World report on violence and health

SUMMARY

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Foreword

The twentieth century will be remembered as a century marked by violence. It burdens us with its legacy of mass destruction, of violence inflicted on a scale never seen and never possible before in human history. But this legacy – the result of new technology in the service of ideologies of hate – is not the only one we carry, nor that we must face up to.

Less visible, but even more widespread, is the legacy of day-to-day, individual suffering. It is the pain of children who are abused by people who should protect them, women injured or humiliated by violent partners, elderly persons maltreated by their caregivers, youths who are bullied by other youths, and people of all ages who inflict violence on themselves. This suffering – and there are many more examples that I could give – is a legacy that reproduces itself, as new generations learn from the violence of generations past, as victims learn from victimizers, and as the social conditions that nurture violence are allowed to continue. No country, no city, no community is immune. But neither are we powerless against it.

Violence thrives in the absence of democracy, respect for human rights and good governance. We often talk about how a "culture of violence" can take root. This is indeed true – as a South African who has lived through apartheid and is living through its aftermath, I have seen and experienced it. It is also true that patterns of violence are more pervasive and widespread in societies where the authorities endorse the use of violence through their own actions. In many societies, violence is so dominant that it thwarts hopes of economic and social development. We cannot let that continue.

Many who live with violence day in and day out assume that it is an intrinsic part of the human condition. But this is not so. Violence can be prevented. Violent cultures can be turned around. In my own country and around the world, we have shining examples of how violence has been countered. Governments, communities and individuals can make a difference.

I welcome this first *World report on violence and health*. This report makes a major contribution to our understanding of violence and its impact on societies. It illuminates the different faces of violence, from the "invisible" suffering of society's most vulnerable individuals to the all-too-visible tragedy of societies in conflict. It advances our analysis of the factors that lead to violence, and the possible responses of different sectors of society. And in doing so, it reminds us that safety and security don't just happen: they are the result of collective consensus and public investment.

The report describes and makes recommendations for action at the local, national and international levels. It will thus be an invaluable tool for policy-makers, researchers, practitioners, advocates and volunteers involved in violence prevention. While violence traditionally has been the domain of the criminal justice system, the report strongly makes the case for involving all sectors of society in prevention efforts.

We owe our children – the most vulnerable citizens in any society – a life free from violence and fear. In order to ensure this, we must be tireless in our efforts not only to attain peace, justice and prosperity for countries, but also for communities and members of the same family. We must address the roots of violence. Only then will we transform the past century's legacy from a crushing burden into a cautionary lesson.

Nelson Mandela

Preface

Violence pervades the lives of many people around the world, and touches all of us in some way. To many people, staying out of harm's way is a matter of locking doors and windows and avoiding dangerous places. To others, escape is not possible. The threat of violence is behind those doors – well hidden from public view. And for those living in the midst of war and conflict, violence permeates every aspect of life.

This report, the first comprehensive summary of the problem on a global scale, shows not only the human toll of violence – over 1.6 million lives lost each year and countless more damaged in ways that are not always apparent – but exposes the many faces of interpersonal, collective and self-directed violence, as well as the settings in which violence occurs. It shows that where violence persists, health is seriously compromised.

The report also challenges us in many respects. It forces us to reach beyond our notions of what is acceptable and comfortable – to challenge notions that acts of violence are simply matters of family privacy, individual choice, or inevitable facets of life. Violence is a complex problem related to patterns of thought and behaviour that are shaped by a multitude of forces within our families and communities, forces that can also transcend national borders. The report urges us to work with a range of partners and to adopt an approach that is proactive, scientific and comprehensive.

We have some of the tools and knowledge to make a difference – the same tools that have successfully been used to tackle other health problems. This is evident throughout the report. And we have a sense of where to apply our knowledge. Violence is often predictable and preventable. Like other health problems, it is not distributed evenly across population groups or settings. Many of the factors that increase the risk of violence are shared across the different types of violence and are modifiable.

One theme that is echoed throughout this report is the importance of primary prevention. Even small investments here can have large and long-lasting benefits, but not without the resolve of leaders and support for prevention efforts from a broad array of partners in both the public and private spheres, and from both industrialized and developing countries.

