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Attacks on healthcare in the Syrian conflict

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Summary

- The issue of attacks on healthcare during conflict (AHCC) has gained significant international attention in the last decade, leading to the passing in 2016 by the UN Security Council (UNSC) of Resolution 2286 on the protection of healthcare during conflict. In addition, the adoption in 2012 by the World Health Assembly (WHA) of Resolution 65.20 tasked the World Health Organization (WHO) with leading global efforts on documenting AHCC.
- There have been some examples of good practice in documenting AHCC, such as WHO's Surveillance System for AHCC (SSA). Other examples are context-specific, such as some of the reporting mechanisms of AHCC in the Syrian conflict. Drawing lessons from these examples is essential to develop AHCC reporting globally.
- WHO's SSA – launched in December 2017 – represents a promising step towards the systematic and global reporting of AHCC, but requires further development to fulfil its potential in contributing towards the safeguarding of health in conflict settings.
- Syria has witnessed substantial occurrence of AHCC across 10 years of conflict, with 600 facility attacks and 930 health personnel having been killed as of June 2021. The conflict in Syria paved the way to stronger systems to document such attacks, with several efforts having been mounted by local and international NGOs, as well as the Health Cluster and WHO, capitalizing on the availability of local and international health networks, communication tools and technology.
- Drawing lessons from these established reporting mechanisms, and building on WHO's SSA, will help identify priorities to further develop the mechanisms to be applied at the global level.

Key recommendations

- Reporting resources and ongoing political pressure are essential to ensure compliance with international agreements such as UNSC Resolution 2286 and international humanitarian law.
- WHO's SSA should be strengthened, adequately resourced and expanded to cover all relevant contexts.
- Systems for reporting AHCC that serve different purposes (for example, justice- or health-related) should have deep linkages, with maximum interoperability for common data points.
- Data collection and verification practices should be standardized as far as possible.
- The taxonomy used in reporting mechanisms should also be standardized: categorizations that obscure the understanding of events must be refined and/or customized to meet contextual needs.
- Local actors should always be included in the design and execution of reporting mechanisms.
- Additional research is needed to understand the impact of AHCC. Toolkits and a rigorous methodology for conducting this research should be designed and promoted.

01 Introduction

The increased incidence of attacks on healthcare in recent armed conflicts has prompted the creation of additional international legal frameworks to address the issue. However, systematic mechanisms to document and report attacks on healthcare will need to be developed to ensure compliance.

Since the founding of the International Committee of the Red Cross (ICRC) in 1863, increased attention has been paid to the importance of delivering healthcare during conflict, both to affected civilian populations and to wounded and sick combatants.[1] The First Geneva Convention, signed in 1864, established the basis for the inviolability of medical personnel and establishments in armed conflict between states. This was revised and expanded in 1906, in 1929, and in 1949 after the end of the Second World War. Additional Protocols to the Conventions were developed later, to address non-international conflicts. These conventions, along with the humanitarian principles that were adopted by the Red Cross and Red Crescent Societies and later by the UN General Assembly in 1991,[2,3] have been incorporated into international humanitarian law (IHL), a subset of international law that has been in development since 1864. IHL protects those who do not take part in – or are no longer participating in – armed conflict, such as civilians, medical and religious military personnel and wounded combatants.[4] Despite the existence of these broadly endorsed conventions, principles and laws governing the use of force in armed conflict, egregious attacks against healthcare workers and systems remain a feature of contemporary armed conflict.

1 Haumer, S. (2012), '1863: the creation of the first National Society at the beginning of the Movement's history', International Review of the Red Cross, 94(188): https://international-review.icrc.org/sites/default/files/irrc-888-haumer.pdf.
2 The four humanitarian principles are: humanity, neutrality, impartiality and independence.
3 Only three principles – humanity, neutrality and impartiality – were adopted by the UN General Assembly. UN Office for the Coordination of Humanitarian Affairs (2012), 'OCHA on Message: Humanitarian Principles', June 2012, https://www.unocha.org/sites/dms/Documents/OOM-humanitarianprinciples_eng_June12.pdf.
4 International Committee of the Red Cross (2014), 'What is international humanitarian law?', December 2014, https://www.icrc.org/en/document/what-international-humanitarian-law.

Attacks on healthcare during conflict (AHCC) thus represent a major obstacle to mounting an effective health response and hinder access to healthcare for populations in conflict settings and fragile states. AHCC broadly include all violent assaults on health facilities, personnel, vehicles and supplies in conflict settings. A 2018 study reviewing attacks on health in the last three decades showed that AHCC has presented a significant challenge in recent conflicts, with 21 incidents being documented in the Bosnian conflict, more than 24 in Chechnya, 12 in Iraq, more than 100 in Kosovo, 93 in Yemen and 315 in Syria.[5] AHCC have a serious impact on health systems and the health of affected populations by reducing the availability, accessibility and functionality of health facilities, personnel and vehicles. A recent report by WHO analysing three years of data, covering 2018–20, from the SSA found that health personnel were the most frequently affected health resource and that attacks on healthcare were associated with higher rates of deaths in 2020 than in the previous two years.[6] However, lack of evidence, along with other factors related to a lack of effective mechanisms to ensure compliance, is still promoting an absence of accountability on the part of perpetrators, at both international and local levels.

Following years of advocacy on the part of health and humanitarian responders, the UNSC adopted Resolution 2286 in May 2016 to strengthen the protection of healthcare facilities in conflict settings.[7] The resolution strongly condemns attacks against medical facilities and personnel in conflict situations, and demands that all parties to armed conflict comply fully with their obligations under IHL. In addition, it urges all states and parties to conflicts to develop effective measures to prevent, address and investigate these attacks. It should be noted that UNSC Resolution 2286 was preceded by a resolution adopted by the WHA (WHA65.20) in 2012, which tasked WHO to provide global leadership in developing methods of documenting AHCC.

Thus, compliance with Resolution 2286 necessitates the development of systematic mechanisms to document and report AHCC, even if the form such mechanisms should take is not explicitly dictated in the resolution itself. Systematic documentation of AHCC – which has not hitherto been seen as a specific issue – has in the past proved challenging, as it occurs in an environment unconducive to data collection.

This research paper will use the example of the conflict in Syria to explore the topic of documenting and reporting AHCC, and will extrapolate general conclusions from key informant interviews and a comparative analysis of the output of various documentation mechanisms found in Syria between March 2011 and January 2018.

5 Briody, C., Rubenstein, L., Roberts, L., Penney, E., Keenan, W. and Horbar, J. (2018), 'Review of attacks on health care facilities in six conflicts of the past three decades', *Conflict and Health*, 12(19): https://conflictandhealth.biomedcentral.com/articles/10.1186/s13031-018-0152-2.
6 WHO (2021), 'Attacks on Health Care: Three-year analysis of SSA data (2018-2020)', August 2021, https://www.who.int/data/stories/attacks-on-health-care-three-year-analysis-of-ssa-data-(2018-2020).
7 UN Security Council (2016), 'Resolution 2286: Protection of civilians in armed conflict', May 2016, http://unscr.com/en/resolutions/2286.

02 Objectives and methodology

How can systems reporting on AHCC be improved? And how can mechanisms and practices used in the Syrian conflict help improve the international approach to reporting AHCC?

Based on an analysis of various mechanisms that have operated in the Syrian conflict, this study aims to answer the following questions: How can systems reporting on AHCC be improved? How did these mechanisms perform? What differences exist between them, and what are the lessons learned? And, how do the mechanisms for reporting used in Syria compare to the reporting commitments under IHL and related international agreements?

To address these questions, this paper centres around a review and analysis of data and methods from the most prominent reporting mechanisms. It focuses on the following areas of concern: types of collected data, contextualization of data, inclusion of various stakeholders in each mechanism, the utility of the data, and the impact reporting has had on the response to AHCC. The study offers as background an overview of the most widely known reporting mechanism for AHCC globally – WHO's SSA – and some context on AHCC in Syria. Based on an exploration of reporting practices in Syria in relation to requirements in international agreements, this paper makes recommendations for improving documentation of AHCC in the future.

The study used qualitative methodological approaches. A literature review of grey and peer-reviewed literature (including NGO publications and news agency sources) was conducted to assess available knowledge on AHCC both globally and in the Syrian context, to identify the most relevant involved stakeholders for interview, and to compile data points for comparing AHCC reporting mechanisms in Syria.

