

CHAPTER 1

Violence – a global public
health problem

Background

Violence has probably always been part of the human experience. Its impact can be seen, in various forms, in all parts of the world. Each year, more than a million people lose their lives, and many more suffer non-fatal injuries, as a result of self-inflicted, interpersonal or collective violence. Overall, violence is among the leading causes of death worldwide for people aged 15–44 years.

Although precise estimates are difficult to obtain, the cost of violence translates into billions of US dollars in annual health care expenditures worldwide, and billions more for national economies in terms of days lost from work, law enforcement and lost investment.

The visible and the invisible

The human cost in grief and pain, of course, cannot be calculated. In fact, much of it is almost invisible. While satellite technology has made certain types of violence – terrorism, wars, riots and civil unrest – visible to television audiences on a daily basis, much more violence occurs out of sight in homes, workplaces and even in the medical and social institutions set up to care for people. Many of the victims are too young, weak or ill to protect themselves. Others are forced by social conventions or pressures to keep silent about their experiences.

As with its impacts, some causes of violence are easy to see. Others are deeply rooted in the social, cultural and economic fabric of human life. Recent research suggests that while biological and other individual factors explain some of the predisposition to aggression, more often these factors interact with family, community, cultural and other external factors to create a situation where violence is likely to occur.

A preventable problem

Despite the fact that violence has always been present, the world does not have to accept it as an inevitable part of the human condition. As long as there has been violence, there have also been systems – religious, philosophical, legal and communal – which have grown up to prevent or

limit it. None has been completely successful, but all have made their contribution to this defining mark of civilization.

Since the early 1980s, the field of public health has been a growing asset in this response. A wide range of public health practitioners, researchers and systems have set themselves the tasks of understanding the roots of violence and preventing its occurrence.

Violence can be prevented and its impact reduced, in the same way that public health efforts have prevented and reduced pregnancy-related complications, workplace injuries, infectious diseases, and illness resulting from contaminated food and water in many parts of the world. The factors that contribute to violent responses – whether they are factors of attitude and behaviour or related to larger social, economic, political and cultural conditions – can be changed.

Violence can be prevented. This is not an article of faith, but a statement based on evidence. Examples of success can be found around the world, from small-scale individual and community efforts to national policy and legislative initiatives.

What can a public health approach contribute?

By definition, public health is not about individual patients. Its focus is on dealing with diseases and with conditions and problems affecting health, and it aims to provide the maximum benefit for the largest number of people. This does not mean that public health ignores the care of individuals. Rather, the concern is to prevent health problems and to extend better care and safety to entire populations.

The public health approach to any problem is interdisciplinary and science-based (*1*). It draws upon knowledge from many disciplines, including medicine, epidemiology, sociology, psychology, criminology, education and economics. This has allowed the field of public health to be innovative and responsive to a wide range of diseases, illnesses and injuries around the world.

The public health approach also emphasizes collective action. It has proved time and again that

cooperative efforts from such diverse sectors as health, education, social services, justice and policy are necessary to solve what are usually assumed to be purely “medical” problems. Each sector has an important role to play in addressing the problem of violence and, collectively, the approaches taken by each have the potential to produce important reductions in violence (see Box 1.1).

The public health approach to violence is based on the rigorous requirements of the scientific method. In moving from problem to solution, it has four key steps (1):

- Uncovering as much basic knowledge as possible about all the aspects of violence – through systematically collecting data on the magnitude, scope, characteristics and consequences of violence at local, national and international levels.

- Investigating why violence occurs – that is, conducting research to determine:
 - the causes and correlates of violence;
 - the factors that increase or decrease the risk for violence;
 - the factors that might be modifiable through interventions.
- Exploring ways to prevent violence, using the information from the above, by designing, implementing, monitoring and evaluating interventions.
- Implementing, in a range of settings, interventions that appear promising, widely disseminating information and determining the cost-effectiveness of programmes.

Public health is above all characterized by its emphasis on prevention. Rather than simply accepting or reacting to violence, its starting point

BOX 1.1

The public health approach in action: DESEPAZ in Colombia

In 1992, the mayor of Cali, Colombia – himself a public health specialist – helped the city set up a comprehensive programme aimed at reducing the high levels of crime there. Rates of homicide in Cali, a city of some 2 million inhabitants, had risen from 23 per 100 000 population in 1983 to 85 per 100 000 in 1991. The programme that ensued was called DESEPAZ, an acronym for *Desarrollo, Seguridad, Paz* (development, security, peace).

In the initial stages of the city’s programme, epidemiological studies were conducted so as to identify the principal risk factors for violence and shape the priorities for action. Special budgets were approved to strengthen the police, the judicial system and the local human rights office.

DESEPAZ undertook education on civil rights matters for both the police and the public at large, including television advertising at peak viewing times highlighting the importance of tolerance for others and self-control. A range of cultural and educational projects were organized for schools and families in collaboration with local nongovernmental organizations, to promote discussions on violence and help resolve interpersonal conflicts. There were restrictions on the sale of alcohol, and the carrying of handguns was banned on weekends and special occasions.

In the course of the programme, special projects were set up to provide economic opportunities and safe recreational facilities for young people. The mayor and his administrative team discussed their proposals to tackle crime with local people, and the city administration ensured the continuing participation and commitment of the community.

With the programme in operation, the homicide rate in Cali declined from an all-time high of 124 per 100 000 to 86 per 100 000 between 1994 and 1997, a reduction of 30%. In absolute numbers, there were approximately 600 fewer homicides between 1994 and 1997 compared with the previous 3-year period, which allowed the law enforcement authorities to devote scarce resources to combating more organized forms of crime. Furthermore, public opinion in Cali shifted strongly from a passive attitude towards dealing with violence to a vociferous demand for more prevention activities.

is the strong conviction that violent behaviour and its consequences can be prevented.

Defining violence

Any comprehensive analysis of violence should begin by defining the various forms of violence in such a way as to facilitate their scientific measurement. There are many possible ways to define violence. The World Health Organization defines violence (2) 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.