Public health has made some remarkable achievements in recent decades, particularly with regard to reducing rates of many childhood diseases. However, saving our children from these diseases only to let them fall victim to violence or lose them later to acts of violence between intimate partners, to the savagery of war and conflict, or to self-inflicted injuries or suicide, would be a failure of public health.

While public health does not offer all of the answers to this complex problem, we are determined to play our role in the prevention of violence worldwide. This report will contribute to shaping the global response to violence and to making the world a safer and healthier place for all. I invite you to read the report carefully, and to join me and the many violence prevention experts from around the world who have contributed to it in implementing its vital call for action.

Gro Harlem Brundtland
Director-General
World Health Organization

Contents

Violence — a universal challenge

No country or community is untouched by violence. Images and accounts of violence pervade the media; it is on our streets, in our homes, schools, workplaces and institutions. Violence is a universal scourge that tears at the fabric of communities and threatens the life, health and happiness of us all. Each year, more than 1.6 million people worldwide lose their lives to violence. For everyone who dies as a result of violence, many more are injured and suffer from a range of physical, sexual, reproductive and mental health problems. Violence is among the leading causes of death for people aged 15–44 years worldwide, accounting for about 14% of deaths among males and 7% of deaths among females (*1*).

Because it is so pervasive, violence is often seen as an inevitable part of the human condition – a fact of life to respond to, rather than to prevent. Moreover it is commonly considered a "law and order" issue, in which the role of health professionals is limited to dealing with the consequences. But these assumptions are changing, encouraged by the success of public health approaches to other environmental and behaviour-related health problems such as heart disease, smoking and human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS). The focus is broadening, with increasing emphasis on prevention and addressing the root causes of violence. At the same time, the efforts of the police, courts and criminologists are being augmented by the contributions of other institutions and disciplines, from child psychologists to epidemiologists.

A substantial proportion of the costs of violence result from its impact on victims' health and the burden it places on health institutions (*2*). This gives the health sector both a special interest in prevention and a key role to play. The Surgeon General of the United States of America was the first to spell this out clearly, in 1979, in a report entitled *Healthy people* (*3*). The report stated that the consequences of violent behaviour could not be ignored in the effort to improve the nation's health, and made tackling the roots of violence a top priority for the health community.

Since then, a wide range of public health practitioners and researchers in the United States and around the world have set themselves the task of understanding violence and finding ways to prevent it (*4*). The issue was put on the international agenda when the World Health Assembly, at its meeting in Geneva in 1996, adopted a resolution declaring violence a leading worldwide public health problem (see Box 1).

Raising awareness of the fact that violence can be prevented is, however, only the first step in shaping the response to it. Violence is an extremely sensitive issue. Many people have difficulty confronting it in their professional lives because it raises uncomfortable questions about their personal lives. Talking about violence means touching upon complex matters of morality, ideology and culture. There is, thus, often resistance at official as well as personal levels to open discussion of the topic.

The purpose of the first *World report on violence and health*[1] is to challenge the secrecy, taboos and feelings of inevitability that surround violent behaviour, and to encourage debate that will increase our understanding of this hugely complex phenomenon. While individual initiative and leadership are invaluable in overcoming apathy and resistance, a key requirement for tackling violence in a comprehensive manner is for people

[1] Krug EG et al., eds. *World report on violence and health.* Geneva, World Health Organization, 2002.

BOX 1

Preventing violence: a public health priority (Resolution WHA49.25)

The Forty-ninth World Health Assembly,

Noting with great concern the dramatic worldwide increase in the incidence of intentional injuries affecting people of all ages and both sexes, but especially women and children;

Endorsing the call made in the Declaration of the World Summit for Social Development for the introduction and implementation of specific policies and programmes of public health and social services to prevent violence in society and mitigate its effect;

Endorsing the recommendations made at the International Conference on Population and Development (Cairo, 1994) and the Fourth World Conference on Women (Beijing, 1995) urgently to tackle the problem of violence against women and girls and to understand its health consequences;

Recalling the United Nations Declaration on the elimination of violence against women;

