

The role of health-related data in promoting the security of health care in armed conflict and other emergencies

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Abstract

Health-related data provide the basis of policy in many domains. By using a methodology specifically designed to gather data about any form of violence and its impact, violence affecting health-care personnel, health-care facilities, and the wounded and sick in these facilities can be quantified on an objective basis. The impact of this form of violence and its accompanying insecurity goes beyond those directly affected to the many who are ultimately denied health care. Reliable data about both the violence affecting health-care personnel and facilities and the 'knock-on' effects of this violence on the health of many others have a critical role to play in influencing the policies of all stakeholders, including governments, in favour of greater security of effective and impartial health care in armed conflict and other emergencies. The International Committee of the Red Cross has undertaken a study

* This article was written in a personal capacity and does not necessarily reflect the views of the ICRC.

that attempts to understand on a global basis the nature and impact of the many different kinds of violence affecting health care.

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Whatever the circumstances, there are two absolute preconditions for delivering health care to sick or wounded people. The first is the availability of infrastructure and materials; the second is the ethical application by the health-care worker of professional knowledge and expertise within a relationship of trust with the person or persons concerned. Recognising these preconditions facilitates understanding of how health care is vulnerable in armed conflicts and other emergencies because a variety of constraints may result in one or both of these preconditions being unmet. Among the important constraints are lack of access for the wounded and sick to health-care facilities, inadequate or destroyed buildings, lack of materials or suitably qualified people, and the stretching of existing capacity beyond its limits. However, the one overriding constraint that can weigh heavily on both preconditions is lack of security.¹

Armed conflicts or other emergencies involving widespread violence can disrupt health care in a variety of ways: fighting prevents personnel from reaching their place of work; health-care facilities and vehicles are inadvertently damaged; soldiers or police forcibly enter health facilities looking for enemies or ‘criminals’; and gaining control of a hospital is sometimes an objective for fighters. In the most serious cases, health-care facilities are directly targeted, the wounded and sick are attacked, and personnel are threatened, kidnapped, injured, or killed. In many parts of the world, thousands of wounded and sick people do not get the health care to which they have a right because of the many and varied forms of insecurity that affect health-care facilities or personnel. It is remarkable that these issues have only recently been recognised within the academic medical literature.²

The International Committee of the Red Cross (ICRC) has referred to the many forms of insecurity of health care as constituting one of the most serious and widespread humanitarian issues today.³ However complex the interface of security, insecurity, health, and health care may be, it is clear that security of health-care personnel and facilities is a prerequisite for the delivery of health care; at the

1 Robin Coupland, ‘Security, insecurity and health’, in *Bulletin of the World Health Organization*, Vol. 85, No. 3, March 2007, pp. 181–183.

2 Leonard Rubenstein and Melanie D. Bittle, ‘Responsibility for protection of medical workers and facilities in armed conflict’, in *The Lancet*, Vol. 375, 2010, pp. 329–340. See also ICRC, ‘Health Care in Danger: first steps at London Symposium’, 25 April 2012, available at: www.icrc.org/eng/resources/documents/feature/2012/health-care-in-danger-feature-2012-04-25.htm. All internet references were last accessed in February 2013.

3 ICRC, *Health Care in Danger: Making the Case*, ICRC, Geneva, August 2011, available at: www.icrc.org/eng/resources/documents/publication/p4072.htm.

same time, lack of the prerequisite security is the most difficult constraint on health care to address.

There is yet another consideration. Armed conflicts and other emergencies involving widespread violence generate immediate and additional health-care requirements for wounded and sick people that exceed peacetime needs.⁴ Hospitals can fill rapidly with the wounded, whether military or civilian. These additional health-care requirements arise at precisely the time when the accompanying insecurity makes it most difficult to address them.

Health-related data drive policy in many domains such as food hygiene, accident prevention, and ensuring environments free from pollution. This paper argues that health-related data can likewise play a critical role in improving the security of effective and impartial health care in armed conflicts and other emergencies. There are four central tenets to this argument. First, violent incidents and insecurity in armed conflicts and other emergencies can, because of their impact on people's lives and well-being, be viewed ultimately as health issues; it follows that these phenomena can be researched using an appropriate public health methodology.⁵ Second, there are potentially ample data available in the form of reports of acts of violence affecting health care for such a methodology to be useful. The definition of violence adopted by the World Health Organisation (WHO) is key in this regard as it includes both threats and violent acts that results in deprivation.⁶ Third, the data – both available and potential – pertain to two populations: on the one hand, those suffering the insecurity directly – that is, the wounded and sick and the health-care personnel who are subject to violence or threats of violence; and on the other, the hundreds of thousands, if not millions of people who are denied health care as a result of such violence and insecurity. Fourth, presentation of reliable health-related data in appropriate fora are essential for creating a burden of responsibility on the people who are in a position to assure the security of health care, in particular governments, their military bodies, and international organisations.