The definition used by the World Health Organization associates intentionality with the committing of the act itself, irrespective of the outcome it produces. Excluded from the definition are unintentional incidents – such as most road traffic injuries and burns.

The inclusion of the word “power”, in addition to the phrase “use of physical force”, broadens the nature of a violent act and expands the conventional understanding of violence to include those acts that result from a power relationship, including threats and intimidation. The “use of power” also serves to include neglect or acts of omission, in addition to the more obvious violent acts of commission. Thus, “the use of physical force or power” should be understood to include neglect and all types of physical, sexual and psychological abuse, as well as suicide and other self-abusive acts.

This definition covers a broad range of outcomes – including psychological harm, deprivation and maldevelopment. This reflects a growing recognition among researchers and practitioners of the need to include violence that does not necessarily result in injury or death, but that nonetheless poses a substantial burden on individuals, families, communities and health care systems worldwide. Many forms of violence against women, children and the elderly, for instance, can result in physical, psychological and social problems that do not necessarily lead to injury, disability or death. These conse-

quences can be immediate, as well as latent, and can last for years after the initial abuse. Defining outcomes solely in terms of injury or death thus limits the understanding of the full impact of violence on individuals, communities and society at large.

Intentionality

One of the more complex aspects of the definition is the matter of intentionality. Two important points about this should be noted. First, even though violence is distinguished from unintended events that result in injuries, the presence of an intent to use force does not necessarily mean that there was an intent to cause damage. Indeed, there may be a considerable disparity between intended behaviour and intended consequence. A perpetrator may intentionally commit an act that, by objective standards, is judged to be dangerous and highly likely to result in adverse health effects, but the perpetrator may not perceive it as such.

As examples, a youth may be involved in a physical fight with another youth. The use of a fist against the head or the use of a weapon in the dispute certainly increases the risk of serious injury or death, though neither outcome may be intended. A parent may vigorously shake a crying infant with the intent to quieten it. Such an action, however, may instead cause brain damage. Force was clearly used, but without the intention of causing an injury.

A second point related to intentionality lies in the distinction between the intent to injure and the intent to “use violence”. Violence, according to Walters & Parke (3), is culturally determined. Some people mean to harm others but, based on their cultural backgrounds and beliefs, do not perceive their acts as violent. The definition used by the World Health Organization, however, defines violence as it relates to the health or well-being of individuals. Certain behaviours – such as hitting a spouse – may be regarded by some people as acceptable cultural practices, but are considered violent acts with important health implications for the individual.

Other aspects of violence, though not explicitly stated, are also included in the definition. For example, the definition implicitly includes all acts of violence, whether they are public or private,

whether they are reactive (in response to previous events such as provocation) or proactive (instrumental for or anticipating more self-serving outcomes) (4), or whether they are criminal or non-criminal. Each of these aspects is important in understanding the causes of violence and in designing prevention programmes.

Typology of violence

In its 1996 resolution WHA49.25, declaring violence a leading public health problem, the World Health Assembly called on the World Health Organization to develop a typology of violence that characterized the different types of violence and the links between them. Few typologies exist already and none is very comprehensive (5).

Types of violence

The typology proposed here divides violence into three broad categories according to characteristics of those committing the violent act:

- self-directed violence;
- interpersonal violence;
- collective violence.

This initial categorization differentiates between violence a person inflicts upon himself or herself, violence inflicted by another individual or by a small group of individuals, and violence inflicted by larger groups such as states, organized political groups, militia groups and terrorist organizations (see Figure 1.1).

These three broad categories are each divided further to reflect more specific types of violence.

Self-directed violence

Self-directed violence is subdivided into suicidal behaviour and self-abuse. The former includes suicidal thoughts, attempted suicides – also called “parasuicide” or “deliberate self-injury” in some countries – and completed suicides. Self-abuse, in contrast, includes acts such as self-mutilation.

Interpersonal violence

Interpersonal violence is divided into two sub-categories:

- Family and intimate partner violence – that is, violence largely between family members and intimate partners, usually, though not exclusively, taking place in the home.
- Community violence – violence between individuals who are unrelated, and who may or may not know each other, generally taking place outside the home.

The former group includes forms of violence such as child abuse, intimate partner violence and abuse of the elderly. The latter includes youth violence, random acts of violence, rape or sexual assault by strangers, and violence in institutional settings such as schools, workplaces, prisons and nursing homes.

Collective violence

Collective violence is subdivided into social, political and economic violence. Unlike the other two broad categories, the subcategories of collective violence suggest possible motives for violence committed by larger groups of individuals or by states. Collective violence that is committed to advance a particular social agenda includes, for example, crimes of hate committed by organized groups, terrorist acts and mob violence. Political violence includes war and related violent conflicts, state violence and similar acts carried out by larger groups. Economic violence includes attacks by larger groups motivated by economic gain – such as attacks carried out with the purpose of disrupting economic activity, denying access to essential services, or creating economic division and fragmentation. Clearly, acts committed by larger groups can have multiple motives.

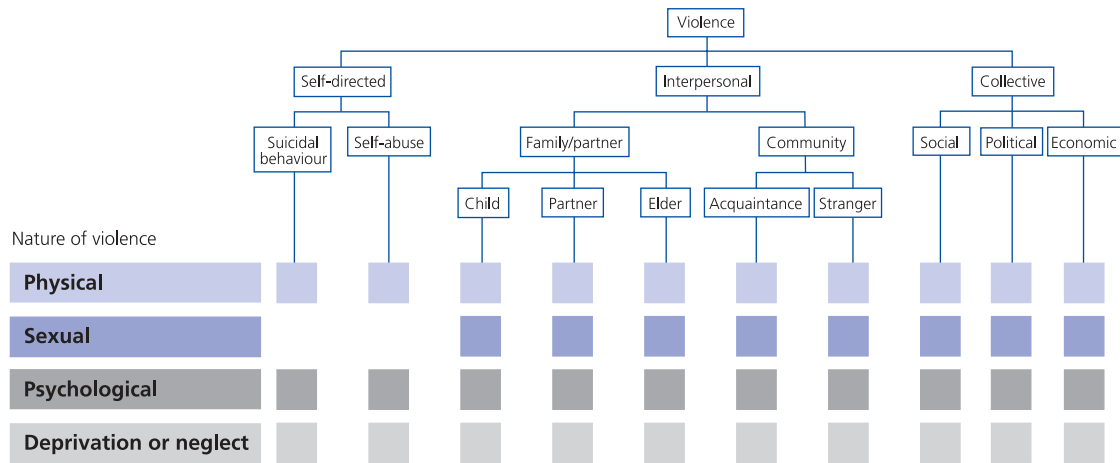
The nature of violent acts

Figure 1.1 illustrates the nature of violent acts, which can be:

- physical;
- sexual;
- psychological;
- involving deprivation or neglect.