Noting the call made by the scientific community in the Melbourne Declaration adopted at the Third International Conference on Injury Prevention and Control (1996) for increased international cooperation in ensuring the safety of the citizens of the world;

Recognizing the serious immediate and future long-term implications for health and psychological and social development that violence represents for individuals, families, communities and countries;

Recognizing the growing consequences of violence for health care services everywhere and its detrimental effect on scarce health care resources for countries and communities;

Recognizing that health workers are frequently among the first to see victims of violence, having a unique technical capacity and benefiting from a special position in the community to help those at risk;

Recognizing that WHO, the major agency for coordination of international work in public health, has the responsibility to provide leadership and guidance to Member States in developing public health programmes to prevent self-inflicted violence and violence against others;

1. DECLARES that violence is a leading worldwide public health problem;
2. URGES Member States to assess the problem of violence on their own territory and to communicate to WHO their information about this problem and their approach to it;
3. REQUESTS the Director-General, within available resources, to initiate public health activities to address the problem of violence that will:
   (1) characterize different types of violence, define their magnitude and assess the causes and the public health consequences of violence using also a "gender perspective" in the analysis;
   (2) assess the types and effectiveness of measures and programmes to prevent violence and mitigate its effects, with particular attention to community-based initiatives;
   (3) promote activities to tackle this problem at both international and country level including steps to:
      (a) improve the recognition, reporting and management of the consequences of violence;
      (b) promote greater intersectoral involvement in the prevention and management of violence;
      (c) promote research on violence as a priority for public health research;
      (d) prepare and disseminate recommendations for violence prevention programmes in nations, States and communities all over the world;

BOX 1 ***(continued)***

(4) ensure the coordinated and active participation of appropriate WHO technical programmes;

(5) strengthen the Organization's collaboration with governments, local authorities and other organizations of the United Nations system in the planning, implementation and monitoring of programmes of violence prevention and mitigation;

4. FURTHER REQUESTS the Director-General to present a report to the ninety-ninth session of the Executive Board describing the progress made so far and to present a plan of action for progress towards a science-based public health approach to violence prevention.

to work together in partnerships of all kinds, and at all levels, to develop effective responses.

This summary is addressed primarily to those responsible for public health decisions and policies at the national level, and those working in public health at the local level who are most closely in touch with community problems and needs. The views expressed and the conclusions drawn in this summary are based on the *World report on violence and health* and on the many studies to which that report refers.

- Violence is often seen as an inevitable part of the human condition – a fact of life to respond to, rather than to prevent. Encouraged by the success of public health approaches to other environmental and behavioural-related health problems, these assumptions are changing.
- The health sector has both a special interest and a key role to play in preventing violence.
- A key requirement for addressing violence in a comprehensive manner is for people to work together in partnerships of all kinds, and at all levels, to develop effective responses.

The public health approach to violence

Generally speaking, the response of the health sector to violence is largely reactive and therapeutic. Because that response tends to be fragmented into areas of special interest and expertise, the wider picture and the connections between different forms of violence are often ignored. Violence, however, is a complex phenomenon and needs to be addressed in a more comprehensive and holistic manner.

Public health, by definition, does not focus on individual patients, but rather on the health of communities and populations as a whole. Public health interventions focus, wherever possible, on populations at greatest risk of disease or injury. The fundamental goals of public health are to preserve, promote and improve health. Public health places emphasis on preventing disease or injury from occurring or reoccurring, rather than on treating the health consequences.

Traditionally, the public health approach to dealing with any threat to well-being involves the following four steps (*5*):

— defining and monitoring the extent of the problem;

— identifying the causes of the problem;

— formulating and testing ways of dealing with the problem;

— applying widely the measures that are found to work.

The public health approach is science-based. Everything – from identifying the problem and its causes, to planning, testing and evaluating responses – must be based on sound research and informed by the best evidence. The public health approach is also multidisciplinary. Public health officials work in partnership with a wide range of people and organizations and make use of a wide range of professional expertise, from medicine, epidemiology and psychology to sociology, criminology, education and economics.

