Interventions since the late 1980s demonstrate that early interventions work best and that long-term programming is better than short-term or one-off interventions (Rutherford et al., 2007, p. 768; Rosenberg et al., 2006, p. 761). This suggests that primary prevention efforts should be targeting infants and children, and their parents, before problems arise. Addressing violent behaviour once it begins is far more difficult than preventing its onset.

Sustained long-term interventions over a number of years are likely to be more effective than short-term or one-time interventions (Rutherford et al., 2007, p. 768). Those interventions that show promise in preventing violence and crime include home visitation, parent training, social skills training for youth, conflict resolution skills training, job skills training, and incentives for youths to finish their education (Mercy et al., 1993, p. 14; Rosenberg et al., 2006, p. 762). The success of these programmes stems in part from their long-term nature and the fact that these programmes provide the necessary training and skill sets for individuals of various ages to enter into productive lives and to resolve conflicts through non-violent means.

A number of interventions target one risk factor or one type of individual. These are unlikely to achieve a great deal of success alone. Single-focus interventions are not likely to succeed due to the complexity of factors that influ-

Table 9.5 Interventions demonstrating limited success

Intervention	Reason for lack of effectiveness
Gun safety training	Focuses on changing behaviour that is difficult to alter
Gun buy-back programmes	Do not address supply of weapons or reasons for demand
Disarmament programmes	Do not address supply of weapons or reasons for demand
Peer-based counselling	Interaction with negative peers can encourage delinquency
Shock programmes, 'Scared straight'	Often short-term or one-time programmes aimed at scaring youths by introducing them to jails and prisoners

Sources: Hardy (2002); Marsh (2007); Sherman et al. (1997)

Box 9.7 **Jamaica's Crime Observatory**

While Jamaica is a popular tourist destination, it has one of the highest homicide rates in the world and is home to gang warfare and a bustling drug trade. These illicit activities contributed to Jamaica's high homicide rate of 50 per 100,000 in 2004 and 63 per 100,000 in 2005. In response to rising homicide and crime levels, the country's Violence Prevention Alliance created the Crime Observatory in 2006. Various stakeholders participate in the Crime Observatory, including government agencies and departments, non-governmental organizations, community associations, and members of the private sector. The primary purpose of the Observatory is to collect data on crime and violence in communities from a wide variety of sources–the police, the health department, churches, and NGOs–in order to understand the nature of the problem, inform violence prevention strategies, and measure the impact of these strategies. The Crime Observatory contributes to reducing violence by identifying 'hot spots', or communities with high rates of crime and violence, which can be targeted with context-specific programming.

Sources: Economist (2005); VPA Jamaica (2006; 2007)

ence risk and resilience (Wasserman, Miller, and Cothern, 2000, p. 10). The ecological model presumes that 'violence is the product of multiple and overlapping levels of influence on behaviour' (Rosenberg et al., 2006, p. 761). If this premise is valid, then interventions should either target multiple risk factors within a single programme or combine several single-focus programmes into a coherent whole.

If armed violence prevention programmes require a multifaceted approach, or the coordination of multiple concurrent programmes, then successful implementation will depend upon the collaborative efforts of a wide range of organizations. Comprehensive understanding of the violence problem will come only from shared knowledge and collaborative efforts. An important role for public health is to establish effective working relationships among the sectors involved in violence prevention efforts, including 'education, labour, public housing, media, business, medicine, and criminal justice' (Mercy et al., 1993, p. 16). Each of these sectors can target a specific aspect of the violence problem. What is needed is collaboration and cooperation across these sectors in order to share information, economize on resources, build efficiencies, and improve the capacity to address multiple risk factors at the same time (see Box 9.7). One way of encouraging cooperation is the development of national action plans for armed violence prevention that provide an organizing structure, indicate political support, and incorporate the actions of non-state actors (Rosenberg et al., 2006, p. 766).

Table 9.6 **Effectiveness of national interventions**

Intervention	Effectiveness
Reducing access to weapons by high-risk individuals	Promising
Reducing availability of alcohol at events or during volatile periods of time	Promising, evidence of effectiveness
Child Access Prevention (CAP) laws	Ineffective in preventing child access to weapons or improving safety behaviour of parents
Grip safety	Potential to reduce unintentional injury; no effect on intentional injury
Loaded chamber indicator	Potential to reduce unintentional injury; no effect on intentional injury
Magazine disconnect device	Potential to reduce unintentional injury; no effect on intentional injury
Personalized guns	Potential to reduce unintentional and intentional injury

Sources: Ceaser (2007); Hardy (2002); Teret and Culross (2002)

Table 9.7 **Community interventions**

Intervention	Effectiveness
Community policing	Helps to reduce fear of crime Little evidence that it actually reduces crime
Hot-spot policing	Promising
Targeted policing	Promising
Street lighting	Helps to reduce fear of crime Unclear whether it actually reduces crime levels

Sources: Braga et al. (2001); Waller and Sansfaçon (2000)

A number of countries have implemented nationally based interventions, such as federal regulations or laws on gun ownership, product safety features, and the right to carry. These measures have produced mixed results (see Table 9.6).

Many armed violence prevention programmes are implemented at the community level. Data collection on the nature and scope of violence and the environment in which violence occurs should drive intervention design. Interventions should be tailored to community conditions, to the causes of violence, and to those at risk of committing violent offences. In designing interventions, 'we must listen to the communities that are affected and understand what they consider to be the best approaches to preventing violence among their residents' (Mercy et al., 1993, p. 25). The effectiveness of these community programmes will depend largely on the level of community commitment to addressing the problem and community involvement in implementing programmes targeting violence and violent offenders.