The horizontal array in Figure 1.1 shows who is affected, and the vertical array describes how they are affected.

FIGURE 1.1
A typology of violence



These four types of violent acts occur in each of the broad categories and their subcategories described above – with the exception of self-directed violence. For instance, violence against children committed within the home can include physical, sexual and psychological abuse, as well as neglect. Community violence can include physical assaults between young people, sexual violence in the workplace and neglect of older people in long-term care facilities. Political violence can include such acts as rape during conflicts, and physical and psychological warfare.

This typology, while imperfect and far from being universally accepted, does provide a useful framework for understanding the complex patterns of violence taking place around the world, as well as violence in the everyday lives of individuals, families and communities. It also overcomes many of the limitations of other typologies by capturing the nature of violent acts, the relevance of the setting, the relationship between the perpetrator and the victim, and – in the case of collective violence – possible motivations for the violence. However, in both research and practice, the dividing lines between the different types of violence are not always so clear.

Measuring violence and its impact

Types of data

Different types of data are needed for different purposes, including:

- describing the magnitude and impact of violence;
- understanding which factors increase the risk for violent victimization and perpetration;
- knowing how effective violence prevention programmes are.

Some of these types of data and sources are described in Table 1.1.

Mortality data

Data on fatalities, particularly through homicide, and on suicide and war-related deaths can provide an indication of the extent of lethal violence in a particular community or country. When compared to statistics on other deaths, such data are useful indicators of the burden created by violence-related injuries. These data can also be used for monitoring changes over time in fatal violence, identifying groups and communities at high risk of violence, and making comparisons within and between countries.

Other types of data

Mortality figures, however, are only one possible type of data for describing the magnitude of the problem. Since non-fatal outcomes are much more common than fatal outcomes and because certain types of violence are not fully represented by mortality data, other types of information are

TABLE 1.1
Types of data and potential sources for collecting information

Type of data	Data sources	Examples of information collected
Mortality	Death certificates, vital statistics registries, medical examiners', coroners' or mortuary reports	Characteristics of the decedent, cause of death, location, time, manner of death
Morbidity and other health data	Hospital, clinic or other medical records	Diseases, injuries, information on physical, mental or reproductive health
Self-reported	Surveys, special studies, focus groups, media	Attitudes, beliefs, behaviours, cultural practices, victimization and perpetration, exposure to violence in the home or community
Community	Population records, local government records, other institutional records	Population counts and density, levels of income and education, unemployment rates, divorce rates
Crime	Police records, judiciary records, crime laboratories	Type of offence, characteristics of offender, relationship between victim and offender, circumstances of event
Economic	Programme, institutional or agency records, special studies	Expenditures on health, housing or social services, costs of treating violence-related injuries, use of services
Policy or legislative	Government or legislative records	Laws, institutional policies and practices

necessary. Such information can help in understanding the circumstances surrounding specific incidents and in describing the full impact of violence on the health of individuals and communities. These types of data include:

- health data on diseases, injuries and other health conditions;
- self-reported data on attitudes, beliefs, behaviours, cultural practices, victimization and exposure to violence;
- community data on population characteristics and levels of income, education and unemployment;
- crime data on the characteristics and circumstances of violent events and violent offenders;
- economic data related to the costs of treatment and social services;
- data describing the economic burden on health care systems and possible savings realized from prevention programmes;
- data on policy and legislation.

Sources of data

Potential sources of the various types of information include:

- individuals;
- agency or institutional records;
- local programmes;
- community and government records;
- population-based and other surveys;
- special studies.

Though not listed in Table 1.1, almost all sources include basic demographic information – such as a person's age and sex. Some sources – including medical records, police records, death certificates and mortuary reports – include information specific to the violent event or injury. Data from emergency departments, for instance, may provide information

on the nature of an injury, how it was sustained, and when and where the incident occurred. Data collected by the police may include information on the relationship between the victim and the perpetrator, whether a weapon was involved, and other circumstances related to the offence.

Surveys and special studies can provide detailed information about the victim or perpetrator, and his or her background, attitudes, behaviours and possible previous involvement in violence. Such sources can also help uncover violence that is not reported to the police or other agencies. For example, a household survey in South Africa showed that between 50% and 80% of victims of violence received medical treatment for a violence-related injury without reporting the incident to the police (6). In another study, conducted in the United States of America, 46% of victims who sought emergency treatment did not make a report to the police (7).

Problems with collecting data

The availability, quality and usefulness of the different data sources for comparing types of

violence within and between countries vary considerably. Countries around the world are at very different stages with regard to their capacity for data collection.

Availability of data

Mortality data are the most widely collected and available of all sources of data. Many countries maintain birth and death registries and keep basic counts of homicides and suicides. Calculating rates from these basic counts, however, is not always possible because population data are often unavailable or unreliable. This is especially true where populations are in flux – in areas, for instance, experiencing conflict or continuous movements among population groups – or where populations are difficult to count, as is the case in densely populated or very remote areas.

Systematic data on non-fatal outcomes are not available in most countries of the world, though systems to collect such data are currently being developed. A number of documents providing guidance for measuring different types of violence in a range of settings have also been published in recent years (8–14).

Quality of data

Even when data are available, the quality of the information may be inadequate for research purposes and for identifying strategies for prevention. Given that agencies and institutions keep records for their own purposes, following their own internal procedures for record-keeping, their data may be incomplete or lack the kind of information necessary for a proper understanding of violence.