As far as violence is concerned, public health practitioners and their partners start with the strong

conviction – based on evidence – that violent behaviour and its consequences can be prevented. The public health approach does not replace criminal justice and human rights responses to violence; rather, it complements their activities and offers them additional tools and sources of collaboration.

Defining violence

One reason why violence has largely been ignored as a public health issue is the lack of a clear definition of the problem. Violence is an extremely diffuse and complex phenomenon. Defining it is not an exact science but a matter of judgement. Notions of what is acceptable and unacceptable in terms of behaviour, and what constitutes harm, are culturally influenced and constantly under review as values and social norms evolve. A generation ago, for instance, the cane was a regular part of discipline in British schools, used to beat pupils on the buttocks, legs or hands. Today a teacher in Great Britain can be prosecuted for using physical restraint of any kind on a child.

The wide variety of moral codes throughout the world makes the topic of violence one of the most challenging and sensitive to address in a global forum. But the need to do so is urgent. An effort must be made to reach consensus and set universal standards of behaviour through the elaboration of human rights in order to protect human life and dignity in our fast-changing world.

There are many possible ways to define violence, depending on who is defining it and for what purpose. A definition for the purposes of arrest and conviction, for example, will be different from one for social service interventions. As far as public health is concerned, the challenge is to define violence in such a way that it captures the range of acts by perpetrators and the subjective experiences of the victims without becoming so broad that it loses meaning – or so broad that it describes the natural vicissitudes of everyday living in terms of pathology. Furthermore, global consensus is needed so that data can be compared between countries and a sound base of knowledge built up.

The World Health Organization defines violence (*4*) 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 encompasses interpersonal violence as well as suicidal behaviour and armed conflict. It also covers a wide range of acts, going beyond physical acts to include threats and intimidation. Besides death and injury, the definition also includes the myriad and often less obvious consequences of violent behaviour, such as psychological harm, deprivation and maldevelopment that compromise the well-being of individuals, families and communities.

Typology of violence

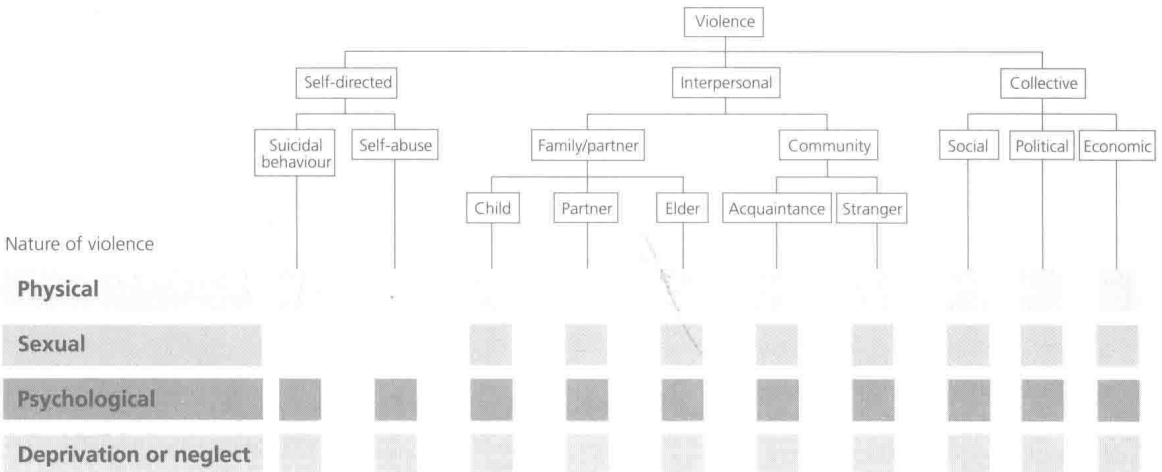
The complexity, pervasiveness and variety of violent acts prompt feelings of powerlessness and apathy. An analytical framework or typology is needed to separate the threads of this intricate tapestry so that the nature of the problem – and the action required to deal with it – become clearer. Up to now, work to counter violence has been fragmented into specialized areas of research and action. To overcome this shortcoming, the analytical framework should emphasize the common features and linkages between different types of violence, leading to a holistic approach to prevention. Few such typologies exist, and none is comprehensive or universally accepted (*6*).

