Terrorism and health

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Abstract

Terrorism affects population health and healthcare in many ways, only some of which can be captured in statistics. Asylum seekers and internally displaced persons fleeing terrorism face obstacles to healthcare during and after escape. Populations remaining in terrorist-occupied regions become isolated and unable to reach basic services. While the Global Terrorism Index reports violent civilian deaths directly due to terrorist attacks, the worldwide effect on mental health, chronic disease management, and access to basic healthcare in general is difficult to quantify with precision. Arguments linking the occurrence of terrorism to inequalities in social service provision need to be further substantiated. Access to healthcare is a human right and impartial provision a must. Terrorism has an especially damaging effect on the health and healthcare of the most vulnerable people. Considering the cost of building resilience, it is better to prevent terrorism.

In this article, “terrorism” refers to the definition in the UK terrorism Act 2000: “The use or threat of action designed to influence the government or an international governmental organisation or to intimidate the public, or a section of the public; made for the purposes of advancing a political, religious, racial or ideological cause; and it involves or causes: serious violence against a person; serious damage to a property; a threat to a person’s life; a serious risk to the health and safety of the public; or serious interference with or disruption to an electronic system.”

Consolidated data about the toll of terrorism are concerned with direct casualties of violence and mostly focus on fatal injuries. But terrorism also affects population health in ways that are not easily captured in statistics. The impact of damage to health systems is hard to quantify, especially in countries with generally insufficient health services, or when militant groups conduct violent attacks against civilians in the course of non-international armed conflict. Although the loss of infrastructure and resources can be verified, it is difficult to assess the size of any ensuing reduction in health service provision and to demonstrate the worsening of people’s health as a result.

Acknowledging that causal inference is tentative at times, this article provides an overview of ways in which terrorism can damage public health. The author’s work experience in international health guided the choice of some examples and the geographical scope is incomplete. The selection of settings intends to describe a spectrum of situations, showing how terrorist violence can have far-reaching health consequences.
The Global Terrorism Index is an initiative of the Institute for Economics and Peace, an independent think tank. According to the 2015 edition, there were 32,658 fatalities worldwide in 2014. The majority of deaths did not occur in the West (USA, Canada, European countries, and Australia). In 2014 Boko Haram overtook Islamic State of Iraq and the Levant as the most deadly terrorist group. The combined toll of these two accounted for more than half the number of civilian deaths attributed to terrorist attacks.²

Terrorism causes insecurity and fear, which can lead to large population movement. The health of refugees and internally displaced persons (IDPs) is at risk during and after displacement. The number of people who died while seeking refuge from terrorism worldwide is largely unknown. Survivors who have travelled without protection across uninhabitable areas often have no identity documents. A retrospective mortality survey among refugees from the Central African Republic (CAR) in Sido, Cameroon, found that 2,599 family members (8%) had died between November 2013 and April 2014. Eighty percent of the victims died before crossing into Cameroon.³ It is likely that the majority of the later deaths were due to non-violent causes. Sido was one of many border crossings for people fleeing terrorism in CAR. It may not be possible to conduct individual interviews at border crossings during mass population movement. In July 2014, several aid agencies reported critical levels of severe acute malnutrition (more than 15% of children below the age of 5 years) among refugee children from CAR in Cameroon.⁴

Systems and procedures have been developed to register asylum seekers and they are entitled to free healthcare in the host country. However, the capacity of health systems to absorb additional needs is limited, and the quality of public healthcare varies between regions. A stringent shortage of qualified health workers exists in rural sub-Saharan Africa. The World Health Organization (WHO) estimates a minimum needs threshold of 23 doctors, nurses, and midwives for a population of 10,000.⁵ In Chad, for example, 2010 national ratios for doctors and nurses were 3.7 physicians and 2.1 nurses and midwives for 100,000 people. The majority of these health workers were concentrated in N’djamena.⁶ International law makes no special provision for IDPs, who legally remain under the protection of their own government. The Kampala Convention for the Protection and Assistance of IDPs in Africa entered into force on 6 December 2012. Published by the African Union, the document is legally binding to the ratifying States. Implementation of the provisions in the convention relies on the development of national laws and policies.⁷ Although the convention has defined a protection framework, covering the demand for additional healthcare requires a combination of resources. Expansion of the health system relies on many elements which need to be balanced, including qualified personnel, suitable infrastructure, equipment, and supplies. A shortage in any of these will be a constraint to service provision. Not only is the number of health workers in rural Africa often deplorably inadequate; for political reasons, governments may be reluctant to declare an emergency and ask for international assistance in case of large internal displacement due to terrorist activity, leaving IDPs to compete with host populations for scarce public health resources.

