



The case for addressing explosive weapons: Conflict, violence and health

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ABSTRACT

In recent years, states and non-governmental organizations have expressed concern about the humanitarian consequences of the category of technologies labelled 'explosive weapons', particularly in relation to their use in populated areas. This article seeks to outline the magnitude of these consequences as well as what can be done to reduce harms. In particular, it makes a case for how health approaches could help prevent the harms associated with this category of weapons. Attention is given to the types of evidence and argument that might be required to characterize explosive weapons. An overarching aim is to consider how alternative ways of understanding weapons and violence can create new opportunities for addressing harms from conflict.

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Introduction

In the last two decades, violence has been identified as a major health problem requiring systematic responses. The World Health Organization, among others, has sought to draw attention to its physical, psychological, economic, and societal consequences (Krug, Dahlberg, Mercy, Zwi, & Lozano, 2002; WHO, 1996). As with communicable disease, violence as a health issue is now characterized as both substantial and preventable. As a result, numerous efforts have been undertaken to determine its extent, address its causes, and propose interventions.

Patterns of collective violence, including armed conflict, have come under this wider scrutiny (OECD-DAC, 2008; UNDP & WHO, 2005). Contributing factors – such as the availability of small arms and light weapons – have been prominent topics of concern over recent years (SAS, 2009; Valenti, Ormhaug, Mtonga, & Loretz, 2007). In response, many governments have committed themselves to the reduction of 'armed violence' (UN SG, 2005) through initiatives such as the *Geneva Declaration on Armed Violence and Development* (Geneva Declaration, 2006) and the *Oslo Commitments on Armed Violence* (Oslo Commitments, 2010).

Against this dynamic background, the agendas and preoccupations underpinning research and policy demand scrutiny. Panter-Brick (2010, p. 1) identified three vital lines of enquiry into the relationships between conflict, violence and health:

- *what are the impacts of violence and which risk and protective factors mediate short- and long-term health impacts?*
- *how is suffering articulated, why do certain types of violence have particular significance, and in what contexts can individual and collective resilience efface the scars of violence?*
- *what type of action – upstream, at a global policy level – works best to promote – downstream, at a local level – effective, sustainable, and equitable health.*

Such calls complement previous attempts (e.g., Coupland, 1996, 1999) to establish the determinants of the effects of armed violence through the assessment of specific weapon systems.

The purpose of this article is to tackle these topics by examining emerging efforts to establish a new category of concern associated with collective violence – 'explosive weapons' – and to posit this as a health issue. The structure of the argument is as follows: in Section two the category of explosive weapons is introduced, describing how it builds on but also provides novel ways for re-thinking established approaches to the appropriateness of force. Section three discusses the humanitarian consequences associated with these weapons. The fourth section asks how health approaches could provide inroads and impetuses for addressing the consequences of the use of explosive weapons. The final section offers concluding remarks.

Conflict and convention

Article 35(1) of the 1977 First Additional Protocol to the Geneva Conventions of 1949 states 'in any armed conflict, the right of the

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Parties to the conflict to choose methods or means of warfare is not unlimited' and thus expresses a central tenet of post-World War II international conviction. The principles underpinning international humanitarian law (IHL) require military necessity to be balanced by regard for humanity. This balancing is embodied in a number of specific legal rules such as those relating to superfluous injury to and unnecessary suffering by combatants, environmental protection, indiscriminate attacks, and feasible precautions (ICRC, 2005).

One of the main ways collective conflict by states and non-state actors is limited through control of the means of force. In the last 25 years, categorical prohibitions have been placed on chemical weapons, anti-personnel mines, and cluster munitions and some other weapons, such as incendiary devices, have rules limiting their use.