Data from health care facilities, for instance, are collected with a view to providing optimal treatment for the patient. The medical record may contain diagnostic information about the injury and course of treatment, but not the circumstances surrounding the injury. These data may also be confidential and thus not available for research purposes. Surveys, on the other hand, contain more detailed information about the person and his or her background and involvement in violence. They are limited, though, by the extent to which a person recalls events and

admits to engaging in certain behaviours, and also by the manner in which questions are asked and by whom they are asked – as well as when, where and how well the interview is conducted.

Other obstacles

Linking data across sources is one of the more difficult problems in research on violence. Data on violence generally come from a variety of organizations that operate independently of one another. As such, data from medical examiners and coroners cannot usually be linked to data collected by the police. Also, there is a general lack of uniformity in the way data on violence are collected, which makes it very difficult to compare data across communities and nations.

Although they are beyond the scope of this discussion, a number of other problems in collecting violence-related data should be mentioned. They include:

- the difficulty of developing measures that are relevant and specific to subpopulation groups and different cultural contexts (8, 9, 11, 14);
- devising appropriate protocols to protect the confidentiality of victims and ensure their safety (15);
- a range of other ethical considerations associated with research into violence.

An overview of current knowledge

The prevention of violence, according to the public health approach, begins with a description of the magnitude and impact of the problem. This section describes what is currently known about global patterns of violence, using data compiled for this report from the World Health Organization's mortality database and Version 1 of the World Health Organization's Global Burden of Disease project for 2000, as well as data from surveys and special studies of violence.

Estimates of mortality

In 2000, an estimated 1.6 million people worldwide died as a result of self-inflicted, interpersonal or collective violence, for an overall age-adjusted rate of 28.8 per 100 000 population (see Table 1.2).

TABLE 1.2
Estimated global violence-related deaths, 2000

Type of violence	Number ^a	Rate per 100 000 population ^b	Proportion of total (%)
Homicide	520 000	8.8	31.3
Suicide	815 000	14.5	49.1
War-related	310 000	5.2	18.6
Total ^c	1 659 000	28.8	100.0
Low- to middle-income countries	1 510 000	32.1	91.1
High-income countries	149 000	14.4	8.9

Source: WHO Global Burden of Disease project for 2000, Version 1 (see Statistical annex).

^a Rounded to the nearest 1000.

^b Age-standardized.

^c Includes 14 000 intentional injury deaths resulting from legal intervention.

The vast majority of these deaths occurred in low- to middle-income countries. Less than 10% of all violence-related deaths occurred in high-income countries.

Nearly half of these 1.6 million violence-related deaths were suicides, almost one-third were homicides and about one-fifth were war-related.

Mortality according to sex and age

Like many other health problems in the world, violence is not distributed evenly among sex or age groups. In 2000, there were an estimated 520 000 homicides, for an overall age-adjusted rate of 8.8 per 100 000 population (see Table 1.2). Males accounted for 77% of all homicides and had rates that were more than three times those of females (13.6 and 4.0, respectively, per 100 000) (see Table 1.3). The highest rates of homicide in the

TABLE 1.3
Estimated global homicide and suicide rates by age group, 2000

Age group (years)	Homicide rate (per 100 000 population)		Suicide rate (per 100 000 population)	
	Males	Females	Males	Females
0–4	5.8	4.8	0.0	0.0
5–14	2.1	2.0	1.7	2.0
15–29	19.4	4.4	15.6	12.2
30–44	18.7	4.3	21.5	12.4
45–59	14.8	4.5	28.4	12.6
≥60	13.0	4.5	44.9	22.1
Total ^a	13.6	4.0	18.9	10.6

Source: WHO Global Burden of Disease project for 2000, Version 1 (see Statistical annex).

^a Age-standardized.

world are found among males aged 15–29 years (19.4 per 100 000), followed closely by males aged 30–44 years (18.7 per 100 000).

Worldwide, suicide claimed the lives of an estimated 815 000 people in 2000, for an overall age-adjusted rate of 14.5 per 100 000 (see Table 1.2). Over 60% of all suicides occurred among males, over half of these occurring among those aged 15–44 years. For both males and females, suicide rates increase with age and are highest among those aged 60 years and older (see Table 1.3). Suicide rates, though, are generally higher among males than females (18.9 per 100 000 as against 10.6 per 100 000). This is especially true among the oldest age groups, where worldwide, male suicide rates among those aged 60 years and older are twice as high as female suicide rates in the same age category (44.9 per 100 000 as against 22.1 per 100 000).

Mortality according to country income level and region

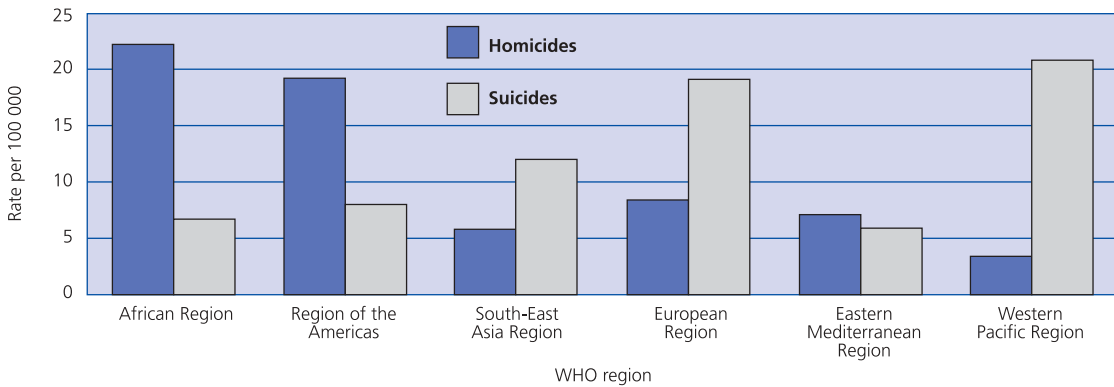
Rates of violent death vary according to country income levels. In 2000, the rate of violent death in low- to middle-income countries was 32.1 per 100 000 population, more than twice the rate in high-income countries (14.4 per 100 000) (see Table 1.2).