Frequent terrorist violence also disrupts access to healthcare for people who decide to stay. Between 2000 and 2007, the International Rescue Committee conducted consecutive mortality

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surveys in the Democratic Republic of Congo (DR Congo). They estimated that 5.4 million excess deaths had occurred between 1998 and 2007. An estimated 2.1 million deaths happened after the formal signing of a peace accord in 2002. The only region with a statistically significant reduction in mortality after 2004 was the north-east, where violent deaths decreased with robust peacekeeping.\(^8\) In 2012, the rural areas of the North Kivu province (north-eastern DR Congo) became a battleground for M23 (a rebel group also known as the Congolese Revolutionary Army), the Mai-Mai (local militia claiming to defend their ancestral territory), and the FDLR (Democratic Forces for the Liberation of Rwanda, French acronym). Villagers were forced to spend the night outside in hiding. Health facilities were in disrepair, medical supplies held up, and the few remaining health workers were unable to perform their duties.\(^9\) A case study by Médecins sans Frontières made similar observations during the emergency phase in 2012–2013.\(^10\)

Attacks targeting health facilities and providers contribute to a further reduction of scarce services in places at risk of terrorist violence. Between January 2014 and April 2015, Human Rights Watch reported attacks on hospitals and health centres, and targeted killing of healthcare workers in 13 countries.\(^11\) Some attacks were carried out by terrorist groups, while in other cases Government forces were held responsible. In May 2013, the WHO withdrew its polio vaccination teams in Peshawar, Pakistan, after Taliban killed one vaccinator and critically injured another. The Nigerian Federal Department of Health recorded hundreds of destroyed and damaged health facilities, including 21 hospitals in the north-eastern region due to Boko Haram violence between 2010 and 2015.\(^12\)

Day-to-day management and follow-up is required for people suffering from chronic diseases. The consequences of uncontrolled hypertension and diabetes can be severe and irreversible. As for chronic communicable diseases, adherence to the prescribed medication schedule is essential in tuberculosis (TB) treatment. Multi-drug resistance is becoming a global problem and countries with a high burden of TB and low resources are the most susceptible. Human immunodeficiency virus and acquired immune deficiency syndrome patients are in need of lifelong daily medication. For this to be possible, supply chains, pharmacy management, and patient files have to be up-to-date. Large population movements and insecurity contribute to losses of follow-up. In Adamawa State, Nigeria, IDPs with chronic diseases reportedly went without treatment for more than three months.\(^13\)

Measures to improve safety can cause inadvertent barriers to care. In 1999, the United Nations established a peacekeeping mission in the DR Congo. MONUC (French acronym for UN Mission in Congo) headquarters in the Oriental province were set up in Bunia, the capital of Ituri, a district with at least four million inhabitants. A large military presence succeeded in securing the town, which rapidly grew from an estimated population of 100,000 to more than 200,000 inhabitants. Because of the risk of rebel incursions at night, the roads into the town were closed from dusk until dawn. In 2003, an international non-governmental organisation (NGO) built a temporary hospital in Bunia, providing free emergency healthcare, including emergency obstetric care. Rural health facilities were able to provide basic healthcare, but patients in need of specialist care had to be referred to a hospital. A study conducted before the closure of the NGO hospital found that the


maternal mortality ratio in 2008 in the Bunia Health Zone (the town and four adjacent villages) was 37% lower than the national estimate for 2007. Perinatal mortality in the same area was 32% lower than the 2006 estimates produced by the WHO model for the DR Congo. The improvement was directly attributable to the presence of the NGO hospital, which performed 75% of the emergency obstetric procedures. The vast majority of women who delivered at the NGO hospital had only travelled a short distance between the place where labour started and the place of delivery. In spite of the free availability of international aid, with time being a crucial factor in emergency obstetric and neonatal care, between December 2007 and July 2008, 15 women died during or after delivery in the Bunia Health Zone and 39 early neonatal deaths were recorded in referral hospitals. Most of these deaths were avoidable.\textsuperscript{14}

The effect of terrorism on mental health is well documented. A study in Israel found higher rates of post-traumatic stress disorder (PTSD) among survivors of terrorist attacks than among motor vehicle accident survivors. Four months later, there was no evidence that greater frequency of attacks influenced symptoms. The authors suggested that the latter finding could be due to converging effects of terror-induced fear, adjustment, and resilience.\textsuperscript{15} Research among civilian survivors of the 11 September 2001, attacks on the World Trade Center concluded that two years later the relation between direct exposure and PTSD was clear.\textsuperscript{16} Fear and anxiety can lead to irrational behaviour and wrong decisions, which in turn can aggravate disease and cause avoidable death. A 28.8% increase in substance use (tobacco, marijuana, and alcohol consumption) was reported among Manhattan residents 5 to 8 weeks after the September 11 attacks. Residents reporting an increase in smoking were also more likely to suffer from PTSD, while depression was found to be more common with increased substance use overall.\textsuperscript{17}