Recent attention paid to explosive weapons seeks to build on this set of past activities while questioning the contrasting levels of concern sometimes directed at different types of violence. A starting point is the observation that the effects on civilians of explosive weapons are both substantial and preventable, particularly when used in populated areas. Explosive weapons include 'artillery shells, missile and rocket warheads, mortars, aircraft bombs, grenades and improvised explosive devices' (UN Security Council, 2012, p. 9). The underpinning concern articulated today is that the shared functioning of these weapons – that is, the projection of blast and fragmentation within an area – means certain patterns of injury, damage, and deaths are predictable and hence avoidable. Rather than focussing on weapons that are only rarely or occasionally used, this approach focuses attention on weapons that are a central element of modern military arsenals and commonly used in armed conflict.

Although there is no widely agreed formal categorization of 'explosive weapons' within existing international law or national policies, in some respects the category is well established. The post-World War II Geneva Conventions were in large part prompted by the devastation to populated areas caused by explosive weapons. Recently, a variety of loosely defined but relatively synonymous terms for 'explosive weapons' have been used to express concern. For example, the President of the International Committee of the Red Cross was in effect talking about explosive weapons when he stated:

ICRC's key operations in 2009 – in the Gaza Strip and in Sri Lanka – provided stark illustrations of the potentially devastating humanitarian consequences of military operations conducted in densely populated areas, especially when heavy or highly explosive weapons are used (Kellenberger, 2010, p. 8)

Such sentiments have been echoed elsewhere, as in UN Security Council 2011 Resolution 1975 on Cote d'Ivoire (2011) that referred to the 'use of heavy weapons against the civilian population' and the UN Secretary-General Ban Ki-Moon's (2012) condemnation of the use of 'heavy artillery and the shelling of civilian areas' in Syria.

Developing from this, there is a growing adoption of the term 'explosive weapons' directly. For example, the ICRC has stated that, 'the use of explosive weapons in densely populated areas exposes the civilian population and infrastructure to heightened – and even extreme – risks of incidental or indiscriminate death, injury or destruction' (ICRC, 2011a). The UN Secretary-General's Report have repeatedly raised concerns about the humanitarian impact of 'explosive weapons use in densely populated areas' (UN Security Council, 2009, 2010, 2012).

Despite the diversity of weapons that can be thought of as explosive, the category is treated as coherent and taken-for-granted in operational practice. For example, explosive weapons rarely figure in the context of domestic law enforcement and when they do it is generally seen as indicating significant instability or even

undeclared warfare (e.g., the Syrian government's response to peaceful opposition groups or Russian policing of urban areas in Chechnya). In contrast, this implicit difference is absent in relation to another common weapon type, firearms. Firearms clearly have serious lethal and non-lethal consequences for these harmed by them but are widely used in situations ranging from domestic policing to international war. These distinctions about what level of force and weaponry is acceptable in a given situation raise questions about the relations of accountability and circumstance in relation to force (Moyes, 2009).

Consequences and concerns

The importance of recognising explosive weapons as a category has also been developed through the marshalling of empirical evidence about the predictable, patterned, and problematic humanitarian of such weapons, especially when used in populated areas.

An initial attempt to summarise the harmful effects of 'explosive weapons' was made by the NGOs Landmine Action and Medact (see Moyes, 2009, chap. 1). English-language media reports over a six-month period in 2006 were compiled to create a database of incidents. The authors identified 1836 incidents in 58 countries; of these, civilians were involved in 64 percent and comprised 69 percent of the reported killed and 83 percent of the reported wounded. Moreover, 83 percent of those killed and 90 percent of those injured in attacks in populated areas were civilians.

Since then others have described both the direct and indirect effects of explosive weapons (e.g., Brehm, 2010). Direct effects include injuries from the blast, fragmentation and resulting crush damage such as loss of limbs, burns, loss of hearing, and eye and brain trauma. The charity Save the Children UK gathered evidence from recent conflicts in Gaza, Iraq, and Afghanistan to suggest children constitute a substantial proportion of civilian casualties from explosive weapons (Smith, 2011) and drew attention to the frequency with which schools have been targeted. Indirectly, the welfare of communities can be compromised if vital infrastructure – such as medical, power, water and sanitation facilities – is affected. In the long term, and post-conflict, such weapons can pose dangers to civilian populations as unexploded abandoned ordnance (and these can, in addition, be fashioned into improvised explosive devices [IEDs]).