A further consideration is that health-care personnel may, through their normal clinical responsibilities, find themselves in possession of data about the nature and extent of violence in a given context, including violence perpetrated against other health-care personnel, health-care facilities, or the wounded and sick in those facilities. The process of collecting, analysing, and reporting such data is not without risk, especially if the data pertain to documentation of possible violations of international humanitarian law or human rights law. This can present health-care professionals with acute and unexpected dilemmas.

4 Pierre Perrin, *War and Public Health*, ICRC, Geneva, 1996, pp. 6–8.

5 See Insecurity Insight's description of the 'Taback-Coupland model', available at: www.insecurityinsight.org/practice.html.

6 The definition of violence adopted by the WHO is 'the intentional use of physical force or power – threatened or actual – against oneself, another person, or against a group or community that results in or has the likelihood to result in injury or death, psychological harm, maldevelopment or deprivation'. See Violence Prevention Alliance, 'Definition and typology of violence', available at: www.who.int/violenceprevention/approach/definition/en/index.html.

Where are the primary data and what form do they take?

The ICRC's Sixteen-Country Study⁷ was the first study dedicated to comprehending the nature of violence affecting health care on a global basis.⁸ The study relied on a methodology that converts reports of individual incidents of violence (qualitative data) into quantitative data.⁹ The sources of the 655 reports analysed in the study included media reports, the websites of, for example, the WHO and health-orientated non-governmental organisations (NGOs), and both public and confidential reports of humanitarian agencies and other health-care providers, including the ICRC. The ICRC field offices in the sixteen countries concerned were asked to forward any pertinent reports to the study team in Geneva (in keeping with the ICRC's confidential approach and for operational – including security – considerations, the sixteen countries were not identified in the study). Principal among the limitations recognised by the authors of the study was that the varied sources were likely to provide an incomplete dataset potentially containing some inaccuracies. Nevertheless, important conclusions could be drawn about the nature of the violence affecting health care. Importantly, it was *not* possible to comment on the extent of this violence; the 655 incidents captured by the methodology over a thirty-two-month period were certainly only a fraction of the real number of incidents. Furthermore, there would have been a bias towards the more serious incidents because they are more likely to be reported.

However, the real importance of the ICRC publishing this study is that it poses a question that has not been addressed elsewhere: how many people, communities, or even nations are denied health care as a result of violence directed at or obstructing health-care personnel or facilities, and what is the impact of this denial on their health? The 'knock-on' effects of such violence can only be massive. Their magnitude was demonstrated by the prediction that violence and insecurity due to conflict will be the main reasons for failure to achieve certain Millennium Development Goals, including the health-related ones.¹⁰

7 ICRC, *Health Care in Danger: A Sixteen-Country Study*, ICRC, Geneva, August 2011, available at: www.icrc.org/eng/resources/documents/report/hcid-report-2011-08-10.htm.

8 Editor's note: this article mainly focuses on the methodology used during the Sixteen-Country Study. Since then, the methodology has evolved and the ICRC, in the context of its monitoring activities, continues to collect data on incidents affecting the delivery of health care, through various sources of information.

9 See Taback-Coupland model, above note 5.

10 See 'Keeping the promise: a forward-looking review to promote an agreed action agenda to achieve the Millennium Development Goals by 2015', Report of the Secretary-General to the United Nations General Assembly, UN Doc. A/64/665, 12 February 2010, pp. 3 and 11. See also 'What will it take to achieve the Millennium Development Goals? An international assessment', United Nations Development Programme, June 2010, pp. 19–20, available at: http://content.undp.org/go/cms-service/stream/asset/?jsessionid=aMgXw9lbMbH4?asset_id=2620072; 'Beyond the midpoint: achieving the Millennium Development Goals', United Nations Development Programme, January 2010, pp. 60–75, available at: http://content.undp.org/go/cms-service/stream/asset/?asset_id=2223855; Chapter 5, 'Deadly connections: wartime violence and indirect deaths', and Chapter 7, 'The death toll in the Democratic Republic of Congo', in *Human Security Report 2009–2010 – The Causes of Peace and the Shrinking Costs of War*, Human Security Report Project, Simon Fraser University – Canada, Oxford University Press, New York, Oxford, 2011.