The typology used in the *World report on violence and health* divides violence into three broad categories, according to who commits the violent act: self-directed violence; interpersonal violence; and 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).

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

FIGURE 1
A typology of violence



Self-directed violence includes suicidal behaviour and self-abuse such as self-mutilation. Suicidal behaviour ranges in degree from merely thinking about ending one's life, to planning it, finding the means to do so, attempting to kill oneself, and completing the act. However, these should not be seen as different points on a single continuum. Many people who entertain suicidal thoughts never act on them, and even those who attempt suicide may have no intention of dying.

Interpersonal violence is divided into two subcategories:

- 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, violence by an intimate partner 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 is the instrumental use of violence by people who identify themselves as members of a group against another group or set of individuals, in order to achieve political, economic or social objectives. It takes a variety of forms: armed conflicts within or between states; genocide, repression and other human rights abuses; terrorism; and organized violent crime.

The typology also captures the nature of violent acts, which can be physical, sexual or psychological or involve deprivation or neglect. The typology also considers the relevance of the setting, the relationship between the perpetrator and victim, and – in the case of collective violence – the possible motives for the violence.

Measuring violence

Action on the public health front requires measuring the extent of the particular health problem being addressed. Such knowledge is vital as a basis for sound policy-making. Reliable data on violence are important, not only for planning and monitoring purposes, but also for advocacy. Without information, there is little pressure on anyone to acknowledge or respond to the problem.

Measuring violence presents many challenges. Countries are at varying stages in the development of their data systems, so there is great variation in the completeness, quality, reliability and usefulness

of available information. Many acts of violence are never recorded because they do not come to the attention of authorities. Others do come to the attention of authorities, but the records do not capture all of the information relevant for understanding the problem. Since the way in which a form of abuse is defined affects what data are gathered, inadequate definitions in many places serve to obscure important aspects of the problem. Finally, lack of consistency in definitions and data collection makes it difficult to compare data across communities or nations.

At present, mortality data are the most widely collected and readily available. Sources of information include: death certificates, registries of vital statistics and coroners' reports. Data on mortality, however, represent only the tip of the iceberg. For everyone who is killed, very many more are injured, psychologically undermined or disabled for life. Given that non-fatal outcomes are much more common than fatal outcomes (*7–11*), other types of data are needed to help complete the picture of violence. These 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 employment;
— crime data on the characteristics and circumstances of violent events and violent offenders;
— economic data related to costs of treatment, social services and prevention activities;
— policy and legislative data.

These data can come from a variety of sources including individuals, agency or institutional records, local programmes, community and government records, and population-based and other surveys, as well as special studies. All of these sources can be useful in understanding the problem, and further illustrate why multisectoral partnerships are key elements of the public health approach.

- Public health is about communities and populations as a whole, and focuses on those at greatest risk of disease or injury. The public health approach is science-based – policies and activities must be backed by sound research. It is also multidisciplinary.
- Action on the public health front requires a clear definition of violence and a framework for understanding its many forms and contexts.
- Reliable data on violence are vital for understanding the problem of violence. Reliable data are also important for advocacy purposes. Without data, there is little pressure on anyone to acknowledge or respond to the problem.

The impact of violence — lives lost and health harmed

In 2000, an estimated 1.6 million people worldwide lost their lives to violence – a rate of nearly 28.8 per 100 000 (see Table 1). Around half of these deaths were suicides, nearly one-third were homicides, and about one-fifth were casualties of armed conflict.

Of course not everyone is equally at risk from violence, and a closer look at the problem reveals who the principal victims were and where they lived. Males accounted for three-quarters of all victims of homicide, and had rates more than three times those among females. The highest homicide rates in the world – at 19.4 per 100 000 – were found among males aged 15–29 years (see Table 2). Homicide rates among males tend to decline with age; however, for women, the rate is around 4 per 100 000 across all age groups, with the exception of the group aged 5–14 years, where it is about 2 per 100 000.

