

Armed Violence: A Health Problem, a Public Health Approach

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ABSTRACT

At the World Health Assembly in 1996, the World Health Organization (WHO) declared violence “a leading worldwide public health problem” and called for public health strategies to address it. The WHO’s call to action, as well as an international political movement that is gaining strength, has helped galvanize health professionals in many countries to employ the tools of public health and their medical skills to better understand the causes of violence, to use research findings to influence policy, and to animate statistics with a human face. This paper reviews the scope of the problem, with a focus on armed violence with small arms and light weapons. It presents a history of International Physicians for the Prevention of Nuclear War’s (IPPNW) involvement in this issue. A case example from IPPNW/Zambia demonstrates how health community involvement can raise awareness about armed violence and its risk factors, and influence policy changes.

Journal of Public Health Policy (2007) 28, 389–400.
doi:10.1057/palgrave.jphp.3200150

Keywords: violence, armed violence, violence prevention, public health, small arms, small arms and light weapons

INTRODUCTION

Four instances made me realize the wisdom of using a public health approach...that seeks to break the chain in the causal link of events at their weakest point. A driver I knew was shot by bandits; a colleague was raped at gunpoint; nurses were shot at by thieves trying to rescue a colleague from lawful custody in hospital; a politician was shot by unknown fellows in politically motivated circumstances. All these people needed medical help – but treating them did not plug the tap. I realized that all these cases were preventable. So a moral question arose – what help is

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it to mop the floor whilst the taps are running full throttle?

– Robert Mtonga MD, IPPNW/Zambia

Globally, more than a million people each year die and many more are wounded, both physically and psychologically, by violence, including self-inflicted, interpersonal, or collective violence. For people aged 15–44 years, violence is among the leading causes of death worldwide (1). The accompanying papers in this special section explain how weapons have an intimate relationship to violence, and how guns and other small arms and light weapons (SALW), in particular, can increase its destructive force and lethality. SALW include easily transportable weapons such as handguns, rifles, and machine guns, portable grenade launchers, and anti-tank guns. Best estimates are that armed violence using SALW kills hundreds of thousands of people each year, leaving millions more maimed, injured, disabled, and traumatized. But the “rich and poor die differently” and rates of violent death and firearm-related death are generally higher in lower income nations that are “gun rich, resource poor (2, p. 2–5)”. Nowhere is this more evident than in Africa, the region with the largest number of war-related deaths since 1990 (3). In the African region, interpersonal violence is third only to HIV/AIDS and tuberculosis as a leading cause of death for the age group 15–29 (4). In this paper, we focus primarily on armed violence and its public health implications.

THE INTERNATIONAL HEALTH COMMUNITY AND ARMED VIOLENCE PREVENTION

Health professionals are uniquely positioned to observe the human dimensions of armed violence, in hospital emergency rooms, in refugee camps, and at inner city clinics. The medical community’s mission to promote health and save lives makes involvement in conflict reduction efforts a “moral imperative (5)”. Institutions are paying attention to how the health community can play a helpful role. Medical doctors are often accorded a high status and listened to by diplomats and policy-makers when they have a message (6). Universities, for example McMaster in Canada, have introduced the concept of “Peace through Health” (7). How can health interventions contribute to both conflict prevention and to mitigation in areas in conflict?

Public health methods to address violence prevention begin with information gathering. Data on injuries can help guide the identification of the risk factors that contribute to these injuries. Possible interventions that address those factors can then be developed, targeted at high risk areas and groups, tested for feasibility, and evaluated for effectiveness. Results can be used by health professionals to bring awareness to the magnitude of the problem, and to advocate for public policies and health strategies to reduce violence. It is only in the past decade, however, that the public health approach to violence prevention has gained more widespread traction. At the World Health Assembly in 1996, the World Health Organization (WHO) declared violence “a leading worldwide public health problem (8)”, and called for public health strategies to address it, including improving the recognition and management, mitigating the consequences of violence, and promoting research as a public health priority. WHO followed this call to action with two seminal reports. The first, *Small Arms and Global Health* (2), was prepared for the 2001 United Nations Conference on Illicit Trade in SALW in All Its Aspects. The conference generated the *Programme of Action* document (UN PoA). *Small Arms and Global Health* focussed on the scourge of armed violence and the use of SALW to injure and kill. It explored the scientific methods that can be used to break the chain of violence at the weakest links.