Three types of formal semi-structured interviews were conducted between March and August 2018: interviews with 13 academic and policy experts working on this issue globally; interviews with 13 field actors involved in reporting AHCC in Syria; and five interviews with policymakers at WHO, the ICRC and Médecins Sans Frontières (MSF). In addition to the interviews, a structured workshop was conducted in June 2018 in Gaziantep, in southern Turkey, with the participation of 30 representatives of actors (mainly in the field of health) that were involved in the cross-border health response in northwest Syria. Interviewees were selected to ensure representation of different types of actors involved in reporting AHCC. Interview data were analysed inductively using a grounded theory, which process stopped when saturation was reached.

The study did not undergo an ethical review process before the interviews. However, ethical considerations were taken into account when designing the interview grid and in analysing the data, ensuring no risk was being introduced to the interviewees and the participants. Consent forms were signed by interviewees prior to the interviews, and the 2018 General Data Protection Regulations were followed.

03
The state of global AHCC reporting

The conflict in Syria created the foundation for some of the global AHCC reporting systems that exist today. The Syrian context is therefore of particular historical relevance and offers lessons for the development of more robust international reporting in future conflicts.

To establish a basis for a discussion of the results of this study, it is necessary to contextualize the study in relation to two main elements: the global state of reporting on AHCC; and the specific context of Syria, where the data were gathered for this study.

What is required for compliance with international resolutions?

AHCC, when analysed as such, is conceptually and legally complex, and is thus difficult to measure objectively and universally. Perpetrators of AHCC range from individuals and communities to parties to armed conflict. The ICRC Health Care in Danger (HCiD) report (January 2012 to December 2013) indicates that globally only about 31 per cent of AHCC are perpetrated by state forces – 25 per cent by state armed forces and 6 per cent by law enforcement – whereas some 46 per cent are perpetrated by either non-state armed groups or individuals, thus rendering accountability in the eyes of the law a multifaceted and complex matter to govern.[8] A 2017 study compiled for Chatham House by researchers at the London School of Economics and Political Science (LSE) found the sparse evidence that existed

8 Moulins, C. (2014), *Health Care in Danger: Violent Incidents Affecting the Delivery of Health Care*, Geneva: International Committee of the Red Cross, https://www.icrc.org/en/publication/4196-health-care-danger-violent-incidents-affecting-delivery-health-care-january-2012.

on AHCC to be Western-biased – i.e. largely reflecting evidence from a limited group of international organizations rooted in the West.[9] The authors conclude that this evidence could be misleading, as it reflects a partial picture, with data on AHCC incidents only being collected in the locations and during the periods when these organizations are operating. The same study identified the lack of a standard approach to data collection, pointing out that each actor has its own data collection method, which could differ further depending on the purpose for which the data are collected. The study also found that if AHCC data are removed from their context, it is difficult to assess whether incidents of AHCC are isolated or the result of a general approach towards the use of force by parties to a conflict.

Compliance with UNSC Resolution 2286 and WHA65.20 necessitates providing evidence for AHCC incidents through continuous documentation in order to inform health policies, hold perpetrators to account and minimize negative public health impacts in conflict, post-conflict and other emergency settings. The impact of AHCC on health systems and the health of affected populations can be substantial, through the wider effects on health personnel, infrastructure and resources, and there exist few long-term studies on AHCC at the country level. Accordingly, AHCC has been placed on the public health agenda as a significant issue to be considered while developing any relevant policies. Therefore, a better understanding of AHCC is needed. The systematic documentation of AHCC is the first step in the way forward for saving lives in crises, strengthening accountability with respect to IHL, and building a greater future knowledge base on the wider impacts of armed conflict.

Public reporting on AHCC

Over the last decade, there have been increased efforts and interest in documenting and reporting on AHCC on the part of humanitarian and human rights organizations, media outlets, think-tanks and academia. This has brought substantial publicity to AHCC and created the foundation for multilateral measures such as the WHA and UNSC resolutions. Human Rights Watch (HRW) and Physicians for Human Rights (PHR) have been consistently reporting on AHCC since the 1980s,[10] while UN human rights institutions and commissions have played a role through a case-based approach. However, no overarching registry of AHCC incidents has been created. The UN Children's Fund (UNICEF) Monitoring and Reporting Mechanism (MRM) on grave violations of children's rights in situations of armed conflict was the first UN-led effort for a broader documentation of human rights abuses affecting women and children. It was established in 2005 by UNSC Resolution 1612 to collect and report data on six different violations. While attacks on hospitals which had detrimental effects on children were covered under one of these six categories ('Attacks against schools or hospitals'), the MRM did not focus on attacks against healthcare as a separate category.[11]

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9 Mülhausen, M., Tuck, E. and Zimmerman, H. (2017), *Health Care Under Fire: The New Normal?*, The London School of Economics and Political Science and Chatham House, March 2017, https://www.icrc.org/es/download/file/45789/health_care_under_fire_the_new_normal.pdf.
10 Physicians for Human Rights (n.d.), 'About Us | Our History', https://phr.org/about/history.
11 UNICEF (2018), 'Children under attack: Six grave violations against children in times of war', 27 September 2018, https://www.unicef.org/protection/57929_57997.html.

High-profile humanitarian aid agencies have played a key role in focusing more attention on AHCC through advocacy and campaigning. Aiming to provide evidence in order to advocate for bringing an end to this form of brutality and in some instances to hold perpetrators accountable, humanitarian actors have been collecting data and have documented some AHCC incidents in various ways, according to their organization's objectives. While this data collection has not been universal in scope, and has drawn from different standards, it has been successful in casting greater light on the issue and putting it on the international agenda. The major campaigns and initiatives that have been set up for this purpose are: the ICRC's HCiD initiative,[12] Medical Care Under Fire by MSF[13] and the Safeguarding Health in Conflict coalition.[14]

The ICRC's HCiD initiative

While the ICRC has long been positioned as a neutral humanitarian responder and the custodian of IHL, promoting adherence to IHL in a multifaceted way, it has only relatively recently conducted public campaigns specifically related to AHCC. The ICRC-led HCiD initiative was a four-year research and advocacy project launched with the intent of improving practice in the delivery of healthcare in emergencies, the mobilization of a community of concern and the generation of a broader evidence base around AHCC. Between 2011 and 2014,[15] the HCiD published three reports analysing violent incidents affecting healthcare in countries where the ICRC is operational. The methodology of the publications was variable, reflecting the objectives of each study, and while the creation of a global standard in data collection was outside the scope of this initiative, it was successful in the creation of a broader dialogue related to policy and creating a broader community of concern.

The Safeguarding Health in Conflict coalition

Safeguarding Health in Conflict is a coalition of 43 member organizations, including international and national NGOs, academic institutions and human rights organizations. Its objective is to raise awareness on AHCC, strengthen the documentation of these incidents, increase accountability for perpetrators and empower local actors to play a key role in this process. It has published multiple reports that focus on AHCC in particular contexts, as well as annual reports that present compilations of global data. As the coalition encompasses a broad range of agencies, it has access to various sources of both primary and secondary data, such as the Insecurity Insights data from the Security in Numbers Database (SiND), PHR data and primary data from responders. As such, the coalition does not have its own reporting mechanism, but its method draws on various datasets, publicly available records and reports and agency-reported incidents.

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12 ICRC (n.d.), 'HCiD Initiative', http://healthcareindanger.org/hcid-project.
13 MSF (n.d.), 'Attacks on medical care', https://www.msf.org/attacks-medical-care.
14 Safeguarding Health in Conflict (n.d.): https://www.safeguardinghealth.org.
15 Each of the three reports was entitled 'Violent incidents affecting health care'. Commissioned by HCiD, they were developed and published by the ICRC in 2013, 2014 and 2015 respectively.