There are also considerable regional differences in rates of violent death. These differences are evident, for example, among the WHO regions (see Figure 1.2). In the African Region and the Region of the Americas, homicide rates are nearly three times greater than suicide rates. However, in the European and South-East Asia Regions, suicide rates are more than double homicide rates (19.1 per 100 000 as against 8.4 per 100 000 for the European Region, and 12.0 per 100 000 as against 5.8 per 100 000 for the South-East Asia Region), and in the Western Pacific Region, suicide rates are nearly six times greater than homicide rates (20.8 per 100 000 as against 3.4 per 100 000).

Within regions there are also large differences between countries. For example, in 1994 the homicide rate among males in Colombia was reported to be 146.5 per 100 000, while the corresponding rates in Cuba and Mexico were 12.6

FIGURE 1.2

Homicide and suicide rates by WHO region, 2000



and 32.3 per 100 000, respectively (16). Large differences within countries also exist between urban and rural populations, between rich and poor groups, and between different racial and ethnic groups. In the United States in 1999, for instance, African-American youths aged 15–24 years had a rate of homicide (38.6 per 100 000) more than twice that of their Hispanic counterparts (17.3 per 100 000), and over 12 times the rate of their Caucasian, non-Hispanic counterparts (3.1 per 100 000) (17).

Estimates of non-fatal violence

The above-mentioned mortality figures are almost certainly underestimates of the true burden of violence. In all parts of the world, deaths represent the “tip of the iceberg” as far as violence is concerned. Physical and sexual assaults occur daily, though precise national and international estimates of each are lacking. Not all assaults result in injuries severe enough to require medical attention and – even among those that do result in serious injuries – surveillance systems for reporting and compiling these injuries are in many countries either lacking or are still being developed.

Much of what is known about non-fatal violence comes from surveys and special studies of different population groups. For example, in national surveys, the percentage of women who reported ever being physically assaulted by an intimate partner ranged from 10% in Paraguay and the Philippines, to 22.1% in the United States, 29.0% in Canada and 34.4% in Egypt (18–21). The proportion of women from

various cities or provinces around the world reporting ever having been sexually assaulted (including victims of attempted assault) varied from 15.3% in Toronto, Canada, to 21.7% in León, Nicaragua, 23.0% in London, England, and 25.0% in one province in Zimbabwe (21–25). Among adolescent males in secondary schools, the percentage reporting involvement in physical fighting in the past year ranged from 22.0% in Sweden and 44.0% in the United States to 76.0% in Jerusalem, Israel (26–28).

An important point here is that these data are based largely on self-reports. It is difficult to know whether they overestimate or underestimate the true extent of physical and sexual assaults among these population groups. Certainly, in those countries with strong cultural pressures to keep violence “behind closed doors” or simply to accept it as “natural”, non-fatal violence is likely to be underreported. Victims may be reluctant to discuss violent experiences not only out of shame and because of taboos, but through fear. Admitting to having experienced certain violent events, such as rape, may in some countries result in death. In certain cultures, the preservation of family honour is a traditional motive for killing women who have been raped (so-called “honour killings”).

The costs of violence

Violence exacts both a human and an economic toll on nations, and costs economies many billions of US dollars each year in health care, legal costs, absenteeism from work and lost productivity. In the United

States, a 1992 study estimated the direct and indirect annual costs of gunshot wounds at US\$ 126 billion. Cutting or stab wounds cost an additional US\$ 51 billion (29). In a 1996 study in the Canadian province of New Brunswick, the mean total cost per suicide death was over US\$ 849 000. The total direct and indirect costs, including costs for health care services, autopsies, police investigations and lost productivity resulting from premature death, amounted to nearly US\$ 80 million (30).

The high cost of violence is not unique to Canada and the United States. Between 1996 and 1997, the Inter-American Development Bank sponsored studies on the magnitude and economic impact of violence in six Latin American countries (31). Each study examined expenditures, as a result of violence, for health care services, law enforcement and judicial services, as well as intangible losses and losses from the transfer of assets. Expressed as a percentage of the gross domestic product (GDP) in 1997, the cost of health care expenditures arising from violence was 1.9% of the GDP in Brazil, 5.0% in Colombia, 4.3% in El Salvador, 1.3% in Mexico, 1.5% in Peru and 0.3% in Venezuela.

It is difficult to calculate the precise burden of all types of violence on health care systems, or their effects on economic productivity around the world. The available evidence shows that victims of domestic and sexual violence have more health problems, significantly higher health care costs and more frequent visits to emergency departments throughout their lives than those without a history of abuse (see Chapters 4 and 6). The same is true for victims of childhood abuse and neglect (see Chapter 3). These costs contribute substantially to annual health care expenditures.

Since national cost estimates are also generally lacking for other health problems, such as depression, smoking, alcohol and drug abuse, unwanted pregnancy, human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS), other sexually transmitted diseases and other infections (all of which have

been linked to violence in small-scale studies) (32–37), it is not yet possible to calculate the global economic burden of these problems as they relate to violence.

Examining the roots of violence: an ecological model

No single factor explains why some individuals behave violently toward others or why violence is more prevalent in some communities than in others. Violence is the result of the complex interplay of individual, relationship, social, cultural and environmental factors. Understanding how these factors are related to violence is one of the important steps in the public health approach to preventing violence.

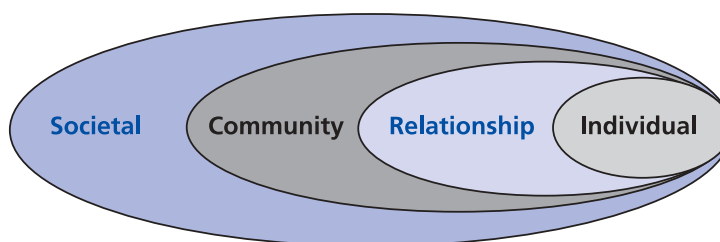
Multiple levels

The chapters in this report apply an ecological model to help understand the multifaceted nature of violence. First introduced in the late 1970s (38, 39), this ecological model was initially applied to child abuse (38) and subsequently to youth violence (40, 41). More recently, researchers have used it to understand intimate partner violence (42, 43) and abuse of the elderly (44, 45). The model explores the relationship between individual and contextual factors and considers violence as the product of multiple levels of influence on behaviour (see Figure 1.3).