Potentially available data pertain to two domains: first, the direct impact of violence on the wounded and sick, health-care personnel, and health-care facilities, and second, those suffering the knock-on effects (those denied health care as a result of the violence.) The authors of the ICRC study also emphasised how little data at present can be brought to bear on the full extent of the knock-on effects. Whilst both domains can be studied using public health methodologies, the sources of the data, and therefore the data-gathering methodologies, differ. The first requires observation and recording of violent events; reports of these events are written and made available for reasons other than studying violence and threats of violence. For example, a reliable media report of an attack on a hospital is written for the purposes of telling the news. The journalist – the ‘primary observer’ – is not knowingly writing his or her report as a contribution to a study using a public health methodology. This explains the pertinence of the methodology used in the ICRC’s study and goes some way to explaining how, inevitably, the data captured by the methodology are likely to be incomplete and, to a degree, inaccurate. However, as shown by the study, the value of collecting and analysing all available data should outweigh concerns about these limitations. Importantly, the paucity of data relating to violence affecting health care has only recently made its way onto the global health agenda at the World Health Assembly, which has given a mandate to the WHO ‘to provide leadership at the global level in developing methods for systematic collection and dissemination of data on attacks on health facilities, health workers, health transports, and patients in complex humanitarian emergencies’.¹¹ Nevertheless, the WHO will have to identify and validate appropriate sources of information about violence affecting health care.

To begin to even understand the magnitude of the knock-on effects of violence affecting health care, the second domain of data can and must be generated by the full spectrum of public health methodologies. For example, demonstrating the knock-on effect of attacks on health-care workers attempting to bring health care to a population forcibly displaced over a border could involve recording increased mortality rates from infectious diseases within that population. One of the few contexts studied to measure the impact of violence and insecurity due to conflict on the health of a whole nation was the Democratic Republic of the Congo.¹²

The distinction between the two potential domains of data is important when considering a future research agenda, as discussed below.

New technologies bring new possibilities. Social media websites such as Twitter and Facebook allow real-time ‘citizen journalist’ reporting. Openly accessible web-based mapping technologies such as Open Street Map¹³ permit anyone to contribute to, for example, mapping the location and even capacities of hospitals in a crisis. The generation and use of such ‘volunteer-generated information’ has

11 WHO, ‘WHO’s response, and role as the health cluster lead, in meeting the growing demands of health in humanitarian emergencies’, 65th World Health Assembly, 21 January 2012, Doc. EB130/SR/12, para. 2(8), available at: http://apps.who.int/gb/ebwha/pdf_files/EB130/B130_R14-en.pdf.

12 Benjamin Coghlan *et al.*, ‘Mortality in the Democratic Republic of Congo: a nationwide survey’, in *The Lancet*, Vol. 367, 2006, pp. 44–51.

13 See Open Street Map website, available at: www.openstreetmap.org.

been pioneered largely by Ushahidi¹⁴ and the Crisis Mappers network.¹⁵ These web-based organisations permit huge numbers of people, including people directly implicated in the context in question, to contribute to crisis-specific, immediate data-gathering exercises. The full potential of such technologies to contribute to the security of health care has yet to be realised. However, as with more conventional data gathering, there are complex political and security issues to be taken into account. Some countries may view a mapping exercise as impinging on their sovereignty or even their national security. Furthermore, it may not be possible to hide the identity of those mentioned in a report (that is, the victims) or those sending a report.

How do the primary data impact on security of health care?

The means to address the many and varied forms of insecurity of health care do not lie within the health community; they lie first and foremost in the domain of law and politics, in humanitarian dialogue, and in the adoption of appropriate procedures by state armed forces, law enforcement officials, and other weapon-bearers. Guidelines to help health-care professionals to work effectively and impartially in insecure environments may help those professionals and the people being cared for but do not directly address the security issues.¹⁶