In October 2002, WHO issued the second report, the *World Report on Violence and Health*. WHO has adopted a wide definition of violence, describing it 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 (1, p. 5).

Its chapter eight described the various forms of collective violence that plague the world, including gangs and banditry, wars and conflicts, and state perpetrated violence. Again, it called for more public health approaches to stem the violence, and described the difficulties associated with reliable data collection in poor countries (1). In 2004, the WHO established the international Violence Prevention Alliance, a network of non-governmental organizations (NGOs),

government agencies, and others formed to encourage work to address both the root causes of violence of all types, and victim assistance. The next section describes further why it is important for health professionals to get involved in violence prevention.

DIRECT AND INDIRECT EFFECTS OF ARMED VIOLENCE ON
HEALTH AND DEVELOPMENT

The direct consequences of violence include increased mortality and morbidity and are serious problems in and of themselves. Violence can be perpetrated by different means, using threats, weapons, or simply brute physical force. The means affect the seriousness of the damage. SALW are particularly likely to inflict devastating damage. Wounds and injuries sustained from firearms are often extremely expensive to treat – if the patient reaches a hospital alive at all. This places great strains on hospital resources. One Ugandan doctor was quoted as saying “are you going to take a child off the respirator to put on the firearm injury patient? (9)”. Violence affects different population groups differently. Research on gunshot injuries reveals that men are more often both the perpetrators and victims of such injuries (10). Men are also more often killed in war, while women suffer disproportionately from sexual violence during both peacetime and war, often leaving them scarred for life (11).

Indirect consequences of violence are even more difficult to assess. It is impossible to measure accurately the psychological traumas of violence victims. They often carry memories with them long after the physical wounds have healed. We can look to rehabilitation statistics for some answers; but unfortunately, there is little systematic information on this in African countries. Good health is more than the absence of physical illness. Because victims of violence may require expensive medical treatment, an indirect cost of gun violence is the number of patients with non-acute diseases who might have been treated instead. One hospital in South Africa estimated that treating injuries caused by small arms cost it between USD \$2.5 and \$10 million a year (10) – a significant sum of money anywhere, and much more so for a poor healthcare system struggling to contain the rampaging spread of HIV/AIDS. How many lives could have been spared by treating patients with malaria, tuberculosis, and other diseases instead of violence victims?

To answer that question we have for the time being to rely on anecdotal data. Landmine injuries are, for example, a limited problem in Zambia, when compared with malaria, tuberculosis and HIV/AIDS, if measured in numbers of people affected. The same can be said of gunshot injuries. But when the costs of treating these conditions are considered, gunshot and landmine injuries consume more resources per person – human, material, and financial – than all the rest combined (12). In Zambia, it costs between USD \$10–\$15 to treat one malaria case, the same for providing antiretroviral therapy as well as a month’s course of anti-tuberculosis medication in government health centre (13). In contrast, a gunshot or anti-personnel mine-injured patient requires a minimum of USD \$100 for a minor injury, to an average of USD \$3,000 (14).

Women and men are affected differently by the indirect consequences of violence. Studies have shown that women appear to bear the brunt of the long-term, indirect effects of war (11). Violence has even more detrimental long-term consequences for entire societies. Education is often hampered. Schools may be sought out to recruit child soldiers, and many children cannot go to school out of fear for their safety. In extreme situations, companies and even aid workers cannot operate out of fear of their own security. In the long term, then, violence often presents a real threat to development (15).

ORGANIZING DOCTORS TO ADDRESS THE ISSUE OF WAR AND ARMED VIOLENCE

Physicians and health activists in non-governmental organizations (NGOs), such as International Physicians for the Prevention of Nuclear War (IPPNW), have responded to the WHO’s call to action. They have ensured a “data to action” link to inform public policies from the global to the local levels. In the late 1990s, IPPNW’s operating motto, “prevention is the only possible cure”, written originally about nuclear war, was expanded to include conventional war and its tools. Done first by addressing antipersonnel mines or landmines, it is now embraced in a global campaign to prevent injuries from armed violence in all its aspects – “Aiming for Prevention”. IPPNW affiliates in Africa, Central America, and South Asia have been most active.