To outline patterns of harm the NGO Action on Armed Violence compiled a list of a hundred incidents of the use of explosive weapons in populated areas (Cann & Harrison, 2011). For the year 2011 it then systematically analysed 2522 media report of incidents of the use of explosive weapons in 68 countries (Dodd & Perkins, 2012) and found 21,499 civilians were reported killed and injured over this period. These sources indicated 71 percent of all casualties of explosive weapons were civilians and 84 percent of the casualties in populated areas were civilians. The most affected countries were Iraq, Pakistan, Afghanistan, Libya and Somalia.

In response to such studies as well as conflict-specific circumstances, states and inter-governmental organizations have expressed concern about explosive weapons (Holmes, 2010; UN Emergency Relief Coordinator, 2011b; UN Security Council, 2009). Internal hostilities in states including Libya (UN Emergency Relief Coordinator, 2011a; UN Human Rights Council, 2011) and Syria (Amos, 2012) have led to sustained interest in the consequences of explosive weapons in populated areas (see as well HRW & IHRC, 2011; ICRC, 2011a).

When trying to describe why explosive weapons should be of concern, many governments, inter-governmental organizations, and NGOs adopt a legalistic language indebted to international humanitarian law (IHL), particularly evident in references to

'indiscriminate' force (see, e.g., Puente, 2010; Schwaiger, 2010; Smith, 2011; UN Security Council, 2009). As previously described, the underpinning requirement of IHL is to balance military necessity with humanity. This prohibits indiscriminate attacks, i.e. those:

- (a) not directed at a specific military objective
- (b) employing a method or means of combat that cannot be directed at a specific military objective, or
- (c) employing a method or means of combat the effects of which cannot be limited as required by international humanitarian law

– and, consequently, attacks that strike military objectives and civilians or civilian objects without distinction (ICRC, n.d.).

The major burden in ensuring compliance with IHL falls on military commanders (perhaps aided by lawyers): they are meant to assess levels of civilian and military damage as well as decide which methods and means are legitimate. In other words, IHL provides a law-based approach that requires compliance with certain principles and rules through balancing expected damages and advantages associated with specific attacks. There are clear limitations to this approach, as the UN Secretary General highlighted:

While the use of certain explosive weapons in populated areas may, in some circumstances, fall within the confines of the law, the humanitarian impact, both short and long-term, can be disastrous for civilians (UN Security Council, 2012, p. 19).

He went beyond the explicit requirements of IHL, arguing that 'parties to conflict [...] should] refrain from using explosive weapons with a wide-area impact in densely populated areas' (UN Security Council, 2012).

Explosive weapons and health

The reports described above argue that death, injury and damage from explosive weapons in populated areas cannot be regarded as unforeseen consequences but are predictable and preventable. Building on this conclusion, as well as on previous health approaches to violence in general (WHO, 1996, 2004) and armed violence in particular (Coupland, 2005), this section proposes three responses to the use of explosive weapons that draw on health-related understandings of harm.

Characterization

The collection and analysis of data on the use and consequences of explosive weapons must be improved (Boer, Schuurman, & Struyk, 2011; UNIDIR, 2010). In 2010 the UN Secretary-General urged 'Member States, United Nations actors and international and non-governmental organizations to consider the issue of explosive weapons closely, including by supporting more systematic data collection and analysis of the human costs of their use' (UN Security Council, 2010, p. 11).

This statement speaks to recurring and widespread failures of accountability by states engaged in armed conflict. Serious doubts have been raised about the quality of the evidence supporting attempts to balance civilian and military harm as required under international humanitarian law (see Borrie & Brehm, 2011, pp. 9–17). Governments (and non-governments) initiating armed hostilities typically perform poorly when it comes to assessing the humanitarian effects of their actions (Rappert, 2010).