WHO's SSA

The most ambitious ongoing initiative for reporting on AHCC was prompted by the WHA's passing of resolution WHA65.20, which called for WHO leadership in collecting and disseminating AHCC data in complex humanitarian emergencies.[16] As the Global Health Cluster lead, WHO assumed this role, drawing initially from non-verified secondary data to produce the Attacks on Health Care Dashboard, which was launched in 2014. The dashboard aimed to highlight the scale of the problem and to inform health policies in humanitarian crises. WHO continued to report on this dashboard until 2018, when it was fully replaced by the SSA. Since its initial efforts in 2014, WHO has been developing a broader systematic data collection mechanism to fulfil the requirement of WHA65.20. This new product – the SSA – was launched officially in December 2017. Its purpose is to systematically collect and make available data on attacks on healthcare, and their immediate impact on healthcare in countries facing emergencies. The SSA aims to capture the nature and extent of AHCC, to produce and share reliable data on AHCC, and, learning from the patterns of violence, to better protect healthcare through implementing risk mitigation measures and resilience strategies.

The SSA's purpose is to systematically collect and make available data on attacks on healthcare, and their immediate impact in countries facing emergencies.

The SSA does not aim to collect data on AHCC for legal use to bring perpetrators of AHCC to justice, as WHO considers this to be outside of its mandate. Instead, the SSA takes a more technical approach to document AHCC focused on accessibility and availability of healthcare for populations affected by conflicts. That said, the SSA makes some of its data accessible to all interested parties who might use it for prosecution and other legal purposes. Considering the sensitivity of this data, only a few data points are shared publicly (number of attacks, number of deaths and injuries and type of attack). Other more sensitive data, such as the location and names of affected facilities, require consent from SSA partners before sharing. As the publicly shared dataset does not include specific information that can help identify perpetrators, it does not play an active role in promoting IHL compliance and accountability, but is available for use in advocacy and research.

After it was piloted, the scaling and refinement of the SSA followed a series of principles that took account of contextual sensitivity, accuracy, timeliness, standardization and transparency. It paid special attention to safety and ethics to fully enshrine the principle of *do no harm*, and respected the confidentiality of personal data and medical ethics. Other guiding principles included reliability, simplicity and flexibility.

16 WHO (2012), 'WHA65.20: WHO's response, and role as the health cluster lead, in meeting the growing demands of health in humanitarian emergencies', May 2012, http://apps.who.int/gb/ebwha/pdf_files/WHA65/A65_R20-en.pdf.

Data collated in the SSA originate primarily from WHO regional and country offices, in coordination with WHO Headquarters. Each party has clear roles and responsibilities at each level in relation to data collection, verification and the overall supervision and maintenance of the system. SSA partners, including local ministries of health, NGOs and other healthcare providers, are involved in identifying incidents and providing data. Led by WHO, health clusters have a key role in centralizing data collection, thereby rendering information on AHCC a component of the health cluster information standards. While information coming from politically affiliated groups, such as non-state armed groups (NSAGs) and the services they provide is not taken into consideration, the SSA does accept secondary data from human rights organizations, media and news agencies, and legal actors.

In the second half of 2017, the SSA was tested in several conflict locations, including Afghanistan, the Central African Republic, the Palestinian Territories and Syria. Following its official launch in December, its geographical coverage was extended to cover many countries in emergencies. As of April 2021, the SSA reported 797 attacks on healthcare in 2018, 1,029 in 2019 and 323 in 2020 across 17 countries including Afghanistan, Iraq, Libya, Palestine, Syria and Yemen.[17] However, these numbers include both 'high impact' attacks such as bombings and 'lower impact' ones such as verbal threats. Additionally, having used a standardized mechanism of reporting in all countries, changes in the operational contexts of some countries were partially behind the year-to-year differences in the number of incidents reported.

AHCC in the Syrian conflict

'There is no guarantee that medical facilities and health workers in Syria would have the minimum level of protection. The international community, including the UN system, have failed in providing such guarantee'.[18]

Given the massive scale, shocking brutality and broad media coverage of AHCC incidents, the conflict in Syria has shaped the contemporary dialogue on this topic. Studying lessons learned from AHCC reporting throughout the Syrian conflict helps to ground an understanding of global reporting mechanisms historically, and can help focus efforts to improve reporting on AHCC.

The Syrian conflict began as a civil uprising in March 2011 and rapidly spiralled into a deadly armed conflict, producing some of the most egregious examples of AHCC in modern history. As of June 2021, 600 AHCC incidents had been documented on at least 350 health facilities, killing 930 health workers.[19] The UN, the ICRC and many other organizations denounced violence against healthcare

17 WHO (2021), 'Attacks on Health Care: Three-year analysis of SSA data (2018-2020)'.
18 Author interview with Dr Safwan Shalati, head of the Syrian Board of Medical Specialties, July 2018.
19 Physicians for Human Rights (2021), 'Physicians for Human Rights' Findings of Attacks on Health Care in Syria', March 2021, https://syriamap.phr.org/#/en/findings.

in Syria throughout the war, calling on all parties to the conflict to adhere to IHL.[20,21] Syria became known as the most dangerous place on earth for healthcare workers, and healthcare itself was said to have been weaponized in flagrant violation of IHL.[22]

Incidents of AHCC emerged as early as 22 March 2011, when a medical doctor, a nurse and an ambulance driver – all clearly identified as healthcare workers – were killed in a raid on the Al Omari Mosque in Daraa by Syrian government forces.[23] Medical workers involved in treating protesters and opponents of President Bashar al-Assad and his regime were also persecuted, detained, tortured and killed. This deliberate targeting of medical staff pushed them to operate from secret field hospitals and underground shelters, which were then also attacked. In 2012, amid the growing conflict, opposition groups gained control over substantial territory and there emerged a separation of health systems between the two sides of the conflict. In opposition-controlled areas from which the Ministry of Health (MoH) based in Damascus had to withdraw, local providers and NGOs established a parallel healthcare system, with ad hoc interventions in these areas where AHCC was a major threat.

The type of AHCC was different in the various areas of control, with the majority of incidents happening in opposition-held areas. In areas controlled by the Syrian government, most AHCC incidents were acts of violence against healthcare personnel, such as kidnapping, detention, torture and killing. In opposition-controlled areas, the majority of AHCC incidents were perpetrated against entire facilities. Health structures were bombed, shelled and even subjected to attack by chemical weapons. Many hospitals were completely or partially destroyed, causing a severe disruption of the health system in these areas, with less than one per cent functionality remaining among former health facilities in governorates such as Idlib, Raqqa and Deir ez-Zor, as reported by WHO in 2014–18.[24]

Areas under the control of the Syrian government were supported by the MoH, local and international NGOs, UN agencies and the Syrian Arab Red Crescent (SARC). Some cross-line medical support to opposition-controlled territories was offered, largely through the SARC.

In opposition-controlled areas, healthcare was delivered mainly through aid organizations and locally organized medical networks. Local health actors – whether NGOs, grassroots organizations, or local authorities – developed their operations rapidly in response to the increased needs resulting from the conflict and the MoH's collapse. Prominent examples of local NGOs working

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20 Schlein, L, (2018), 'Alarming Spike in Attacks Against Health Workers, Facilities in Syria', ReliefWeb, 11 March 2018, https://reliefweb.int/report/syrian-arab-republic/who-alarming-spike-attacks-against-health-workers-facilities-syria.
21 Maurer, P. (2017), 'Where is the urgency to bring attacks on healthcare to an end?', ICRC, 31 October 2017, https://www.icrc.org/en/document/where-urgency-bring-attacks-healthcare-end.
22 Fouad, F. M., Sparrow, A., Tarakji, A., Alameddine, M., El-Jardali, F., Coutts, A. P., et al. (2017), 'Health workers and the weaponisation of health care in Syria: a preliminary inquiry for The Lancet–American University of Beirut Commission on Syria', *The Lancet*, December 2017, https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(17)30741-9/fulltext.
23 Sparrow, A. (2017), 'Dr Ali, the first Syrian doctor killed in the war', Middle East Eye, 31 March 2017, https://www.middleeasteye.net/opinion/dr-ali-first-syrian-doctor-killed-war.
24 WHO (2018), 'Syrian Arab Republic – Number of Attacks on Health Care and Health Facility Functionality', April 2018, https://www.who.int/emergencies/crises/syr/syr-attack-health.gif?ua=1.

in the health sector are diaspora organizations such as the Syrian American Medical Society (SAMS) and the Union of Medical and Relief Organizations (UOSSM), which supported local health networks to run hospitals and strengthen the health system.