Rates for suicide, in contrast, tend to increase with age for both sexes (see Table 2). The highest rates of suicide – 44.9 per 100 000 – were found among men aged 60 years and older, more than double the rates among women of the same age (22.1 per 100 000). In contrast, in the 15–29-year-old age group, the rate was 15.6 per 100 000 among males and 12.2 per 100 000 among females.

TABLE 1

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.

[a] Rounded to the nearest 1000.

[b] Age-standardized.

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

TABLE 2

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.

[a] Age-standardized.

Rates of violent death also vary according to country income levels. Rates of violent death in the low- to middle-income countries are more than twice as high (32.1 per 100 000) as those in high-income countries (14.4 per 100 000). These overall rates conceal wide variations. For example, there are large differences in rates among the WHO regions (see Figure 2). In the African Region and the Region of the Americas, homicide rates are nearly three times greater than suicide rates. However, in the South-East Asia and European Regions, suicide rates are more than double homicide rates, and in the Western Pacific Region, suicide rates are nearly six times greater than homicide rates.

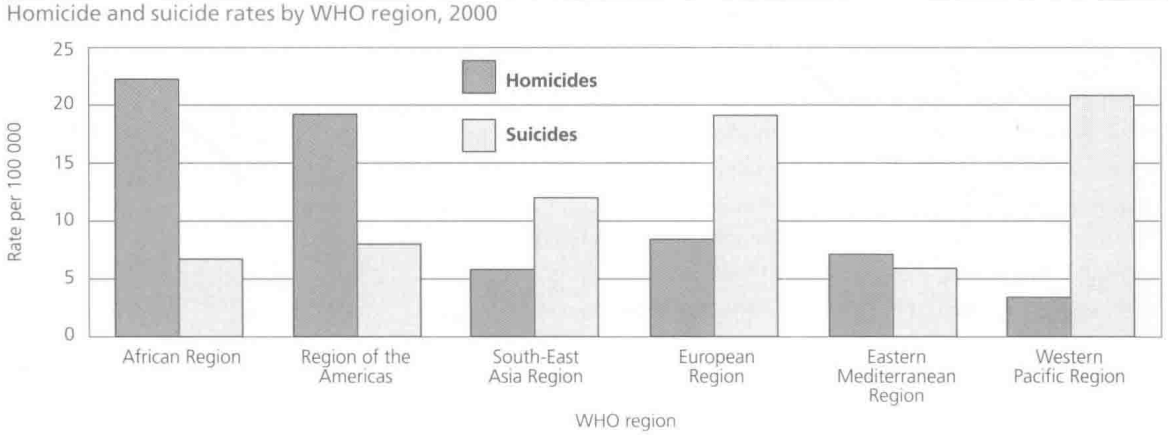
The overall rates also conceal wide variations within countries – between urban and rural populations, between rich and poor communities, and between different racial and ethnic groups. In Singapore, for example, people of Chinese and Indian ethnic backgrounds have higher suicide rates than ethnic Malays (*12*). In the United States in 1999, African-American youths aged 15–24 years were victims of homicide at a rate more than twice that of their Hispanic counterparts, and over 12 times that of their Caucasian, non-Hispanic counterparts (*13*).

The figures for violent death, however, tell only part of the story. Physical, sexual and psychological abuse occur in every country on a daily basis, undermining the health and well-being of many millions of people, in addition to costing nations vast sums each year in health care, legal costs, absenteeism from work and lost productivity (*14–21*) (see Box 2). Moreover, the health effects of violence can last years beyond the initial abuse, and may include permanent disability such as spinal cord injuries, brain damage and loss of limbs.

In addition to direct physical injury, victims of violence are at increased risk of a wide range of psychological and behavioural problems, including

FIGURE 2

Homicide and suicide rates by WHO region, 2000



BOX 2

Counting the costs of violence

In addition to the toll of human misery, violence puts a massive burden on national economies.

For example, studies sponsored by the Inter-American Development Bank between 1996 and 1997 on the economic impact of violence in six Latin American countries calculated that expenditures on health services alone amounted to 1.9% of the gross domestic product in Brazil, 5.0% in Colombia, 4.3% in El Salvador, 1.3% in Mexico, 1.5% in Peru and 0.3% in Venezuela (*14*). A 1992 study in the United States put the annual cost of treating gunshot wounds at US$ 126 billion (*15*). Cutting and stab wounds cost an additional US$ 51 billion.