Those seeking to understand and find solutions for the occurrence of terrorism itself have looked at the role of health services and other social services. Some researchers have postulated a positive link between “youth bulge” in countries with a median age substantially below the global median age and vulnerability to civil conflict. This has given rise to the theory that the burden of disease due to conflict and terrorism could be alleviated by policies which favour voluntary family planning and education of women.\textsuperscript{18} Conflict analysts at the UK Department for International Development prefer to take a multifactorial approach. Structural, intermediate, and trigger factors are subdivided into broad categories such as social, environmental, or economic. Horizontal or group-based inequalities are singled out as destabilising, with greed or grievance as a possible motive for violence.\textsuperscript{19} As the examples in this article illustrate, the effects of terrorism on health and healthcare are just as complex. From the summary table below, it also appears that countries, regions, and populations with a lower than average income suffer the most from its consequences on health (Table 1).

Cumulative damage to health systems makes the provision of comprehensive primary healthcare an elusive aspiration. Already in 1999, the WHO set up an expert consultation on planning ahead for the health impact of “complex emergencies.” The Inter-agency Standing Committee defined a complex emergency as: “a humanitarian crisis in a country, region or society where there is total or


considerable breakdown of authority resulting from internal or external conflict and which requires an international response that goes beyond the mandate or capacity of any single agency and/or the ongoing UN country program.” One of the reported case studies was conducted in Algeria, at that time a country recovering from a long period of national insecurity. The country’s Ministry of Health mitigated the health consequences of the crisis by reviewing priorities and reallocating resources. Between 1988 and 1996, the proportion of gross national product spent on health went down from 5.6% to 3.8%. Budgetary reallocations were made, including a proportional reduction of resources directed towards salaries from 86% in 1994 to 59% in 1999. While service provision was maintained, household contributions drastically increased. Family planning services were reported to be easily available.

During the conflict in Algeria between 1992 and 1999, multiple attacks on civilians were reported including large-scale massacres.21 According to the International Committee of the Red Cross, based on the Geneva Conventions, the term “civil war” has no particular meaning in international humanitarian law.22 The violence against civilians of armed groups opposing the Algerian Government at the time could therefore be called terrorism. The resilience of the health system

### Table 1. Examples of effect of terrorism on health, healthcare services, and populations affected

<table>
<thead>
<tr>
<th>Type of attack</th>
<th>National/regional</th>
<th>Global</th>
</tr>
</thead>
<tbody>
<tr>
<td>Injury/death due to direct violence</td>
<td>North East Nigeria (Boko Haram), worldwide</td>
<td>X</td>
</tr>
<tr>
<td>Increased morbidity/mortality due to hardship during displacement</td>
<td>Refugees from Central African Republic</td>
<td>X</td>
</tr>
<tr>
<td>Mental health problems</td>
<td>USA, Israel</td>
<td></td>
</tr>
<tr>
<td>Attacks on health workers and structures</td>
<td>Pakistan, North East Nigeria</td>
<td>X</td>
</tr>
<tr>
<td>Limited access to healthcare</td>
<td>DR Congo</td>
<td>X</td>
</tr>
<tr>
<td>Problems with communicable disease control</td>
<td>Adamawa (Nigeria)</td>
<td>X</td>
</tr>
<tr>
<td>Malnutrition</td>
<td>CAR refugees in Cameroon</td>
<td></td>
</tr>
</tbody>
</table>

reflects the resolve of health workers employed in the national health system to carry out their
duties in defiance of jihadist attacks on middle-class professionals.\textsuperscript{23}

The right to well-being and medical care is enshrined in the Universal Declaration of Human
Rights (article 25) and no ultimate goal can justify the devastating effects of terrorism on public
health. As the examples demonstrate, the damage goes far beyond the direct effect of terrorist
violence on people and medical infrastructure. Population movement caused by fear of terrorism,
within and outside national borders, slows down global efforts in communicable disease control.
The most vulnerable groups are disproportionally affected. Reduced access to emergency obstetric
care increases the risk of childbirth to women and neonates. Increased rates of acute malnutrition
among children are directly linked to higher rates of morbidity and mortality.

The possibility that inequalities in health contribute to the occurrence of terrorism needs to be
investigated. However, the above examples demonstrate that terrorism seriously damages health
and healthcare systems. Instead of opening the way to reducing the inequality of social systems,
this creates a downward spiral for those who depend on vital public services, such as healthcare.
The example from Algeria shows the cost of resilience to health workers whose working conditions
became worse. From a health professional’s viewpoint, it is better to prevent terrorism.

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\textbf{Conflict of Interests}

The author declares that she has no conflict of interest.

\textsuperscript{23} Karima Bennoune, “Algeria twenty years on: words do not die”, Open Democracy, 24 June 2013, https://www.opendemocracy.net/
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