Support was delivered via cross-border operations from neighbouring countries and humanitarian hubs supported the ensemble of health actors. These hubs included Damascus, Gaziantep (in southern Turkey), Beirut (Lebanon), Amman (Jordan) and one in northeast Syria, managed via Erbil in the Kurdistan region of Iraq. In some areas NSAGs were the main healthcare providers: a clear example of this is the health provision in the territories under the control of Islamic State (ISIS).

Although attacks on healthcare facilities have been ongoing since the beginning of the conflict,[25] the establishment of a standardized approach towards monitoring AHCC incidents took shape only in 2016. Human rights actors collected AHCC data from the onset of the war and health responders engaged in 2014 as the scale of incidents increased dramatically. By the summer of 2015, the WHO-led health cluster based in Gaziantep had piloted the Monitoring Violence against Healthcare (MVH) reporting tool, which drew data from health cluster partners with field operations, which were thus primary witnesses to any AHCC incidents. The MVH tool was eventually replaced in March 2018 by WHO's SSA.

25 Fouad et al. (2017), 'Health workers and the weaponisation of health care in Syria'.

04 Analysis of AHCC reporting in the Syrian conflict

The various mechanisms used by humanitarian health responders, human rights agencies and legal actors in Syria report high incidence of AHCC and indicate similar trends. Actors involved in reporting AHCC in Syria emphasize the importance of multidisciplinary efforts with a strong focus on accountability in any reporting mechanism for AHCC.

Mechanisms for reporting AHCC in the Syrian conflict

Using a literature review, online searches and key informant interviews, this study has identified and analysed all available reporting mechanisms of AHCC in the Syrian conflict that functioned between March 2011 and June 2018. Based on key informant interviews, peaks of AHCC incidents in Syria happened in the summer of 2012 and again in July 2014 with the intensification of the armed conflict. Throughout 2015 and 2016, AHCC incidents took place regularly, with an unprecedented peak in the fourth quarter of 2016 concurrent with the Battle of Aleppo. In 2017, following the conclusion of a de-escalation agreement, there was an overall decrease in AHCC incidents despite the Khan Shaykhun chemical

attack in April. A further peak resembling that of the Battle of Aleppo was observed when the Syrian government took control of opposition-held eastern Ghouta in the first quarter of 2018.

A variety of actors were involved in reporting AHCC, but with substantial differences in relation to the purpose of the reporting, the methodologies used and the geographical coverage. Table 1 lists all the identified reporting mechanisms, alongside basic features of each one.

Table 1. AHCC reporting mechanisms in Syria from 2011

Date	Mechanism	Institution	Geographical focus of AHCC reporting	Main source of data[26]
Mar. 2011–	PHR	PHR	All Syria – Global coverage	Secondary
Jun. 2011–	VDC	Violations Documentation Center	All Syria	Primary
Jun. 2011– (AHCC: Nov. 2016–)	SNHR	Syrian Network for Human Rights	All Syria	Primary
Feb. 2014–	SAMS	SAMS	Opposition-controlled areas	Primary
Apr. 2015–	SiND	Insecurity Insights	All Syria – Global database	Secondary
2015–17	Annual reporting	Safeguarding Health in Conflict	All Syria – Global database	Secondary/ Primary
Nov. 2015– Mar. 2018	MVH	WHO-led Health Cluster in Gaziantep, Turkey	Opposition-controlled areas	Primary
Mar. 2018–	SSA	WHO	All Syria	Primary and secondary
Not known	HCiD	ICRC	Syrian government-controlled areas	Primary
Not known	MRM	UNICEF	All Syria and Syrian government focus	Secondary

26 A primary source is defined as immediate, first-hand accounts of a topic from people who had a direct connection with it. A secondary source is defined as a reply based on other organizations' reporting, news and media or social media.

Three principal types of actor are involved in reporting AHCC in Syria: humanitarian health responders; human rights agencies; and legal actors. Data practices – i.e. the collection, verification and use of data – reflected the objectives and purpose of the governing agency. While reporting by health actors tends to be more representative and extensive in documenting all alleged incidents, reporting by legal actors used more rigorous, case-by-case approaches to establish proof and intentionality and to identify perpetrators. While many human rights organizations had general reporting on human rights violations, some, such as the Syrian Network for Human Rights (SNHR), created a special reporting tool for AHCC.

PHR's reporting played a key role in bringing global attention to the issue of attacks on healthcare facilities, and encouraged local and international health actors to engage in reporting such attacks.

The first organization to report on AHCC in a systematic way was PHR, which did so from the onset of the conflict in April 2011. PHR's reporting played a key role in bringing global attention to the issue of attacks on healthcare facilities, and encouraged local and international health actors to engage in reporting such attacks. In the first three years of the conflict, AHCC incidents were reported as human rights violations or IHL infractions by local organizations, such as the Violations Documentation Center (VDC) and the SNHR. From 2013, PHR began building the capacity of local health and human rights actors to help expand and improve the reporting and documentation of AHCC. SAMS, which established its reporting mechanism in 2014, was considered the leading local medical actor in reporting AHCC. The Syrian health directorates also played a key role in documenting and archiving AHCC incidents in each governorate and supported the health cluster efforts. While a wide range of agencies and organizations participated in the collection and publication of data on AHCC, efforts were not made to establish an overarching dataset combining all reports.

An analysis was conducted of the methodologies used across the above-mentioned mechanisms, in order to assess which held most relevance for comparative study. Five mechanisms emerged as the best candidates. The prioritization was performed by means of an unstructured process, based on numerous factors: these included specificity both to the context and to AHCC, wide geographical coverage, representativeness, completeness and the strictness of verification processes. The five mechanisms thus identified for further comparative study were:

- MVH
- PHR
- SAMS reporting
- SiND
- SNHR reporting

A comparison of AHCC reporting mechanisms in Syria

A comparison was conducted using governorate-level monthly data from the mechanisms listed above. All datasets were publicly available with the exception of the SAMS dataset, which was obtained through a data-sharing agreement. The data then were cleaned and merged within a single set. A basic descriptive analysis was conducted, followed by a multivariate test to establish continuity and discrepancies between the constituent datasets. Due to the heterogeneity of these datasets, statistical approaches have been accompanied by a visual presentation of the study's findings for the sake of clarity and comparison. The software used for the quantitative analysis was Stata 15.

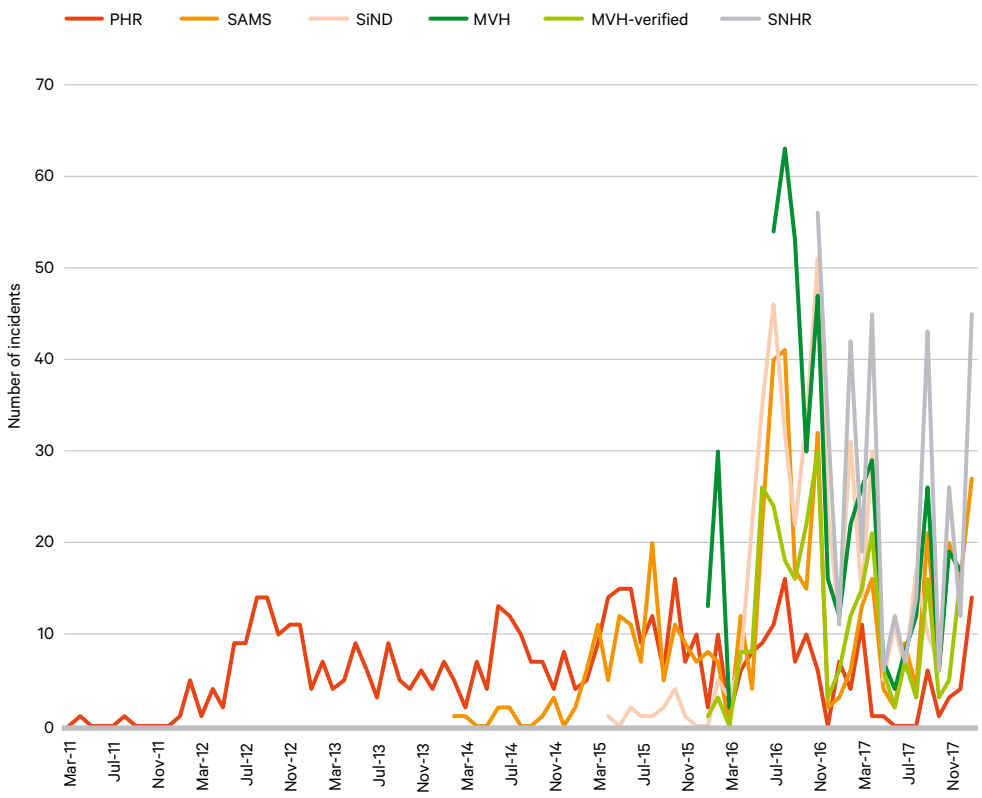
Table 2 summarizes the main descriptive analysis. By running a multivariate test on the means, some weak evidence emerged to suggest that the data varied between different mechanisms (P value = 0.0663). This difference could be attributed to various factors. These factors will be discussed in the following sections.