The evidence shows that, as a general rule, victims of domestic or sexual violence have more health problems, significantly higher health care costs and more frequent visits to hospital emergency departments throughout their lives than those without a history of abuse. The same is also true for victims of child abuse and neglect.

In calculating the costs of violence to a nation's economy, a wide range of factors need to be taken into consideration besides the direct costs of medical care and criminal justice. Indirect costs may include, for example:

- the provision of shelter or other places of safety and long-term care;
- lost productivity as a result of premature death, injury, absenteeism, long-term disability and lost potential;
- diminished quality of life and decreased ability to care for oneself or others;
- damage to public property and infrastructure leading to disruption of services such as health care, transport and food distribution;
- disruption of daily life as a result of fears for personal safety;
- disincentives to investment and tourism that hamper economic development.

The costs of violence are rarely evenly distributed. Those with the least options for protecting themselves against economic hardship will be most seriously affected.

depression, alcohol abuse, anxiety and suicidal behaviour, as well as reproductive health problems such as unwanted pregnancy, sexually transmitted diseases and sexual dysfunction (*22–25*).

It is important to note, however, that there is rarely a simple cause-and-effect relationship between a violent act and its impact, particularly where psychological abuse is concerned. Even in extreme cases, a range of reactions and effects are possible since people respond to adversity in highly individual ways. The age and temperament of the person, and whether or not he or she has emotional support, will influence the outcome of violent events. People who are active in response to violence tend to be more resilient than those who remain passive. In order to provide a sound basis for treatment and prevention programmes, much more detailed research is needed into the health consequences of violence and the mediating factors.

- An estimated 1.6 million people lost their lives to violence in 2000. About half were suicides, one-third were homicides, and one-fifth were casualties of armed conflict.
- In 2000, the rate of violence-related death in low- to middle-income countries as a whole was more than twice that in high-income countries, although rates vary between regions and even within countries.
- The majority of violence is non-fatal and results in injuries, mental health and reproductive health problems, sexually transmitted diseases and other problems. Health effects can last years, and may include permanent physical or mental disability.
- Besides the toll of human misery, violence exacts social and economic costs which – though hard to quantify – are substantial.

The roots of violence — an ecological model

There is no single factor to explain why one person and not another behaves in a violent manner, nor why one community will be torn apart by violence while a neighbouring community lives in peace. Violence is an extremely complex phenomenon that has its roots in the interaction of many factors – biological, social, cultural, economic and political.

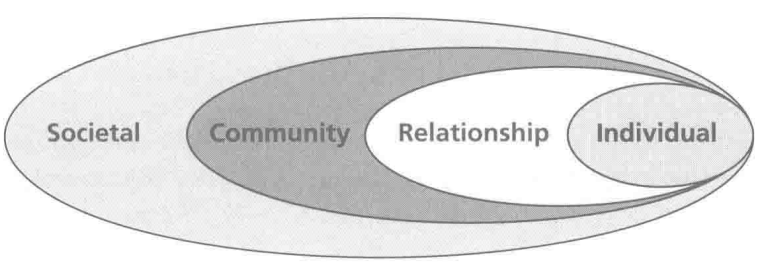
While some risk factors may be unique to a particular type of violence, more often the various types of violence share a number of risk factors. Fragmentation of the field into different areas of expertise and interest, and lack of collaboration between the various groups tends to obscure this fact and to encourage a piecemeal approach to violence prevention. This is at odds with the requirements of public health, which needs to see the different types of violence in their broader context and to be aware of the common patterns.

The *World report on violence and health* uses an ecological model to try to understand the multifaceted nature of violence. First introduced in the late 1970s for the study of child abuse (*26, 27*) and subsequently used in other fields of violence research (*28–32*), the ecological model is still being developed and refined as a conceptual tool. Its strength is that it helps to distinguish between the myriad influences on violence while at the same time providing a framework for understanding how they interact (see Figure 3).