Individual

The first level of the ecological model seeks to identify the biological and personal history factors that an individual brings to his or her behaviour. In addition

FIGURE 1.3
Ecological model for understanding violence



to biological and demographic factors, factors such as impulsivity, low educational attainment, substance abuse, and prior history of aggression and abuse are considered. In other words, this level of the ecological model focuses on the characteristics of the individual that increase the likelihood of being a victim or a perpetrator of violence.

Relationship

The second level of the ecological model explores how proximal social relationships – for example, relations with peers, intimate partners and family members – increase the risk for violent victimization and perpetration of violence. In the cases of partner violence and child maltreatment, for instance, interacting on an almost daily basis or sharing a common domicile with an abuser may increase the opportunity for violent encounters. Because individuals are bound together in a continuing relationship, it is likely in these cases that the victim will be repeatedly abused by the offender (46). In the case of interpersonal violence among youths, research shows that young people are much more likely to engage in negative activities when those behaviours are encouraged and approved by their friends (47, 48). Peers, intimate partners and family members all have the potential to shape an individual’s behaviour and range of experience.

Community

The third level of the ecological model examines the community contexts in which social relationships are embedded – such as schools, workplaces and neighbourhoods – and seeks to identify the characteristics of these settings that are associated with being victims or perpetrators of violence. A high level of residential mobility (where people do not stay for a long time in a particular dwelling, but move many times), heterogeneity (highly diverse population, with little of the social “glue” that binds communities together) and high population density are all examples of such characteristics and each has been associated with violence. Similarly, communities characterized by problems such as drug trafficking, high levels of unemployment or

widespread social isolation (for example, people not knowing their neighbours or having no involvement in the local community) are also more likely to experience violence. Research on violence shows that opportunities for violence are greater in some community contexts than others – for instance, in areas of poverty or physical deterioration, or where there are few institutional supports.

Societal

The fourth and final level of the ecological model examines the larger societal factors that influence rates of violence. Included here are those factors that create an acceptable climate for violence, those that reduce inhibitions against violence, and those that create and sustain gaps between different segments of society – or tensions between different groups or countries. Larger societal factors include:

- cultural norms that support violence as an acceptable way to resolve conflicts;
- attitudes that regard suicide as a matter of individual choice instead of a preventable act of violence;
- norms that give priority to parental rights over child welfare;
- norms that entrench male dominance over women and children;
- norms that support the use of excessive force by police against citizens;
- norms that support political conflict.

Larger societal factors also include the health, educational, economic and social policies that maintain high levels of economic or social inequality between groups in society (see Box 1.2).

The ecological framework highlights the multiple causes of violence and the interaction of risk factors operating within the family and broader community, social, cultural and economic contexts. Placed within a developmental context, the ecological model also shows how violence may be caused by different factors at different stages of life.

Complex linkages

While some risk factors may be unique to a particular type of violence, the various types of violence more commonly share a number of risk

BOX 1.2**Globalization: the implications for violence prevention**

Through an ever more rapid and widespread movement and exchange of information, ideas, services and products, globalization has eroded the functional and political borders that separated people into sovereign states. On the one hand, this has driven a massive expansion in world trade accompanied by a demand for increased economic output, creating millions of jobs and raising living standards in some countries in a way previously unimaginable. On the other, the effects of globalization have been remarkably uneven. In some parts of the world, globalization has led to increased inequalities in income and helped destroy factors such as social cohesion that had protected against interpersonal violence.

The benefits and the obstacles for violence prevention arising from globalization can be summarized as follows.

The positive effects

The huge increase in information-sharing provoked by globalization has produced new international networks and alliances that have the potential to improve the scope and quality of data collected on violence. Where globalization has raised living standards and helped reduce inequalities, there is a greater possibility of economic interventions being used to lessen tensions and conflicts both within and between states. Furthermore, globalization creates new ways of using global mechanisms:

- To conduct research on violence – especially on social, economic and policy factors that transcend national boundaries.
- To stimulate violence prevention activities on a regional or global scale.
- To implement international laws and treaties designed to reduce violence.
- To support violence prevention efforts within countries, particularly those with a limited capacity to conduct such activities.

The negative effects

Societies with already high levels of inequality, which experience a further widening of the gap between rich and poor as a result of globalization, are likely to witness an increase in interpersonal violence. Rapid social change in a country in response to strong global pressures – as occurred, for instance, in some of the states of the former Soviet Union – can overwhelm existing social controls over behaviour and create conditions for a high level of violence. In addition, the removal of market constraints, and increased incentives for profit as a result of globalization can lead, for example, to much freer access to alcohol, drugs and firearms, despite efforts to reduce their use in violent incidents.

The need for global responses

Violence can no longer remain the preserve of national politics, but must be vigorously addressed also on the global level – through groupings of states, international agencies and international networks of governmental and nongovernmental organizations. Such international efforts must aim to harness the positive aspects of globalization for the greater good, while striving to limit the negative aspects.

factors. Prevailing cultural norms, poverty, social isolation and such factors as alcohol abuse, substance abuse and access to firearms are risk factors

for more than one type of violence. As a result, it is not unusual for some individuals at risk of violence to experience more than one type of violence. Women

at risk of physical violence by intimate partners, for example, are also at risk of sexual violence (18).

It is also not unusual to detect links between different types of violence. Research has shown that exposure to violence in the home is associated with being a victim or perpetrator of violence in adolescence and adulthood (49). The experience of being rejected, neglected or suffering indifference at the hands of parents leaves children at greater risk for aggressive and antisocial behaviour, including abusive behaviour as adults (50–52). Associations have been found between suicidal behaviour and several types of violence, including child maltreatment (53, 54), intimate partner violence (33, 55), sexual assault (53) and abuse of the elderly (56, 57). In Sri Lanka, suicide rates were shown to decrease during wartime, only to increase again after the violent conflict ended (58). In many countries that have suffered violent conflict, the rates of interpersonal violence remain high even after the cessation of hostilities – among other reasons because of the way violence has become more socially accepted and the availability of weapons.