For example, the conflict in Libya during 2011 presents a case of the use of force in which explosive weapons figured prominently. Despite repeated claims about the importance attached to

protecting civilians, NATO initially denied there had been civilian deaths as a consequence of its aerial campaign and then failed to properly investigate them or to release essential information to the UN regarding deaths (Chivers & Schmitt, 2011; UN Human Rights Council, 2012). Even when responsibilities related to data on the use of weapons exist – as in the case of Protocol V of the Convention on Conventional Weapons obligations in relation to information about risks of explosive remnants of war – state practices in recording and reporting data have not been robust (Harrison & Moyes, 2009).

The limitations of the information compiled by belligerent states are highlighted by comparing this with the systematic data information about direct deaths produced by NGOs (e.g., Dodd & Perkins, 2012). One important method for doing so has involved compiling and triangulating professional media reports from situations of armed conflict. For instance, based on the Iraq Body Count database of 92,614 Iraqi civilian deaths between 2003 and 2008 Hicks et al. (2011) were able to map direct deaths and to separate them by perpetrator, weapon type, time and location. With regard to explosive weapons, this enabled them to conclude such weapons posed a high risk of harm to civilians. In particular, they found that 'for events that caused a civilian death, the greatest average numbers of civilian deaths per event resulted from unknown perpetrator suicide bombings and from Coalition air attacks' (Hicks et al., 2011, p. 11). Similarly, a 2011 database of explosive weapons incidents compiled by Action on Armed Violence enabled it to identify mortars and other indirect-fire explosive weapons as very harmful to civilian populations and that 90 percent of casualties recorded in media reports of mortar attacks were civilians (Dodd & Perkins, 2012, p. 5, in the case of Libya see AOA, 2011).

Such conclusions, based on media reports, are open to questions about their comprehensiveness and potential bias. This potential for contention, combined with the lack of information produced by belligerents, signals the need for caution in data interpretation. In the history of arms control and disarmament there have been a number of occasions on which initial and tentative figures have come to define the scope of humanitarian problems (see e.g., Ruge, 2006, p. 38).

A public health approach could help confirm or refute the association between explosive weapons and a distinct and problematic pattern of harm, including how effects vary by context, the extent of long-term effects, and the risks to different population groups. Ideally, as part of wider efforts to measure armed violence, information gathered in relation to specific attacks should include:

- date, location and context of incidents
- details of the weapons used (at a minimum whether these were explosive weapons, firearms, other etc.)
- the actors using these weapons
- actors targeted and other actors in the vicinity
- numbers of dead or wounded amongst different groups, including breakdowns by gender, age, and ethnic group
- damage caused to property and other assets, including vital infrastructure (such as roads and water and energy supplies), public buildings (such as schools and hospitals), and private buildings (such as housing stock and commercial sites).

Gathering such evidence on the size, scope, characteristics and consequences of harms will require many types of professional expertise (De Jong, 2010) but is essential to establishing evidence-based practice in this area.

Understanding explosive weapons as a health problem demands more than compiling information about direct mortality and morbidity and an understanding of long-term effects, injury, and indirect deaths is required. Indirect deaths that stem from denied

access to health care, clean water, shelter and adequate sanitation are often well in excess of direct deaths from large-scale combat (see *Geneva Declaration Secretariat, 2008* chap. 2).

The robust assessment of these matters – and in particular as they relate to the physical and mental wellbeing of affected populations as a whole – will require a step change in relation to armed conflict. Despite notable efforts to map the consequences of armed violence in general (*Geneva Declaration, 2011*), the emphasis remains on monitoring and measuring direct deaths. There remains a need for a systematic effort to characterize indirect deaths and injury, and work is needed in relation to the long-term economic costs of armed conflict (though see *Crowther, 2008*).

In relation to explosive weapons, even when relevant information on their use has been compiled and released (as in the case of the International Security and Assistance Force in Afghanistan – see *Bohannon, 2011*), the details given almost invariably relate to direct civilian casualties only. In addition, prevalent notions about what information is important mean when relevant data are collected they may be of limited value for the analysis of harm from explosive weapons. For instance, the United Nations Assistance Mission in Afghanistan (*UNAMA & AIHRC, 2011*) compiles statistics on direct conflict casualties. While overall figures are broken down in relation to air attacks, suicide bombs, and IEDs, no breakdown is provided for other types of incident that would be classed as involving explosive weapons.