Table 2. Descriptive analysis of country-level results

Period	Reporting method	Number of months (observations) included	Total number of incidents	Min.–max.	Mean	Interquartile range
Mar. 2011–Dec. 2017	PHR	81	492	0–16	6.01	0–15
Feb. 2014–Dec. 2017	SAMS	48	463	0–41	9.65	0–27
Apr. 2015–Oct. 2017	SiND	31	434	0–51	14	1–33
Jan. 2016–Dec. 2017	MVH	24	267	0–30	11.29	3–22
Nov. 2016–Dec. 2017	SNHR	15	377	6–56	25.13	11–43

Despite the differences between these reporting mechanisms, there remains an approximate symmetry across them. As Figure 1 shows, all mechanisms indicate synchronized peaks of AHCC incidents, especially during military events that have attracted wide media attention such as the invasion of the eastern section of Aleppo city by Syrian government forces in 2016. Also, the periods with minimum incidents tend to be concurrent across all mechanisms, synchronized with the implementation of cessation of hostilities agreements, for example in March 2016 and the summer of 2017. A study published by the open-access journal PLOS Medicine in 2018 compared individual incidents of AHCC in Syria as documented in two reporting mechanisms (SAMS and PHR) and found that there was some overlap.[27] Mechanisms that use primary data sources tend to capture more incidents than those that rely solely on secondary sources. This suggests that secondary data, such as media reports, miss a proportion of AHCC incidents.

Figure 1. Frequency of reported AHCC incidents in Syria (2011–18), by the five leading reporting mechanisms



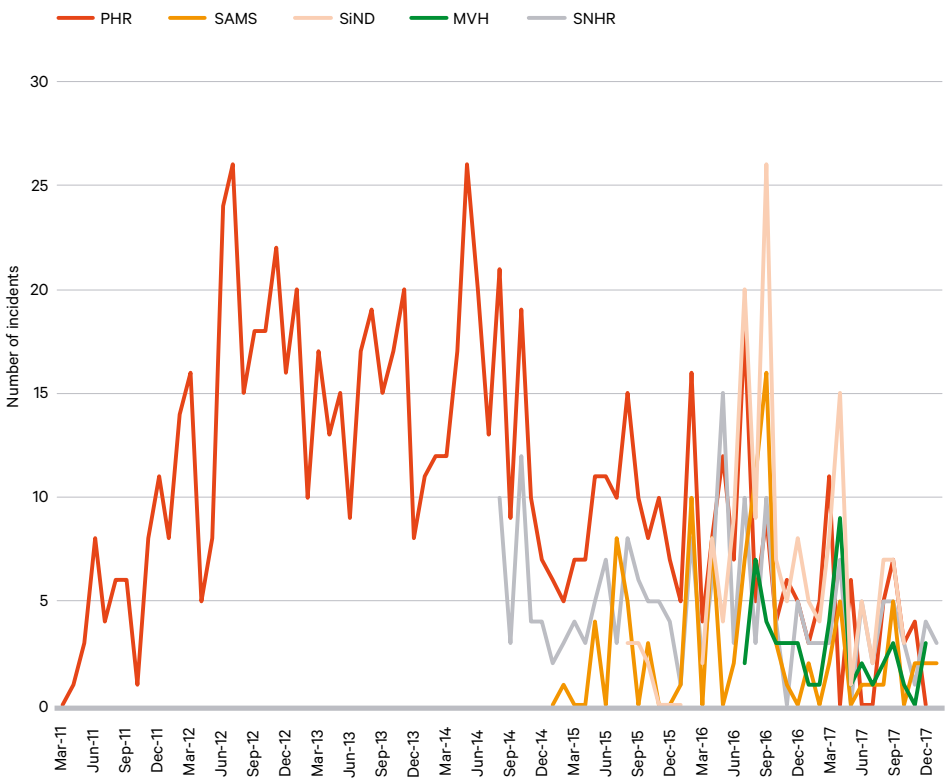
Source: https://syriamap.phr.org; primary data collected by SAMS staff; http://insecurityinsight.org/services/the-data-base; monthly reports of the MVH mechanism produced by the WHO office in Gaziantep, Turkey, via https://www.humanitarianresponse.info; monthly reports of the SNHR accessed via https://sn4hr.org.

27 Haar, R. J., Risko, C. B., Singh, S., Rayes, D., Albaik, A. et al. (2018), 'Determining the scope of attacks on health in four governorates of Syria in 2016: Results of a field surveillance program', *PLOS Medicine*, 24 April 2018, https://journals.plos.org/plosmedicine/article/comments?id=10.1371/journal.pmed.1002559.

A similar, and even more striking, symmetry is noticeable in the reporting of the numbers of medical staff killed in AHCC events (Figure 2), with synchronized peaks and minimums across all reporting mechanisms. Yet the peaks here are sharper according to the reporting mechanisms using secondary data, such as SiND, compared with those using primary data, such as SAMS. This might indicate that secondary sources tend to report higher numbers of deaths among medical staff compared with primary sources, which can better verify this type of data.

In contrast to the pattern observed concerning the frequency of AHCC incidents, the earlier phases of the conflict show higher frequencies of killings of medical personnel than the later phases. The reason behind this contradiction might be the introduction of various protection measures, ranging from collective measures such as site selections and fortification of health facilities, alarm networks and evacuation plans, to individual measures related to medical workers' behaviour before, during and after attacks.

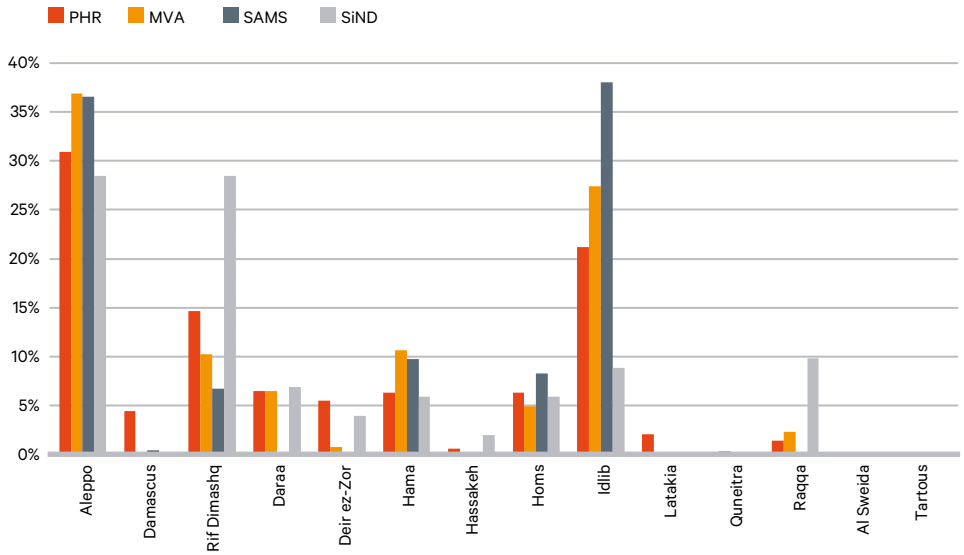
Figure 2. Frequency of reported killings of medical staff in AHCC incidents in Syria (2011–18), according to the five leading reporting mechanisms



Source: https://syriamap.phr.org; primary data collected by SAMS staff; http://insecurityinsight.org/services/the-data-base; monthly reports of the MVH mechanism produced by the WHO office in Gaziantep, Turkey, via https://www.humanitarianresponse.info; monthly reports of the SNHR accessed via https://sn4hr.org.