Whatever data are gathered about insecurity of health care, they have to be analysed and presented in a compelling manner. It is often said that, 'What gets counted gets done!' This fits with the belief of this author that reaching the people who can make a difference to any security issue involves four elements: being credible, making use of telling images (usually photographs), making the issue a public concern, and of course, having data that cannot reasonably be questioned. The publication of the ICRC's Sixteen-Country Study was the centrepiece of the launch of the public advocacy component of the ICRC's Health Care in Danger project in August 2011.¹⁷ The coverage of the launch by the BBC stated in its opening paragraph: 'The ICRC report, Health Care in Danger, lists 600 attacks worldwide on doctors, nurses, ambulances and hospitals from mid-2008 to the end of 2010.'¹⁸ This sentence, stated as headline news by a major global news organisation, represents the coming together of these four elements and, one hopes, generates both concern and an imperative to read further. The significance of the study was also not missed by mainstream medical media.¹⁹ In other words, whilst

14 See Ushahidi website, available at: www.ushahidi.com.

15 See Crisis Mappers – The Humanitarian Technology Network website, available at: <http://crisismappers.net/>.

16 ICRC, *Health Care in Danger: The Responsibilities of Health Care Personnel Working in Armed Conflict or Other Emergencies*, ICRC, Geneva, September 2012, Chapter 11, available at: www.icrc.org/eng/resources/documents/publication/p4104.htm.

17 See ICRC, above note 3.

18 Imogen Foulkes, 'Red Cross: rise in violence against medics in war zones', in *BBC News*, 10 August 2011, available at: www.bbc.co.uk/news/world-europe-14464405.

19 Vivienne Nathanson, 'Delivering healthcare in situations of conflict or violence', in *British Medical Journal*, Vol. 343, d4671, 10 August 2011, available at: <http://dx.doi.org/10.1136/bmj.d4671>.

the data are important, the manner of their publication is equally important if one wishes to reach stakeholders outside the health community. Journalists and policymakers are well aware of the power of such data if it is credible and well presented. The primary objective of the data-gathering exercise was to generate greater awareness of the issue.

The author of this paper was a co-author of the Sixteen-Country Study; it is worth reporting some observations of how the study drove the 'data-to-policy process' in relation to security of health care. Importantly, the study had an impact *before* the data were collected. As part of ongoing discussions about how the ICRC's health-related activities might be improved upon or expanded in many of the world's trouble spots, it was remarked that whatever activities might be desired, the ultimate determinant of whether those activities happen is the security environment. The Sixteen-Country Study was commissioned to gain a better understanding of this environment. The scope of the study was expanded to include violence affecting the health activities not only of the ICRC and other components of the International Red Cross and Red Crescent Movement, but also of all health-care providers in armed conflicts or other emergencies. The field offices of the sixteen countries were requested to send any reports of incidents of violence affecting health care. These were combined with – and sometimes duplicated by – publicly available reports in the general media. However, policy began to change at a field level before the data gathering was complete *as a result of the request to assist in the data-gathering exercise*. In other words, being asked to collect reports of incidents of violence affecting health care changed the view of the personnel in ICRC field offices of both the issue and what could be done about it.

Externally, the ICRC has used the study to raise awareness of the issue and to indicate preventive measures. The study represented the *raison d'être* of the London symposium on 'Health Care in Danger' in April 2012. This was the event at which the ICRC, in close collaboration with the British Red Cross Society, the British Medical Association, and the World Medical Association, presented the issue formally to the health community and other important stakeholders, assuming, correctly, that this audience would not only be concerned but would also come up with pertinent recommendations to ameliorate the situation.²⁰ In a similar vein, a summary of the study was presented by the ICRC to the UN Security Council on 25 June 2012.²¹

Data about violence and its impact such as those presented in the Sixteen-Country Study can be used to do much more than raise awareness of the issues involved. Whilst the study does not show the extent of violence affecting health care, it goes some way to revealing the nature of that violence. This is an important distinction. Discussing the extent of a problem related to any form of violence may provide reasons for looking for preventive measures; establishing the nature of

20 See ICRC, above note 2.

21 United Nations Security Council, Department of Public Information, 'Secretary-General describes appalling catalogue of violence inflicted on civilians in conflict, says "we must do more to save innocent lives" in Security Council', Security Council Press Release No. SC/10683, 25 June 2012, available at: www.un.org/News/Press/docs/2012/sc10683.doc.htm.