This discussion of interventions suggests there is no simple means of preventing armed violence. The distinction between unintentional and intentional injury with firearms is important to the design of interventions. Unintentional injury is easier to address with changes to the product, while intentional injury requires both environmental and behavioural changes. A number of programmes show promise for reducing armed violence. These programmes require additional implementation in a variety of settings to determine their applicability across communities as well as more rigorous assessment of their impact on reducing armed violence.

CONCLUSION

Due to numerous local, national, and international initiatives since the late 1980s, much more is known about the causes of violence, the risk and resilience factors that influence exposure to violence, and the various programmes available to prevent armed violence. Although no silver bullet exists for ending armed violence, assessments of interventions suggest programmes that are promising and those that are ineffective in addressing violence. Analysis of past efforts points to a number of key ingredients for successful interventions: they should be science-based, community developed and implemented, multifaceted, and financially, publicly, and politically supported.

The inability of the public health sector to demonstrate clearly which interventions are effective in preventing armed violence, as well as being cost-effective, reduces the attractiveness of these interventions. Improving armed violence prevention programming will require investing in research and data collection, analysing collected data, designing interventions based on data, implementing interventions with clear goals and timelines and in such a fashion as to

enable assessment, and assessing these interventions in a rigorous fashion that produces a better understanding of what works, what does not, and why. The lessons can then be used to replicate successful interventions in other communities and countries. They can provide the means for low- and middle-income countries to learn from lessons elsewhere, although these countries must also experiment within their own community contexts to determine what works best for them. Improving armed violence prevention efforts will depend heavily on persuading developing countries that violence prevention is a priority, not a luxury.

Public health professionals are in a unique position to demonstrate the importance of doing more to reduce armed violence in a scientific fashion. They can promote armed violence prevention as a public good aimed at increasing security and improving public health. This shift from security as a private concern to security as a community good can contribute to clearing away the political roadblocks to using a variety of means to address armed violence rather than relying on a criminal justice approach alone. It can also lessen the perceptions that paint armed violence prevention as an attack on personal freedoms rather than an effort to promote public health.

LIST OF ABBREVIATIONS

AFMP	Arms-free Municipalities Project
CDC	Center for Disease Control
FOSALUD	Health Solidarity Fund, El Salvador
M-18	Eighteenth Street Gang
MS-13	Mara Salvatrucha
NCVS	National Crime Victimization Survey
PSN	Project Safe Neighborhoods
OECD–DAC	Organisation for Economic Co-operation and Development–Development Assistance Committee
UNDP	UN Development Programme

ENDNOTES

1 The Small Arms Survey is currently contributing to the development of the OECD–DAC *Guidance on Armed Violence Reduction and Development,* which should be publicly available in 2009.

2 For additional examples of different approaches to various types of violence, see Decker et al. (2007); Krug et al. (2002); Moser and Shrader (1999).

3 This discussion draws on the work of the Small Arms Survey on the OECD–DAC *Guidance on Armed Violence Reduction and Development* (OECD–DAC, 2009).

4 This section is based in part on LeBrun (2007).

5 This data can be found at <http://www.atf.gov/firearms/trace_data/index.htm>

6 Case study reports and other documentation of the PSN programme can be found at <http://www.psn.gov/pubs/index.aspx>

7 Chris Stevenson conducted field research in El Salvador in August 2007 in support of the OECD–DAC Guidance (2009) and this chapter.

8 The Government of El Salvador completed a national census in late 2007. According to preliminary results, the estimated population *increased* from 6.5 million to 7.1 million habitants. Using this new estimate, and on the assumption that the number of homicides remains constant, the national homicide rate would be 68 per 100,000. The census is to be published in 2008. For more details, see <http://www.elpais.com/articulo/internacional/Violencia/guerra/Salvador/elpepuintlat/20070827elpepuint_2/Tes>

9 Interview with Inspector Carlos Cornejos, Weapons Division, National Civilian Police, San Salvador, 16 August 2007.

10 El Salvador has seen a flux in homicide rates since the signing of the Peace Agreement in 1992. Immediately afterwards the violence decreased, but only briefly. By the mid-1990s, the homicide rate had reached nearly 150 deaths per 100,000 inhabitants, and was 80 deaths per 100,000 inhabitants in 1998. See UNDP (2005) and Paniagua et al. (2005).

11 Interview with Dr. José Mauricio Loucel, Rector, Coordinator of Comisión Nacional para la Seguridad Ciudadana y la Paz Social, Universidad Tecnológica, San Salvador, 17 August 2007. This was reiterated in several other interviews.

12 Interview with Marcela Smutt, UNDP, San Salvador, 17 August 2007.

13 Presentation by Carlos Morales, Coordinator of Plan Desarme, UN Habitat State of Cities Conference, Monterrey, Mexico, 3 October 2007.

14 See note 13.

15 See note 13.

16 See note 13.

17 SAS interview with Marcela Smutt, UNDP, San Salvador, 17 August 2007.

18 Interview and subsequent discussions with Dr. Emperatriz Crespín, Director, Latin American Public Health Network of IANSA and IPPNW, and independent consultant, PAHO El Salvador. San Salvador, 14 August 2007.

19 Interviews and subsequent discussions with various respondents in San Salvador, August 2007. See also UNDP (2006) and Comisión Nacional (2007).

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