The geographical coverage of each mechanism depends largely on their primary source of information. For example, as SAMS operated primarily in northwest Syria (in particular, in Idlib governorate), it is more likely to report incidents in these areas than in eastern governorates such as Raqqa and Deir ez-Zor. In contrast, SiND, which relies mainly on secondary data, reports more rarely on Idlib governorate and much more frequently on Raqqa governorate, which was the principal seat of power for ISIS during the studied period.

Figure 3. Percentage of AHCC incidents per governorate per mechanism, 2016–17, according to four reporting mechanisms[28]

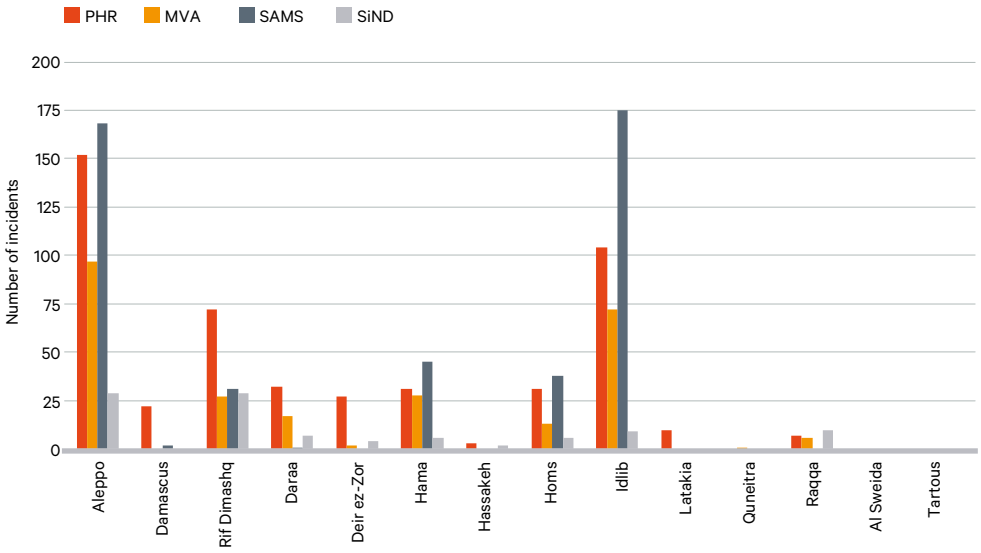


Source: https://syriamap.phr.org; primary data collected by SAMS staff; http://insecurityinsight.org/services/the-data-base; monthly reports of the MVH mechanism produced by the WHO office in Gaziantep, Turkey, via https://www.humanitarianresponse.info.

Regarding the geographical distribution of AHCC incidents, all reporting mechanisms indicate that most incidents took place in the areas that are severely affected by conflict. In 2016–17 the highest numbers of incidents were reported in the governorates of Aleppo and Idlib. However, if the period under consideration is extended to include 2018, Rif Dimashq governorate would show a similarly high cumulative frequency of AHCC incidents, with more than 40 such incidents having been recorded during the Syrian government's invasion of eastern Ghouta in the first quarter of that year. According to PHR, the vast majority of AHCC incidents during the conflict happened in opposition-controlled areas, with more than 90 per cent of these incidents being committed by the Syrian government and its allies.[29]

28 SNHR does not provide data disaggregated by governorate.
29 PHR (2021), 'Physicians for Human Rights' Findings of Attacks on Health Care in Syria'.

Figure 4. Frequency of AHCC incidents per governorate per mechanism, 2016–17, by four reporting mechanisms[30]



Source: https://syriamap.phr.org; primary data collected by SAMS staff; http://insecurityinsight.org/services/the-data-base; monthly reports of the MVH mechanism produced by the WHO office in Gaziantep, Turkey, via https://www.humanitarianresponse.info.

The AHCC reporting mechanisms analysed in this study vary in terms of several conceptual and methodological elements. The elements identified in this study, each of which are discussed in section 5, are: taxonomy (i.e. the terminology and definitions used); the source of the data collected (i.e. primary/secondary) and the verification process; and the purpose of reporting.

Who should be responsible for reporting?

During the workshop conducted in Gaziantep, Turkey in June 2018, for the purpose of this research, 30 participants – mainly health workers in local networks and NGOs, together with three WHO health cluster staffers – were asked to indicate their preference for who, or what type of agency, should be involved in AHCC reporting in opposition-controlled areas in Syria. This was to better understand the overall sentiment related to the relevance of reporting AHCC and the purpose of collecting the data. Participants ranked the relevance of each role with respect to reporting AHCC from zero to five, with zero being least important and five most important. Results are shown in Table 3.

30 SNHR does not provide data disaggregated by governorate.

Table 3. Priority actors in reporting AHCC in opposition-controlled areas in Syria, as ranked by workshop participants

Stakeholders	Average ranking (0–5)
UN agencies	
International Criminal Court	3.3
Independent International Commission of Inquiry on the Syrian Arab Republic (IICI)	3.1
Office of the International, Impartial and Independent Mechanism (IIIM) for Syria	3.1
WHO	2.7
Office of the High Commissioner for Human Rights	2.6
Coordination platforms	
Local coordination networks and platforms (e.g. Syrian NGOs Alliance)	2.7
Cluster system of the UN Office for the Coordination of Humanitarian Affairs	2.5
Health cluster	2.2
International NGOs (INGOs)	
ICRC	2.6
Human rights and advocacy organizations (e.g. Amnesty International, HRW, PHR)	2.5
MSF	2.5
INGO that supports and/or runs the affected facility	2.4
Local NGOs (LNGOs)	
Local human rights organizations (SNHR, Lawyers & Doctors for Human Rights)	2
NGO that supports and/or runs the affected facility	1.6
Specialized medical LNGOs (e.g. UOSSM, SAMS, Syrian Expatriate Medical Association)	1.5
SARC	0
Local and medical authorities	
Local councils	2.5
Coordination body of the Syrian health directorates	1.6
Health directorates	1.5
Ambulances and emergency networks	1.5
Syria Civil Defence (White Helmets)	1.3
Health facility staff	
Administrative staff (e.g. managing director, cleaners, drivers)	2.6
Medical and administrative staff of nearby health facilities	2
Medical staff (e.g. doctors, nurses, midwives)	1.2
Media	
Local media	1
International media	1

As Table 3 shows, the participants broadly prioritized the role of legal bodies in reporting AHCC. Most of them expressed the view that reporting AHCC should involve actors who have the mandate and influence to bring perpetrators to justice. While participants emphasized in the accompanying discussion the importance of involving local actors and NGOs in reporting AHCC, they did not see these actors as having any influence on accountability.

These findings support the argument that reporting AHCC should be a multidisciplinary effort, involving actors from different sectors. They also emphasize the perceived importance of international bodies and demonstrate a strong desire for accountability. Given that the sample of participants in this workshop was small, non-randomized and not representative, these findings could be further assessed through context-specific stakeholder mapping and followed up using quantitative and qualitative methods to identify priority actors.

05 Analysis of the design of reporting mechanisms in Syria

If mechanisms for reporting AHCC are to be successfully developed on a global scale, it will be necessary to address three main areas where existing mechanisms show significant variation: taxonomy of attack types; data collection and verification; and the purpose of reporting mechanisms.

The purpose of this section is to draw insights and conclusions from the comparative data and contextual analysis presented above. Particular emphasis is placed on WHO's SSA, as this system has emerged as the most broadly accepted global standard.

Taxonomy: Definitions and terminology used by reporting mechanisms

The absence of a unified taxonomy and terminology is the most critical element of variation between different AHCC reporting mechanisms. Key differences exist, including on the definition of AHCC *per se*, as well as on what counts as a health facility and a healthcare worker, and on the classification of different types of incident type.