violence indicates the threats to and vulnerabilities of the victims, and it is only by understanding these threats and vulnerabilities that appropriate preventive policies can be generated. Any and all preventive policies relate in some way to these threats and vulnerabilities. With respect to the study in question, it showed an unexpected array of issues, dominant among which was the distinction between the nature of violence affecting health care perpetrated by non-state armed actors and that perpetrated by state actors. The results generated a search for appropriate preventive strategies that the ICRC can in the future present to all relevant stakeholders, whether non-state armed groups or governments. Examples of such preventive strategies include: taking all means to ensure the physical security of health facilities and protecting them against explosive force and armed entry; a framework for military forces to help them elaborate standard procedures with respect to organising fast transit of ambulances at checkpoints and search operations in health facilities; and elaborating recommendations for the better application of pertinent international law and development of appropriate domestic law. Such matters are the subject of the ICRC's current process of consultation mandated by the 31st International Conference of the Red Cross and Red Crescent.²²

Lastly, such data may provide the means to report objectively and consistently on serious attacks on health care that might constitute violations of international humanitarian law or international human rights law. Such data could even constitute evidence in holding accountable those individuals responsible for such violations. There are obviously very serious political and security issues linked to the gathering and making available of such data, and this was not the purpose of the Sixteen-Country Study. This is the reason why the sixteen countries were not named and remain confidential.

Parallel developments

Whilst the publication of the Sixteen-Country Study was the prime mover of the ICRC's Health Care in Danger project, other important initiatives have been running in parallel and mutually reinforce that project. Diplomatic moves that have at their origin a 2010 article in the *Lancet* (which pointed out the paucity of data on this issue)²³ eventually brought about the World Health Assembly resolution of May 2012 mentioned above.²⁴ Largely influenced by this paucity of data, a coalition of NGOs called Safeguarding Health Care in Conflict arose in 2012. This welcome initiative adds fuel to advocacy efforts and the search for practical solutions.²⁵ The most prominent medical NGO, *Médecins sans Frontières* (Doctors without Borders,

22 ICRC, *Healthcare in Danger: Respecting and Protecting Healthcare in Armed Conflict and Other Situations of Violence*, Resolution adopted at the 31st International Conference of the Red Cross and Red Crescent, Geneva, 28 November–1 December 2011, available at: www.rcrcconference.org/docs_upl/en/R5_HCID_EN.pdf.

23 See L. Rubenstein and M. Bittle, above note 2.

24 See above note 11.

25 See the Safeguarding Health in Conflict Coalition website, available at: www.safeguardinghealth.org.

MSF), took note of the ICRC's study and at the London Symposium voiced its determination to work on promoting security of health care.²⁶ The organisation has launched its own campaign to promote security of health care.²⁷

An important development in terms of understanding the real issues relating to insecurity of health care has emerged. As a result of being requested to gather reports of incidents of violence affecting health care for the Sixteen-Country Study, ICRC staff in those countries began to ask local health-care providers what their most pressing security concerns were. In some contexts, the response made no mention of explosions, attacks by 'insurgents', or harassment by security forces; the main concern was violence and threats of violence from relatives or patients themselves who insist on faster, cheaper, or better treatment. This phenomenon was barely picked up in the Sixteen-Country Study, probably because it is grossly underreported, but reports are now emerging indicating the magnitude and urgency of the problem.²⁸

A research agenda?

This article represents a plea for more and better data gathering about violence affecting health care; such data should ultimately result in policies that assure the security and delivery of effective and impartial health care in armed conflicts and other emergencies. This of course begs the question: what sort of data will be most helpful in achieving this objective? In other words, what is the research agenda?

With respect to data pertaining to attacks on and obstruction of health care, there are promising developments, especially in relation to the World Health Assembly resolution of May 2012.²⁹ There is still no formal mechanism proposed that will collect, analyse, and report such data on a global basis, but this should not stop other organisations or independent researchers taking up this issue. One such initiative is the Security in Numbers Database run by Insecurity Insight.³⁰ The focus of this exercise is to build an accessible database of violent incidents affecting humanitarian aid workers, but the scope of the project includes violent incidents affecting health-care personnel and facilities.

More work needs to be done, and urgently, to gain insights into the violence perpetrated against health-care staff by patients or their relatives. As indicated above, the great challenge will be to gain an accurate picture of the nature and extent of the knock-on effects. A global picture is far from completion. In the

26 Talk by Dr. Unni Karunakara, President of MSF International, at the London Symposium, 23 April 2012, available at: www.youtube.com/watch?v=hBeOgAdxXs0.