Although doctors and others may be eager to contribute to preventing armed violence, organizing, involving and supporting busy health professionals to take on additional work beyond their primary medical obligations, especially in countries of the developing world including in Africa, can be a challenge. Practitioners are already faced with enormous daily hurdles – how to provide quality medical care when equipment, supplies, and medical infrastructure may be lacking, as in a country like Kenya, which has an inadequate ambulance system. (See Hugenberg, Odhiambo, Mwita, and Opondo, *Firearm Injuries in Nairobi, Kenya: Who Pays the Price?* in this issue). Communication is often a challenge, particularly where Internet connections may be spotty and transportation difficult. IPPNW's federation has addressed these challenges by providing centralized support, including fundraising, communications, campaign materials, human resources, and North/South affiliate cooperation. The global federation relies on individual leaders who live and work in the regions to help organize and inspire others.

IPPNW LEADERSHIP ON ARMS AND PUBLIC HEALTH

As a follow-up to the 2001 UN Conference on small arms, and with the assistance of the government of Norway, IPPNW convened the first international health conference to address the small arms health crisis, "Aiming for Prevention: an International Medical Conference on Small Arms, Gun Violence, and Injury" in Helsinki in September 2001. It brought together delegates from IPPNW-developing country affiliates with leading public health experts from the WHO and the US Centres for Disease Control, health practitioners, and experts from governments, disarmament agencies, the UN, and humanitarian agencies to assess existing health knowledge on small arms, and to identify needs and priorities. From this event, the Aiming for Prevention campaign gained momentum, using credible public health research, physician participation in international conferences dealing with armed violence and injury, and development of evidence-based policy proposals for dissemination through a global public health network.

The UN PoA has provided an important vehicle for health professionals to contribute to policy-making actions on small arms,

particularly in response to Article III, number 18 in which “States, regional and sub-regional and international organizations, research centres, health and medical institutions, the United Nations system, international financial institutions and civil society are urged, as appropriate, to develop and support action-oriented research aimed at facilitating greater awareness and better understanding of the nature and scope of the problems associated with the illicit trade in SALW in all its aspects (16)”. The health community has played an increasingly larger role in educating delegates to the PoA meetings held each year, culminating in the establishment of the International Action Network (IANSA) on Small Arms’ Public Health Network in 2005, led by IPPNW.

IPPNW has developed a central campaign tool to illuminate the human face of suffering. A series of “One Bullet Stories” sheds light on both costs to the healthcare system as well as the tragic human toll taken by armed violence. The first story, describing a boy from the Democratic Republic of Congo who was shot in the face by diamond thieves, illustrates that treatment costs of USD \$6,000 at Kenyatta National Hospital could have translated into one year of primary education for 100 children, full immunizations for 250 children, one-and-a-half year education for a medical student, or 10 years of a daily ugali (Kenyan staple) meal for an average Kenyan family of six (17). It also starkly shows the human face of suffering – the boy had to live with a disfigured face for a year until he was able to save enough money to travel to Nairobi for treatment. This story reached an important policy audience when it was shown on the gigantic screen in the assembly hall to the delegates at the UN PoA Biennial Meeting of States in New York in 2005, narrated by an IPPNW physician. Delegates to the conference testified to its emotional impact. As a delegate said to one of us (Dr. Robert E. Mtonga in July 2005), “Linking dollars to human suffering strikes a chord with most ambassadors here”. A series of cases from a hospital in Lusaka, Zambia further documented many thousands of dollars in costs to the healthcare system for the care and treatment of armed violence victims (14). In a country where the annual per capita expenditure on health is \$21 (in average exchange rate), these precious dollars are being diverted from basic medical care as well as preventive measures such as immunizations (18).

FILLING IN THE RESEARCH GAPS

Five IPPNW affiliates in Africa – Kenya, Uganda, Nigeria, Democratic Republic of Congo, and Zambia – initiated a comparative hospital-based research study in 2006 that will contribute to the urgently needed body of literature on the dimensions of armed violence in these countries. (See Zavala, Bokongo *et al.*, *A Multi-national Injury Surveillance System Pilot Project in Africa* in this issue). The collaboration follows a series of smaller studies in each country that has attempted to illuminate this poorly understood topic. One such study was undertaken by IPPNW physicians and medical students in Uganda, who reviewed all injuries due to SALW at Mbale Regional Hospital in eastern Uganda for the six-year period 1998–2003. They found that the majority of injuries involved males and occurred in the context of conflict within tribal communities, or in armed robberies. Each injury posed a significant cost for the healthcare system and to the victim (19).