In reporting AHCC in Syria, no standard definition of AHCC has emerged. Mechanisms with more restrictive definitions of AHCC would thus collect and report less data on incidents classed as AHCC than those with broader definitions. For example, the SAMS reporting mechanism adopts a definition of AHCC that includes the actual harm caused by an incident and/or the possible harm that might have happened. While most AHCC definitions take into account effects on health workers and vehicles, in addition to on health facilities, the mechanisms differ in how they define the way in which an incident might affect healthcare provision. As an outlier, the PHR mechanism focuses its definition of AHCC on health facilities rather than on personnel, as the organization has a separate mechanism for reporting numbers of healthcare workers killed or harmed in such instances. Table 4 details AHCC definitions used by three of the leading mechanisms reporting on attacks in Syria.

Table 4. AHCC definitions used by PHR, SAMS and WHO

Reporting mechanism	AHCC definition
PHR	An 'attack' is defined as a violent assault upon a facility resulting in any destruction, damage or loss of the facility's function, equipment, or medical supplies.[31]
SAMS	Any intentional act that may result (directly or indirectly) in: 1. Damage to the health facility or reduction in its functionality; 2. Loss or damage to health equipment, assets, transportation; 3. Harm to the health workers.[32]
WHO	Any act of verbal or physical violence or obstruction or threat of violence that interferes with the availability, access and delivery of curative and/or preventive health services during emergencies.[33]

Looking at the three definitions presented in Table 4, the reporting of AHCC incidents by these mechanisms could produce dramatically different results given the same data points. With a focus on facilities, the PHR definition emphasizes forms of violence that are most likely to be caused by heavy weapons. (Other forms of violence would be captured in their separate, personnel-focused reporting tool.) In contrast, WHO's definition is wider and includes not only physical violence but also verbal violence, which may be difficult to determine objectively. WHO's definition expands further by referring to preventative health services, which implies a broader definition of who might count as a health worker and what might count as an AHCC in a humanitarian emergency. The SAMS definition includes a notion of intentionality on violence that directly or indirectly affects health

31 PHR (n.d.), 'Methodology', http://syriamap.phr.org/#/en/methodology.
32 This definition was cited in a presentation shared by SAMS Turkey office on their methodology of reporting AHCC.
33 WHO (2020), 'Attacks on health care initiative: Documenting the problem', 22 July 2020, https://www.who.int/news-room/q-a-detail/attacks-on-healthcare-initiative-documenting-the-problem.

facilities, supplies, vehicles or personnel. Intentionality, as a concept, has a legal value in establishing culpability for a crime, suggesting this definition was formulated with a sense of justice in mind.

Despite the broad range of categories of attack type provided in the WHO mechanism, some aspects of its categorization system can obscure understanding of an incident.

A standard definition of AHCC should cover all incidents that affect healthcare by impacting the availability, functionality or accessibility of curative or preventative health services. This effect could be a result of any of the following immediate impacts of such incidents:

- Damage to health facilities, assets, supplies or vehicles;
- Deaths or injuries among medical workers;
- Blocking access to medical equipment and supplies; or
- Loss of medical training.

Taxonomical discrepancies become more obvious when it comes to the classification and categorization of violence and impact. Each mechanism uses its own categorization, which is influenced largely by the purpose of the reporting. For example, both PHR and SAMS use their own detailed categorizations of modalities of attacks, based on the used weapons or violent behaviour. The WHO-led MVH mechanism has a less detailed typology of attacks, whereas the SSA tool has a clear but broad approach towards the categorization of incident type. As indicated in Table 4 above, the SSA uses the WHO definition of AHCC, which is: 'any act of verbal or physical violence or obstruction or threat of violence that interferes with the availability, access and delivery of curative and/or preventive health services during emergencies'. While the same definition is used across WHO offices, the way each office determines which incidents should be reported can be slightly different, taking into consideration the local context. Attacks are placed in one of 15 categories, depending either on the type of assault or the affected health resources and using simple definitions that require no military knowledge. To address discrepancies between contexts, WHO is trying to build capacity and raise awareness in relation to AHCC definition and taxonomy.

Despite the broad range of categories of attack type provided in the WHO mechanism, some aspects of its categorization system can obscure understanding of an incident. The most prominent example raised from the Syria crisis is the category of 'violence with a heavy weapon'. That is defined as 'violence with a weapon that requires more than one person to use such as firearms, tanks, missiles, bombs, mortars[…]'.[34] Under this definition, it is not possible to differentiate between an airstrike, shelling from small mortars, a blast from a tank cannon, or an attack with a high-calibre machine gun mounted in the back of a truck. Information

34 The definition is cited in the WHO SSA website as part of the definitions of 'Attack Type': https://extranet.who.int/ssa/Index.aspx.

that helps the user to understand if, for example, an AHCC incident was a result of mortar fire from the front line of conflict vs a barrel bomb dropped directly on a health facility in an urban area could be vital in providing understanding related to grave breaches of IHL, as well as the identity of the perpetrators. It would also prove useful for strategizing better risk mitigation measures related to patterns of attacks. In the case of Syria, some types of weaponry were used by only one side in the conflict – e.g. anything delivered by aircraft was deployed by the Syrian government or its allies. WHO considers this level of information outside of its mandate and the capability of health staff, but the information is often either already available in the public sphere or documented by agencies with rigorous practices for doing so, such as the VDC. In the case of the Syria conflict, the use of the term 'violence with a heavy weapon' actually obscures the picture of what is happening on the ground, contrary to the intent of the SSA. Indeed, in the Syrian context this categorization of types of attacks works against the uptake of the SSA system by parties such as front-line healthcare workers, who demand accountability for crimes perpetrated against them and their colleagues. This example suggests that the 'incident type' categories could be further expanded and better contextualized to fulfil the SSA's mission of creating a global mechanism. Alternatively, the SSA could work with agencies producing verified information with additional details.

Data collection and verification practices

The data collection and verification processes examined in this study were influenced by field location and the data sources considered by each reporting agency. Mechanisms led by agencies with operations at the field level receive, firstly, incident alerts based on primary data sources, followed by verifying alerts, either through external partners or secondary sources. In contrast, mechanisms that do not have field presence initiate incident alerts based on secondary data, such as a media report, and then verify these alerts either through assessing primary data or other means of verifying secondary data, such as satellite imagery.

To offer an example, the process of collecting and verifying data in the WHO's MVH (and later the SSA) involves using a variety of both primary and secondary sources. It can be initiated by WHO staff, health partners, eyewitnesses, media reports or any other general sources. The data are then verified through field observations, interviews with eyewitnesses, health partners' reports, media content (e.g. photographs, videos) or satellite images. The verification process establishes a 'certainty level', ascribing higher levels of certainty to direct observation than to rumours or hearsay. When an incident is identified, a report form is submitted either by a WHO field office or by a partner organization; the WHO country office then verifies each incident using the methods outlined above. There are four certainty levels for each incident, each requiring different follow-up protocols:[35]

35 Author interviews with the Health Cluster/Gaziantep staff who used to manage the MVH reporting mechanism, June 2018.

- Rumour: e.g. claims made on social media, without additional proof. Such incidents will not be reported externally. The report will be kept in the internal dataset only and will be flagged as rumour.
- Possible: e.g. reports in the media. Further information is collected and corroborated for verification.
- Probable: e.g. one eyewitness or two secondary sources. Further information is collected and corroborated for verification.
- Confirmed: This category comprises incidents reported by direct observation by SSA partners, and details can be published immediately.

Once incidents are verified at WHO country office level, the information is published on the SSA webpage. The SSA team at WHO headquarters then checks the information through triangulation and cross-checking. Details of the incidents are logged at a later stage in a secure central database.

The type of data considered by each mechanism is influenced by that mechanism's purpose. All mechanisms collect data on variables such as location, date, deaths and injuries that establish some basic facts, but other questions remain elusive and require more specialization. While mechanisms that have a legal focus tend to collect more data related to intent and responsibility for the attack, those focused on health outcomes collect more data related to the incident's impact on healthcare. While data points related to AHCC incidents for justice and legal matters require rigorous proof, the range of data needed to measure the impact and public health implications of AHCC events is extremely heterogeneous, and it may not be possible accurately to determine the impact without additional research. Reporting systems concerned with health impact should also establish methodologies for impact measurement, to render impact data more tangible.