27 See MSF, 'Medical care under fire', available at: www.msf.org/topics/medical-care-under-fire.

28 Cam McGrath, 'Egyptian hospitals under attack as patients lose patience', in *Relief Web*, 4 September 2012, available at: <http://reliefweb.int/report/egypt/egyptian-hospitals-under-attack-patients-lose-patience>. See also Therese Hesketh *et al.*, 'Violence against doctors in China', in *British Medical Journal*, Vol. 345, e5730, 2012, available at: www.bmj.com/content/345/bmj.e5730.

29 See above note 11.

30 See Insecurity Insight, 'Aid work in danger – security in numbers', available at: www.insecurityinsight.org/projectshumanitarian.html.

opinion of this author, researchers should, in the near term, resist the temptation to obtain a global picture of the total impact of insecurity of health care on people's health, even though this impact is clearly massive. The role of researchers working or intending to work in this domain should be to use established public health methodologies to create 'snapshots' that demonstrate the problem in a particular region or health-care facility, or with respect to a particular group of affected people. These snapshots could paint accurate local pictures that when pulled together into a more comprehensive picture could be very effective in bringing about policy changes at a global level.

Apart from public health studies, there is a role for the social sciences and security studies. For example, it would be important to find reliable proxy indicators of insecurity of health care. These might include factors such as the total number of violent incidents (of whatever outcome) in a given area, governance, development indices, a nation's military expenditure in relation to spending on health, and ethnic divides among a given population. In addition, what needs to be established in many parts of the world is whether health-care personnel leave or refuse to work in an insecure region because of insecurity, lack of financial opportunity, or both.³¹

In-country studies need to be done to show what measures are currently taken by and what measures are feasible for hospitals near conflict zones to improve the physical security of the wounded and sick, health-care personnel, and health-care facilities such as buildings and vehicles.

Other questions indicate useful avenues for this kind of research. How widespread, if at all, is the notion that health care is neutral and should be respected? Where does this notion come from? In demonstrations and uprisings, how important is the understanding of crowd behaviour when it comes to ensuring the security of, for example, ambulance staff?

The security implications of gathering health-related data from contexts of armed conflict and other emergencies

Health-care providers can, simply because they are carrying out their duties in a particular context, become witness to the impact on people of violations of international humanitarian law or human rights law. Being witness to people's wounds and being in possession of routine hospital documentation or data gathered specifically about these wounded people, including how they sustained their wounds, can present health-care staff with an acute dilemma. Do they use this powerful, data-oriented testimony to reveal the nature and extent of violent events, and so possibly risk their security or that of their colleagues or the people they are trying to help? Or do they stay quiet, minimising the risk to themselves and others whilst at the same time being able to continue to treat people? The dilemma, as

31 John Zaracostas, 'Exodus of medical staff strains Iraq's health facilities', in *British Medical Journal*, Vol. 334, 28 April 2007, p. 865. See also Oxfam International, 'Rising to the humanitarian challenge in Iraq', briefing paper, July 2007, p. 11.

formulated here, does not represent a hypothetical situation; it is a day-to-day reality for many health-care professionals all over the world. The ICRC has recently published guidance on how this dilemma might be addressed.³²

The ‘citizen journalist’ reporting on an attack involving health-care personnel or facilities together with those involved in capturing such information must be aware of the many potentially serious security issues. A message sent via Twitter, a post on Facebook, or a collation of ‘volunteer-generated information’ into, for example, real-time crisis maps can put in danger the victims, the person communicating, and their families and colleagues.³³ Furthermore, creating a map of a country in crisis might be viewed by the authorities concerned as an issue of sovereignty. The reaction of hostile authorities can be rapid and severe.

Conclusion

The exercise of gathering, analysing, and presenting health-related data is critical to assuring the security of effective and impartial health care in armed conflicts and other emergencies. The ICRC’s Health Care in Danger project shows how pertinent data drive the ‘data-to-policy process’ and are more likely to bring about policy changes when presented credibly, with strong images and with a view to generating public concern.

A research agenda for the future would include generating data in relation to the direct impact of violence affecting health care and the ultimate knock-on effects on people’s health of this violence. Given that the ICRC has labelled attacks on and obstruction of health care as one of the most serious and widespread humanitarian issues today, it could be argued that investment in such research is overdue and could result in policies that improve the health of millions. However, the difficulties of undertaking any data-gathering exercise in this domain must not be underestimated.

³² See above note 16.

³³ See Patrick Meier, ‘New information technologies and their impact on the humanitarian sector’, in *International Review of the Red Cross*, Vol. 93, No. 884, 2011, pp. 1239–1263.