The model assists in examining factors that influence behaviour – or which increase the risk of committing or being a victim of violence – by dividing them into four levels.

- The first level identifies biological and personal history factors that influence how *individuals* behave and increase their likelihood of becoming a victim or perpetrator of violence. Examples of factors that can be measured or traced include demographic characteristics (age, education, income), psychological or personality disorders, substance abuse, and a history of behaving aggressively or experiencing abuse.
- The second level looks at close *relationships* such as those with family, friends, intimate partners and peers, and explores how these relationships increase the risk of being a victim or perpetrator of violence. In youth violence, for example, having friends who engage in or encourage violence may increase a young person's risk of being a victim or perpetrator of violence (*33, 34*).
- The third level explores the *community* contexts in which social relationships occur, such as schools, workplaces and neighbourhoods, and seeks to identify the characteristics of these settings that increase the risk for violence. Risk at this level may be influenced by factors such as residential mobility (for example, whether people in a neighbourhood tend to stay for a long time or move frequently), population density, high levels of unemployment, or the existence of a local drug trade.
- The fourth level looks at the broad *societal* factors that help create a climate in which violence is encouraged or inhibited. These include the availability of weapons and social and cultural norms. Such norms include those that give priority to parental rights over child welfare, those that regard suicide as a matter of individual choice instead of a preventable act of violence, those that entrench male dominance over women and children, those that support the use of excessive force by police against citizens, and those that support political conflict. Larger societal factors also include the health,

FIGURE 3
Ecological model for understanding violence



economic, educational and social policies that help to maintain economic or social inequality between groups in society.

The overlapping rings in the model illustrate how factors at each level are strengthened or modified by factors at another. Thus, for example, a person with an aggressive personality is more likely to act violently in a family or community that habitually resolves conflict through violence than if he or she were in a more peaceable environment. Social isolation, which is a widely found community factor in the mistreatment of the elderly, may be influenced both by societal factors (for example, less respect for the elderly in general) and relationship factors (the loss of friends and family members).

Besides helping to clarify the causes of violence and their complex interactions, the ecological model also suggests that in order to prevent violence it is necessary to act across several different levels at the same time. This includes, for example:

- 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.

- No single factor explains why one person and not another behaves in a violent manner. Violence is a complex problem rooted in the interaction of many factors – biological, social, cultural, economic and political.
- While some risk factors may be unique to a particular type of violence, more often the various types of violence share a number of risk factors.
- Besides clarifying the causes of violence and their complex interactions, the ecological model also suggests what needs to be done at the various levels to prevent violence.

From analysis to action

A general model of the roots of violence gives useful insights and identifies possible avenues for research and prevention. There is, however, often a huge gulf between observing an effect and understanding how it operates. Public health programmes need to guard against acting on assumptions or anecdotal evidence alone. To be effective, prevention strategies need to be based on sound understanding, backed by high-quality research, of the factors influencing violence and how they interact.

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. While these levels of prevention have traditionally been applied to victims of violence and within health care settings, they are also relevant to the perpetrators of violence, and have been used to characterize judicial responses to violence.

Researchers have increasingly turned to a definition of violence prevention that focuses on the target group of interest (*35*). This definition groups interventions as follows:

- Universal interventions – approaches aimed at groups or the general population without regard to individual risk; examples include violence prevention curricula delivered to all pupils 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.

In both industrialized and developing countries, priority is usually given to dealing with the immediate consequences of violence – providing support to victims and punishing offenders. While such responses are important and should be strengthened wherever possible, there needs to be much greater investment in primary prevention of violence – that is, measures to stop violence from occurring in the first place.

In developing the response to violence, many different sectors and agencies should be involved, and programmes should be tailored to suit different cultural settings and population groups. A major weakness in efforts to date is the lack of rigorous evaluation of responses. Evaluation should be an integral part of all programmes so that lessons can be learnt and shared about what does and does not work in terms of preventing violence.

- Greater priority should be given to primary prevention of violence – that is, measures to stop it from occurring in the first place.
- Many different sectors and agencies should be involved in prevention activities, and evaluation should be an integral part of all programmes.