The links between violence and the interaction between individual factors and the broader social, cultural and economic contexts suggest that addressing risk factors across the various levels of the ecological model may contribute to decreases in more than one type of violence.

How can violence be prevented?

The first two steps of the public health model provide important information about populations requiring preventive interventions, as well as on the risk and protective factors that need addressing. Putting this knowledge into practice is a central goal of public health.

Types of prevention

Public health interventions are traditionally characterized in terms of three levels of prevention:

- Primary prevention – approaches that aim to prevent violence before it occurs.
- Secondary prevention – approaches that focus on the more immediate responses to violence, such as pre-hospital care, emergency services

or treatment for sexually transmitted diseases following a rape.

- Tertiary prevention – approaches that focus on long-term care in the wake of violence, such as rehabilitation and reintegration, and attempts to lessen trauma or reduce the long-term disability associated with violence.

These three levels of prevention are defined by their temporal aspect – whether prevention takes place before violence occurs, immediately afterwards or over the longer term. Although traditionally they are applied to victims of violence and within health care settings, secondary and tertiary prevention efforts have also been regarded as having relevance to the perpetrators of violence, and applied in judicial settings in response to violence.

Researchers in the field of violence prevention have increasingly turned to a definition of prevention that focuses on the target group of interest. This definition groups interventions as follows (59):

- Universal interventions – approaches aimed at groups or the general population without regard to individual risk; examples include violence prevention curricula delivered to all students in a school or children of a particular age and community-wide media campaigns.
- Selected interventions – approaches aimed at those considered at heightened risk for violence (having one or more risk factors for violence); an example of such an intervention is training in parenting provided to low-income, single parents.
- Indicated interventions – approaches aimed at those who have already demonstrated violent behaviour, such as treatment for perpetrators of domestic violence.

Many efforts to date, in both industrialized and developing countries, have focused on secondary and tertiary responses to violence. Understandably, priority is often given to dealing with the immediate consequences of violence, providing support to victims and punishing the offenders. Such responses, while important and in need of strengthening, should be accompanied by a greater investment in primary prevention. A comprehensive response to violence is one that not only protects and supports

victims of violence, but also promotes non-violence, reduces the perpetration of violence, and changes the circumstances and conditions that give rise to violence in the first place.

Multifaceted responses

Because violence is a multifaceted problem with biological, psychological, social and environmental roots, it needs to be confronted on several different levels at once. The ecological model serves a dual purpose in this regard: each level in the model represents a level of risk and each level can also be thought of as a key point for intervention.

Dealing with violence on a range of levels involves addressing all of the following:

- Addressing individual risk factors and taking steps to modify individual risk behaviours.
- Influencing close personal relationships and working to create healthy family environments, as well as providing professional help and support for dysfunctional families.
- Monitoring public places such as schools, workplaces and neighbourhoods and taking steps to address problems that might lead to violence.
- Addressing gender inequality, and adverse cultural attitudes and practices.
- Addressing the larger cultural, social and economic factors that contribute to violence and taking steps to change them, including measures to close the gap between the rich and poor and to ensure equitable access to goods, services and opportunities.

Documenting effective responses

A general ground rule for the public health approach to violence is that all efforts, whether large or small, should be rigorously evaluated. Documenting existing responses and encouraging a strictly scientific assessment of interventions in different settings is valuable for everyone. It is particularly needed by others trying to determine the most effective responses to violence and the strategies likely to make a difference.

Bringing together all available evidence and experience is also an extremely useful part of

advocacy, as it assures decision-makers that something can be done. Even more importantly, it provides them with valuable guidance as to which efforts are likely to reduce violence.

Balancing public health action

Rigorous research takes time to produce results. The impulse to invest only in proven approaches should not be an obstacle to supporting promising ones. Promising approaches are those that have been evaluated but require more testing in a range of settings and with different population groups.

There is also wisdom in trying out and testing a variety of programmes, and in using the initiatives and ideas of local communities. Violence is far too pressing a problem to delay public health action while waiting to gain perfect knowledge.

Addressing cultural norms

In various parts of the world, cultural specificity and tradition are sometimes given as justifications for particular social practices that perpetuate violence. The oppression of women is one of the most widely quoted examples, but many others can also be given.

Cultural norms must be dealt with sensitively and respectfully in all prevention efforts – sensitively because of people’s often passionate attachment to their traditions, and respectfully because culture is often a source of protection against violence. Experience has shown that it is important to conduct early and ongoing consultations with religious and traditional leaders, lay groups and prominent figures in the community, such as traditional healers, when designing and implementing programmes.

Actions against violence at all levels

Long-term successes in the prevention of violence will increasingly depend on comprehensive approaches at all levels.

Local level

At the local level, partners may include health care providers, police, educators, social workers, employers and government officials. Much can be

done here to promote violence prevention. Small-scale pilot programmes and research projects can provide a means for ideas to be tried out and – perhaps as important – for a range of partners to become used to working together. Structures such as working groups or commissions that draw together the different sectors and maintain both formal and informal contacts are essential for the success of this type of collaboration.

National level

Multisectoral partnerships are highly desirable at the national level as much as at the local level. A variety of government ministries – and not only those concerned with law enforcement, social services and health – have important contributions to make in preventing violence. Education ministries are obvious partners, given the importance of intervening in schools. Ministries of labour can do much to reduce violence in the workplace, especially in collaboration with trade unions and employers (see Box 1.3). Defence ministries can positively shape the attitudes towards violence of large numbers of young men under their control, by encouraging discipline, promoting codes of honour, and impressing a strong awareness of the lethality of weapons. Religious leaders and organizations have a role to play in their pastoral work and, in appropriate cases, by offering their good offices to mediate in specific problems.