Analysis at a population level helps us consider all those affected, including combatants as well as civilians. Effects on combatants often occur outside of battlefield settings (e.g., in relation to remotely detonated IEDs or unexploded ordnance) and the consequences endure long after conflict ends. Consistent with the impartiality with regard to who suffers in public health approaches, information on civilian harms from explosive weapons should be compiled alongside harms to military personnel. Recognition of debilitating effects across all affected communities is currently lacking in much of the work of the UN, progressive government officials, NGOs, and others who are working within humanitarian frameworks. Concern about explosive weapons has been pitched in terms of the protection of civilians but considering harms broadly could enable coalitions to be built with veterans associations, government ministries, and other stakeholders.

Finally, it is necessary to map systematically the variation in recourse to explosive weapons. Because these weapons are subject to variations in use and deployment depending on the accountability of users to affected populations, what is required by way of further investigation is detailed assessment of patterned differences of employment, the reasons for them, and their implications for training and command. Mapping the prevalence of recourse to explosive weapons or the number of civilian casualties from explosive violence against the measures taken by belligerents to assess harms would help establish the importance of the training and the responsiveness of armed forces.

Prevention

Central to any health-centred orientation to explosive weapons would be the primary prevention of harm – that is, stopping harm from occurring in the first place. IHL includes provisions relevant to prevention. Article 57 of the Protocol stipulates that precautions should be taken to prevent damage to civilians and civilian objects but the practical relevance of these and related obligations has been questioned (*McClelland, 2003; Rappert, 2012*).

Marking hostilities

One way of improving prevention would be to take the use of explosive weapons by state or multi-lateral organizations against

the populations they are meant to be accountable to as an indicator of emerging crisis. In recent years, indicators related to the prevalence of violence have been put forward as ways of providing early warning signs of the escalation of situations (*SIPRI, 2009*). The use of explosive weapons by states against their populations could be important because it indicates a shift from a 'law enforcement' to a 'military' orientation in the use of force. The internal conflict in Syria since 2011 illustrates the way in which the use of explosive weapons within a territory marks the escalation of the severity of hostilities.

A related way in which the employment of explosive weapons could be used to prevent escalation would be in the official designation of hostilities. Making the use of these weapons permissible only in situations officially declared as 'armed conflict' (or inversely, designating such weapons impermissible in situations of 'law enforcement') would raise the bar on claims to the legitimate recourse to explosive violence. For instance, the use of explosive weapons (especially in populated areas) by American forces could be used in the designation of a conflict as a 'hostility' requiring approval for extended engagement under the War Powers Act of 1973. Because states often prove reluctant to declare hostilities (particularly within their borders) as 'armed conflicts' this would reinforce recognition of explosive weapons as a distinct categorical boundary in relation to accountability for the use of force.

This suggestion raises questions about the assumptions underlying the direction of armed violence agendas. In recent years, the trend has been to bring together criminal violence and armed conflict for the purpose of devising common responses, so as to avoid artificial binary oppositions between conditions of conflict and non-conflict. While not intended to conceive of 'armed conflict' as a distinct state, the designation of violence that involves explosive weapons as unacceptable outside of the context of armed conflict could be a measure for forestalling the escalation of violence. A potential downside with this option though, is that once the threshold to armed conflict is crossed, the demarcation line could legitimate the use of explosive weapons.

Enacting restrictions

Prevention could also be advanced in relation to readiness to establish prohibitions. As noted, IHL includes specific legal rules regarding superfluous injury and unnecessary suffering as well as regarding indiscriminate attacks. For a weapon to be prohibited under these rules generally requires proving it would have 'superfluous' or 'indiscriminate' effects across all expected scenarios for its use. In practice, the contingencies associated with specific circumstances mean this is always difficult to prove. States and others have offered hypothetical scenarios where weapons would be legal (rather than concerning themselves with the consequences of past usage) as part of their case for retaining weapons in the face of longstanding humanitarian concerns (*Rappert & Moyes, 2009*). More generally, with regard to the 'balance' between humanity and military necessity under IHL, governments and others offer contrasting interpretations about what should count as military advantage, incidental loss of civilian life, civilian injuries and damage to civilian objects (see *ICRC, 2005*). The need to demonstrate weapons would be illegal across all expected scenarios, the prevalence of hypotheticals over experience, and the vagueness of rules all impede action against recurring patterns of harm.