CASE STUDY: RAISING AWARENESS AND ADDRESSING ROOT CAUSES IN ZAMBIA

A physician working in a developing country is “bedeviled” by a myriad of health problems, all competing for scarce resources. Zambia, for example, is afflicted mainly by infectious diseases with HIV/AIDS, malaria, and tuberculosis leading the list (20). Non-infectious diseases and injuries such as cancer, road traffic injuries, gunshot injuries, physical assault, and antipersonnel landmine injuries are often relegated to the “others” category when health priorities are established, thus receiving only half-hearted attention, if any at all. Yet, as has been documented earlier, violent bodily harm and deaths arising from gunshot and landmine injuries consume resources equal to, and in some cases greater than those needed to treat infectious diseases.

A physician on the ground, working in injury prevention has to find a way to engender a paradigm shift to attract policy-makers’ attention. To help authorities see this logic, in 1999 and 2000, *Zambian Health Workers for Social Responsibility*, the Zambian affiliate of IPPNW, led a team of colleagues in Zambia to define the social impacts and human costs of treating landmines and gunshot

injuries, and related their findings to healthcare costs in general. They collected pictures, photographs, and stories of these injuries, and showed them to health workers with the message “prevention is better than cure”. The aim was sensitization. They then mounted a mass media campaign showing the human face of injuries. Simultaneously, they engaged government officials using public health messages such as “guns are bad for people’s health”, and “landmine injuries are inhuman”. The Zambian government subsequently established a National Committee against Landmines to which IPPNW/Zambia was appointed. This provided an opportunity for the health community to contribute to policy. Zambia enacted a national law “Prohibition of Antipersonnel Landmines of 2003”, that created the Zambia Antipersonnel Mine Action Center, which IPPNW/Zambia serves as a public health advisor.

Aware of the collection of Zambian One Bullet Stories, the Zambian Government in 2006 invited Dr. Robert Mtonga, on behalf of IPPNW/Zambia and IANSA, to sit on the newly established Interim National Focal Commission on SALW, tasked to spearhead the formulation of a new policy on the illicit trade in SALW, as mandated by the UN PoA. Subsequently the United Nations Information Center in Lusaka sponsored two live radio programmes and press articles to sensitize the public, highlighting the human face of the illicit trade in SALW. Policy-makers began to realize that even if the data are limited, and the numbers involved not comparable to HIV/AIDS, malaria, and tuberculosis, the resources expended are enormous. Using public health models would lead to financial savings, which might be used to prevent, combat, and eradicate the scourge of infectious diseases. The new commission will propose a policy for Zambia on non-communicable diseases including gunshot injuries. This “STEPS” project will employ a public health approach – a rapid assessment protocol (plus criteria) that collects only essential, yet actionable, data for policy and intervention purposes. To qualify, health conditions must affect at least one percent of the population. STEPS projects are “eye-openers” or pilot studies, but the results are usable immediately.

Zambians have been heartened by IPPNW colleagues in other regions, including El Salvador, where recommendations that came from a prospective study of firearm injuries undertaken by members of IPPNW at Hospital Rosales in San Salvador were implemented by

the El Salvadoran government. An El Salvadorean colleague, Dr. Emperatriz Crespín, has confirmed (17 July 2007) that El Salvador adopted the policy recommendation to reduce the number of public places where a firearm can legally be carried, and another to add a tax on small arms sellers to support public health budgets (21). Quantifying the costs of gunshot injuries, as well as identifying risk factors, played a role in influencing appropriate policy decisions to help mitigate violence as well as to provide for victim assistance. Cross-fertilization of successes and best practices among 58 affiliates has been important to IPPNW's work worldwide.

CONCLUSION

SALW kill hundreds of thousands of people each year, leaving millions more maimed, injured, disabled, and traumatized. Generally, rates of violent death and firearm-related death are higher in nations with lower incomes. The death and suffering caused by gunshot wounds, the indirect costs, and the burden on health services, constitute a public health crisis in many African states. Medical community involvement in addressing this issue, such as that of IPPNW, can help contribute to awareness about armed violence prevention using time-tested public health approaches. These include collecting accurate data to identify the scope of the problem and risk factors, educating decision-makers and colleagues about the human costs of gun violence, advocating for more comprehensive health and medical policies to address the root causes of violence, and analyzing how to provide proper assistance to the victims of armed violence.

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