Global level

As has been shown, for instance, in the international response to AIDS and in the field of disaster relief, cooperation and exchange of information between organizations globally can produce significant benefits – in the same way as partnerships at the national and local levels. The World Health Organization clearly has an important global role to play in this respect as the United Nations agency responsible for health. Other international agencies, though, also have a considerable amount to offer in their specialized fields. These include the Office of the United Nations High Commissioner for Human Rights (in relation to human rights), the Office of the United Nations High Commissioner for Refu-

gees (refugees), the United Nations Children’s Fund (children’s well-being), the United Nations Development Fund for Women and the United Nations Population Fund (women’s health), the United Nations Development Programme (human development), the United Nations Interregional Crime and Justice Research Institute (crime) and the World Bank (financing and governance), to name just a few. A variety of international donors, bilateral programmes, nongovernmental organizations and religious organizations are already involved in violence prevention activities around the world.

Problems for national decision-makers

If violence is largely preventable, the question arises: why are there not more efforts to prevent it, particularly at national or provincial and state level?

A major obstacle is simply an absence of knowledge. For many decision-makers, the idea that violence is a public health problem is new – and indeed rather contrary to their belief that violence is a crime problem. This is particularly the case for the less visible forms of violence, such as abuse of children, women and the elderly. The notion that violence is preventable is also new or questionable for decision-makers. To many people in authority, a violence-free society seems unobtainable; an “acceptable” level of violence, especially on the streets where they live, appears far more realistic. To others, paradoxically, the inverse is true: since much of violence is hidden, distant or sporadic, peace and security seem to them the prevalent state. In the same way that clean air is taken for granted until the sky becomes full of smog, violence only has to be dealt with when it arrives on the doorstep. It is not surprising then that some of the most innovative solutions have come from the community and municipal levels of government – precisely those that are closest to the problem on a daily basis.

A second problem relates to the feasibility of policy options to tackle the problem. Not enough decision-makers have seen the evidence that many forms of violence are preventable. Too many of

BOX 1.3**A comprehensive approach to preventing violence at work**

Violence in the workplace is a major contributor to death and injury in many parts of the world. In the United States of America, official statistics have placed homicide as the second single leading cause of death in the workplace – after road traffic injuries – for men, and the first for women. In the European Union, an estimated 3 million workers (2% of the labour force) have been subjected to physical violence at work. Studies on female migrant workers from the Philippines have shown that many, especially those working in domestic service or the entertainment industry, are disproportionately affected by violence within their work.

Violence at work involves not only physical but also psychological behaviour. Many workers are subjected to bullying, sexual harassment, threats, intimidation and other forms of psychological violence. Research in the United Kingdom has found that 53% of employees have suffered bullying at work and 78% have witnessed such behaviour. In South Africa, workplace hostilities have been reported as “abnormally high” and a recent study showed that 78% of those surveyed had at some time experienced bullying within the workplace.

Repeated acts of violence – from bullying, sexual harassment, and threats to humiliate and undermine workers – may also develop cumulatively into very serious cases. In Sweden, it is estimated that such behaviour has been a factor in 10–15% of suicides.

The costs

Violence in the workplace causes immediate and often long-term disruption to interpersonal relationships and to the whole working environment. The costs of such violence include:

- Direct costs – stemming from such things as:
 - accidents;
 - illness;
 - disability and death;
 - absenteeism;
 - turnover of staff.
- Indirect costs, including:
 - reduced work performance;
 - a lower quality of products or service and slower production;
 - decreased competitiveness.
- More intangible costs, including:
 - damage to the image of an organization;
 - decreased motivation and morale;
 - diminished loyalty to the organization;
 - lower levels of creativity;
 - an environment that is less conducive to work.

The responses

As in dealing with violence in other settings, a comprehensive approach is required. Violence at work is not simply an individual problem that happens from time to time, but a structural problem with much wider socioeconomic, cultural and organizational causes.

The traditional response to violence at work, based exclusively on the enforcement of regulations, fails to reach many situations in the workplace. A more comprehensive approach focuses on the causes of violence in the workplace. Its aim is to make the health, safety and well-being of workers integral parts of the development of the organization.

BOX 1.3 (continued)

The type of systematic and targeted package to prevent violence at work that is being increasingly adopted includes:

- the active collaboration of workers' and employers' organizations in formulating clear anti-violence workplace policies and programmes;
- supporting legislation and guidelines from national and local government;
- the dissemination of case studies of good practice in preventing violence at work;
- improvements to the working environment, styles of management and the organization of work;
- greater opportunities for training;
- counselling and support for those affected.

By directly linking health and safety with the management and development of an organization, this comprehensive approach offers the means of prompt and sustainable action to eliminate violence in the workplace.

them feel that the traditional approaches of the criminal justice system are the only ones that “work”. Such a view fails to acknowledge the range of violence in society. It perpetuates the concentration on certain highly visible forms of violence – notably youth violence – while paying much less attention to other types, such as intimate partner violence and abuse of children and the elderly, where the criminal justice system is less responsive and less effective.

A third problem is one of determination. Violence is an extremely emotional issue and many countries tend to be reluctant to take initiatives challenging long-established attitudes or practices. It can take considerable political courage to try new approaches in areas such as policing and public security.

With all three of these problems, there is a strong role to be played by public health practitioners, academic institutions, nongovernmental organizations and international organizations, to help governments increase their knowledge of and confidence in workable interventions. Part of this role is advocacy, using education and science-based information. The other part is as a partner or consultant, helping to develop policies and design or implement interventions.

Conclusion

Public health is concerned with the health and well-being of populations as a whole. Violence imposes a

major burden on that well-being. The objective of public health is to create safe and healthy communities around the world. A major priority today is to persuade all the various sectors – at the global, national and community levels – to commit themselves to this objective. Public health officials can do much to establish national plans and policies to prevent violence, building important partnerships between sectors and ensuring a proper allocation of resources to prevention efforts.

While public health leadership need not and indeed cannot direct all the actions to prevent and respond to violence, it has a significant role to play. The data at the disposal of public health and other agencies, the insights and understanding developed through scientific method, and the dedication to finding effective responses are important assets that the field of public health brings to the global response to violence.

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