Giving centre place to prevention could be one way of justifying controls, restrictions, and regulations in relation to armed conflict, even if these are not strictly compelled by legal rules. Such thinking has already figured outside of the standard Geneva-based negotiation processes and attention to harms rather than legality was central to the recent negotiations of the Convention on Cluster Munitions (*Borrie, 2009*).

It has also been evident in relation to the topic of explosive weapons. Though noting the absence of a specific legal prohibition of the use of explosive weapons in populated areas, in 2011 the ICRC (2011a, p. 4) contended weapons under this category ‘with a wide impact area should generally not be used in densely populated areas’. Such a call to action beyond the terms proscribed by IHL is often contentious for organizations, such as the ICRC, that take this as providing their organizational mandate. In contrast, such actions can be much easier to sustain when a health orientation is the underlying one.

Adjudicating what information should count as necessary and sufficient for establishing prohibitions and restrictions is not simple. As noted, given the deficiency of state practice, the most systematic information about the characteristics of harm inflicted by explosive weapons has been derived from media reports. Whether this approach provides a sufficient basis for controls is a matter likely to be disputed.

Stigma

Past experience in arms control and disarmament indicates the importance of normative stigmatization in shaping the practice of state and non-state actors, even in the absence of formal legal control. Applied to the topic of explosive weapons stigmatization could contribute another dimension of prevention. When the identity sought by users is at odds with the evaluation of these weapons in domestic or international communities, their possession or use has been significantly curtailed. In the case of anti-personnel landmines, for example, this has meant that even though many major military powers (such as the US) did not sign up to the Mine Ban Treaty, their conduct has arguably still been affected by the achievement of a coalition of global civil society and non-superpower nations (Herby & Lawand, 2008).

Using recognition in this way would both build on and challenge the place accorded to stigmatization in public health. Bayer (2008), for instance, sought to claim a role for stigma in health promotion, akin to the health promotion campaign intended to denormalise smoking. For others in public health, even such limited promotion of stigmatization has been treated as synonymous with paternalism, prejudice, and discrimination (see Burris, 2008; Stuber & Meyer, 2008). Labelling entails an unfair perpetuation of pre-existing stereotypes that reduce the effectiveness of health services but in relation to international affairs involving collective actors (e.g., states, rebel groups, etc) such fears about spoilt social identity are less relevant. In this way, the positive role for stigma regarding explosive weapons might support a re-appraisal of stigma in public health more widely.

Health impact assessments

The attention to prevention could extend IHL by inspiring new types of procedures. Health impact assessment (HIA) is a way of identifying and influencing the likely consequences of an intervention or policy on the health of affected communities. More formally it has been defined as ‘a combination of procedures, methods and tools by which a policy, programme or project may be judged as to its potential effects on the health of a population, and the distribution of those effects within the population’ (WHO, 1999).

The level of detail involved in an HIA varies according to the time and resources available. For example, the shortest and quickest is a desk-based HIA involving collecting and analysing existing, accessible data with the aim of providing an overview of potential health impacts; a rapid HIA (the form most commonly used in practice) involves more thorough investigation and health impacts and combines analysis of existing data with collection of qualitative data from key informants but does not attempt to fully triangulate

the information derived not to work through the inconsistencies in it; an in-depth HIA is the gold-standard approach and involves triangulating information from multiple sources gathered using multiple methods, both qualitative and quantitative (Abrahams et al., 2004).

HIAs have both a practical and a political dimension. The practical aspect lies in allowing the public health consequences of planned actions to be assessed in an objective way to inform decision-making, including the avoiding of potentially harmful health outcomes and the incorporation of beneficial activities. The political dimension of HIA lies in ensuring governments, multilateral bodies and transnational corporations are held to account for the health impacts of their policies and practices (Scott-Samuel & O’Keefe, 2007). Examples of HIA topics include oil pipelines in Chad (Leonard, 2003), urban development in London (Collins & Taylor, 2007), and transport planning in Delhi (Tiwari, 2003).

The application of HIAs to the policy intersections between health, foreign policy and security has been advocated (Nuffield Trust UK Global Health Programme, 2006). In relation to armed conflict and the use of explosive weapons HIAs could constitute a means of helping policy-makers, politicians, and others – including military decision-makers – to reflect on the likely health impacts of their decisions so that they might better choose between alternative courses of action. HIAs could extend the type of review procedures in place in relation to means of warfare. For instance, states are bound to undertake legal reviews for new means and methods for warfare under Article 36 of Additional Protocol I to the Geneva Conventions of 1949. From a humanitarian perspective, however, the implementation of Article 36 has been characterized by various deficiencies: the majority of states are not undertaking reviews, those reviews that are done are rarely made public, the terms of obligations are narrowly interpreted, and reviews are not undertaken on ongoing basis informed by combat experience (Rappert, Moyes, Crowe, & Nash, in press).

An HIA on the use of explosive weapons in a given situation would vary according to the time and level of resources available but might, following the overview set out by Taylor and Blair-Stevens (2002), include:

- drawing on the experiences and skills of a range of stakeholders representing those involved in decision-making and those liable to be affected by the decision
- using a range of approaches and ways of gathering evidence in order to help identify and assess both the potential and actual impact of the proposed action
- identifying, as far as possible, the general health and other consequences of the action, including consideration of whether particular areas or populations will be disproportionately impacted
- paying specific attention to potential or actual impacts on health including assessment of their relative importance and the potential for interaction between them
- making recommendations to inform the decision-making process including identification of practical ways to enhance the positive impacts of the proposed action and of removing or minimizing the negative health and other impacts that might arise or exist.

Vulnerability and assistance

Although the requirement to take ‘all feasible precautions’ to spare harm to civilians and civilian objects is part of standard IHL this has not stopped substantial levels of injury and damage in recent conflicts, nor has it stopped calls for greater transparency about the measures being undertaken to prevent harm. Attention

to explosive weapons as a health issue could be part of efforts to further enhance standards for protection and expectations regarding the steps that will be taken both by belligerents and those responsible for responding to the rights and needs of those affected by violence. For instance, before and after conflict commences, a heightened expectation could be established that militaries publicly explain the conditions under which the use of explosive weapons in populated areas might be considered necessary and therefore justified, as well as how accountability to local populations will be ensured given the recognised dangers from use of explosive weapons in these contexts. Belligerents would then need to take practical steps to measure the impacts of explosive weapons and respond to consequences for civilian populations during or near the time of conflict. This would need to include establishing a record of deaths, investigating events, and ensuring accountability. Such actions would contribute to addressing recent concerns expressed by the International Committee of the Red Cross under its 'Health Care in Danger' campaign regarding how health care personnel and facilities get targeted and affected by explosive weapons (ICRC, 2011b). It could also facilitate efforts to monitor and report on how the use of explosive weapons can create patterns of killing and maiming of children in situations of armed conflict (in line with UN Security Council Resolution 1612 of 2005).

Post-conflict support for those affected by explosive weapons is critical when health consequences are given prominence. While provisions for so-called 'victim assistance' are emerging in treaties relating to specific weapons, and there is recognition of the rights of victims of armed violence in certain international political commitments (Moyes, 2010; Oslo Commitments, 2010), the general rules of IHL pay little attention to the needs of civilian victims. The 2008 Convention on Cluster Munitions provided a whole article delineating the obligations on States Parties towards cluster munition victims in areas under their authority. Following the broad model of the Convention on Cluster Munitions, the UN Convention on Certain Conventional Weapons (CCW) also adopted in 2008 a politically binding "Plan of Action on Victim Assistance" under the framework of its Protocol V on Explosive Remnants of War (CCW/P.V/CONF/2008/12, Annex IV). Subsequent discussions have also been held on victim assistance in relation to improvised explosive devices as part of meetings of parties to the CCW's Amended Protocol II. However, the CCW has not yet taken the logical step of recognising that victim assistance responsibilities should be configured equally across all of the weapons that the Convention covers (rather than being asserted specifically in relation to some weapons but not others). Broader categorisations, such as that provided by 'explosive weapons', may provide an opportunity to recognise and delineate cross cutting responsibilities that are in danger of being understood too narrowly otherwise.

Treating explosive weapons as a health problem could underscore to relevant authorities (including, where appropriate, those using explosive weapons) the imperative to address the needs of those affected. This could include: gathering data on explosive weapon victims in territories under their jurisdiction or control; providing post-conflict assistance to victims, including medical care, rehabilitation and psychological support, as well as providing for their social and economic inclusion (as in the case of disability); and ensuring the rapid clearance of unexploded and abandoned weapons from affected communities (which is recognised as a legal obligation under Protocol V of the CCW). Just how much the call for the collection of data and the identification of risk factors should lead to tailoring interventions towards certain groups of victims and survivors is a question that must be addressed by an evidence-based debate. The understandings developed from data should also inform later consideration of operational practices, including the

assessment of the role of specific weapons in certain contexts (such as recommendations to curb the use of air attacks with explosive weapons in populated areas – see Hicks et al., 2011 – or the historical failure of the UK to assess or learn from the humanitarian consequences of cluster munition use – see Rappert, 2005).

The types of data gathered on the impact of weapons would likely have a bearing on what types of response are considered necessary or appropriate, and might have a significant impact on the development of standards in this area. Data on direct casualties from the use of weapons would clearly be significant for the provision of compensation or reparations to the inadvertent victims of attacks. NGOs such as CIVIC, Human Rights Watch and International Crisis Group are working together in a campaign to see warring parties make amends for harm that they cause and to establish standards for practice in this area. However, a focus on direct casualties, driven solely by data on individuals, risks diverting attention away from the wider indirect impact from certain weapon use, such as might arise from the destruction of water and sanitation systems or health care facilities. Data drawn from a broader Health Impact Assessment approach might help emphasise prevention of such infrastructure damage and prioritise responses to such damage.

Conclusion

New categorisations of what should be deemed issues of concern in the management of violence provide opportunities for new approaches and the learning of lessons from other regulatory regimes. Growing attention to explosive weapons as a distinct category of concern offers an opportunity to promote evidence-based approaches to analysing the magnitude and scope of the impacts of conflict as well as responses in prevention and remediation that go beyond the obligations of existing law. As a category that is ambiguous in terms of the official standing its terminology and yet is generally taken for granted as being of concern, explosive weapons offer an opportunity to engage in new ways with existing conventions and agendas associated with collective armed violence.

This article has highlighted potential implications of this category for development of the standards and expectations that shape our understanding of armed conflict and armed violence more broadly. As noted, a variety of rules and norms currently attempt to bound the conduct of collective violence. However, a central goal of this article has been to identify and address tensions, and uncertainties associated with how explosive weapons should be conceived as part of this overall management. Since any effort to define what is legitimate (versus illegitimate) or appropriate (versus inappropriate) in relation to inflicting death, injury, and damage will be readily open to question efforts to promote new categorisations or framings will present both opportunities and risks.

While building on previous attempts to consider violence as a health issues, we have advanced a sense of both the potential and the challenges with such an approach. Alongside the importance attached to systematic evidence about short- and long-term harms in health approaches we can question what can be done in the absence of such information; attending to effects on whole populations allows us to ask questions about just what kind of harms count, and how; the need for varied forms of experience allows us to ask questions about what international forums are appropriate for addressing explosive weapons; and highlighting the importance of facts and figures about harm allows us to ask questions about how these should relate to existing international norms. This spirit of questioning is needed to ensure attempts to limit the

humanitarian harms of conflict and the failures of political accountability currently associated with the use of force can be readdressed.

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