The use of technology is one of the main features of reporting AHCC in Syria. An excellent example of this is PHR's use of satellite imagery to confirm an incident's location during the verification process. At PHR's request, the American Association for the Advancement of Science conducted an independent analysis of 15 high-resolution satellite images and was able to confirm two of four specific incidents that had been called into question.[36] To give a further example, a collaboration took place between research teams at several academic institutions in the US and the SAMS in 2016, to develop and use a mobile application for data collection related to AHCC in Syria.[37]

An overview of existing data collection and verification processes is provided in Table 5.

36 Wolfinbarger, S., Drake, J., Ashcroft, E. and Hughes, A. (2014), 'Assessing the status of medical facilities in Syria', American Association for the Advancement of Science, Geospatial Technologies and Human Rights Project, May 2014, https://www.aaas.org/resources/assessing-status-medical-facilities-syria.
37 Author interview with the head of the advocacy team at SAMS, July 2018.

Table 5. Data collection and verification processes by AHCC reporting mechanism

Reporting mechanism	Data collection and verification process
MVH	1. Health cluster members send alerts of incidents via WhatsApp and an anonymized online data entry tool. 2. Field staff seeks further information through interviews with eyewitnesses. 3. Data are triangulated and flash updates are sent to partners. 4. Data are sought from external partners. 5. Monthly, or more frequent, verification takes place (for an incident to be verified, it needs to be reported by at least one health cluster member and one external partner).
PHR	1. Secondary data to identify potential incidents. 2. Targeted search, a systematic two-tier analysis of the credibility of both source and data content, data triangulation, comparison of multiple sources. 3. Aerial and satellite imagery analysis of the location. 4. Contacting medical organizations or personnel working in Syria. At least three independent sources or two credible sources, with a reviewing panel for each incident.[38]
SAMS	1. Health facilities and field monitors send alerts of incidents via WhatsApp and/or mobile app, email or any other available means of communication. 2. Field monitors seek further information through observations and interviews. 3. The incident is verified with partners working in the same area and/or staff of health facilities in the vicinity of the facility attacked. 4. Verification is carried out on an incident-by-incident basis.

Substantial limitations continue to arise from these various processes. While there has been robust reporting of AHCC incidents in the Syrian conflict since 2016, there remains the possibility of unreported incidents. Factors that might limit AHCC reporting are related to the design of reporting mechanisms, the political sensitivity of the conflict and the lack of recognized health actors on the ground.

The political sensitivity and military complexity of the conflict presents additional complications. Reporting agencies in Syria might lack access to some areas, such as those controlled or besieged by the Syrian government or by NSAGs. It is noteworthy that there was very little reporting of AHCC incidents in the Syrian government-held areas, where the authorities control and restrict journalism and reporting, and have poor relations both with the international human rights community and with states opposed to the Assad regime. AHCC might also be under-reported in areas with a limited number of field health actors and activists. For example, very few incidents were reported in eastern governorates – such as Raqqa and Deir ez-Zor – that were controlled by ISIS between 2014 and 2017.

38 PHR (n.d.), 'Methodology'.

The purpose of reporting mechanisms

The purpose of any reporting mechanism reflects the politics of the organization or group which created it. There are two main purposes for reporting AHCC: an undisputable health-focused purpose, with the aim of improving both the humanitarian health response and the allocation of health resources; and a more politically divisive legal focus, with the aim of stopping the attacks and bringing perpetrators to justice. A third category of purpose, captured in the spirit of campaigns led by MSF, the ICRC and Safeguarding Health in Conflict cited in section 3, consists in the mobilization of political will to protect healthcare.

As stated above, the design of reporting mechanisms differs with respect to their purpose. Purpose affects everything, from the data points to be considered for inclusion and the data verification process to be followed, to communication plans and other uses of the data. Most healthcare-implementing agencies involved in reporting AHCC in Syria have aimed to serve multiple purposes, collecting information related to affected health resources as well as to intentionality and perpetrators. However, health actors are not well positioned to collect and communicate such sensitive data and, in some cases, must avoid doing so to avoid being targeted. This suggests that more collaboration is needed between legal and health actors to standardize this process.

At the opposite end of the spectrum, WHO's SSA system is designed only to serve the health purpose of reporting. There remain some technical problems that obscure facts, and an absence of information that captures a spirit of justice. While WHO tries to preserve its neutrality by not becoming involved in sensitive data that might be politicized, the WHO-led MVH reporting did collect such data on a large scale. This was largely due to health cluster members, pushed by local health workers, who continued to collect and report this information with a conviction that it was the only hope for stopping such attacks. The preference among those reporting for justice mechanisms, together with the tensions caused by the neutering of the advocacy value of AHCC data, runs the risk of disengaging local actors. Syrian health workers, as reported during the interviews and the workshop, were disappointed with AHCC reporting because of its inability to catalyse action to prevent attacks. Despite this, many interviewees remained hopeful that the AHCC data that was gathered would, in future, provide evidence that would secure justice for the many victims of the attacks.

06 Conclusion and recommendations

The reporting of AHCC in the Syrian conflict should be used to inform the development of a global reporting mechanism that is standardized, yet flexible enough to accommodate context sensitivity and ensure accountability.

While reporting AHCC in Syria did not stop attacks from happening, it did contribute to improving the health response. AHCC reporting has built a solid base of understanding of IHL as it relates to the medical mission among field medical workers. Shared knowledge related to the impact of attacks has furthered the development of risk mitigation measures related to designing and fortifying health facilities, the creation of alarm networks and the establishment of evacuation plans. AHCC reporting has also improved systems of allocation and reallocation of health resources, and has equipped health actors with the information to make informed decisions on site selection for health facilities, and the management of delivery of medical supplies. Another benefit is that data from AHCC reporting has provided an effective evidence base for requesting funding for rehabilitation of affected health facilities after attacks.

At the regional and global level, AHCC reporting in Syria has drawn attention to the subject: hence, the protection of health workers in Syria and the health response there have also gained greater attention. This might have helped in improving the overall resourcing of the health response in Syria, by influencing donors and humanitarian actors to respond with assistance. AHCC reporting might also have helped to secure the involvement of multilateral actors – including academia, think-tanks, state actors and the technology sector – with these actors either directly supporting the provision of health services and strengthening the health system in Syria, or conducting research to provide evidence for better health interventions.

However, there has been a lack of coordination between the health-focused reporting mechanisms, the justice-focused mechanisms and other relevant accountability measures. For example, little or no coordination was found between the WHO reporting mechanisms and the established IICI that was tasked by the UN General Assembly, in Resolution 71/248 of December 2016, to collect evidence on human rights violations. Such gaps resulted in a lack of trust from local communities in the various reporting mechanisms and an accordingly weak buy-in from local actors. The impunity that most perpetrators in Syria were still enjoying at the time of writing this paper is a major challenge for all reporting mechanisms of attacks on healthcare in the Syrian conflict.

There are some technical difficulties that can be remedied through better alignment and refining existing systems, and some political issues that will be less easy to reconcile across systems or to encompass in a single system. Technical issues should be considered as easy wins, whereas the political issues will require a stronger global strategy and collaboration if the international community is to live up to its commitments and, more importantly, if there is to be a reduction in violence against healthcare workers and the populations they serve. A series of recommendations to address these points is presented below, ordered by section and target audience.

General recommendations

- Compliance with UNSC Resolution 2286 will require continued resources and additional investment for AHCC reporting mechanisms and their use.
- WHO's SSA should be expanded to cover more countries. This expansion should take into consideration the required levels of customization and coordination with local actors, as well as the need for more accountability-focused mechanisms in some countries.
- NGOs are advised to develop and maintain internal reporting procedures for AHCC. Having special incident reporting forms for this purpose could play a vital role in documenting AHCC, especially in remote areas where other actors, such as governmental bodies and UN agencies, might not be present. A robust internal mechanism also helps NGOs to maintain the availability and functionality of their health services.
- NGOs, think-tanks and civil society groups that are involved in campaigns promoting awareness of AHCC and justice should continue such efforts, as they have proven effective in the past. More work is needed to strengthen adherence to UNSC Resolution 2286. This will not happen without ongoing political pressure.

Specific recommendations to parties contributing to or managing AHCC reporting mechanisms

Purpose (for those who contribute to or manage reporting mechanisms)

- While unifying health-focused and accountability-focused mechanisms and ensuring the buy-in of the various health and political actors could be challenging, there is a need for more coordination between the two types of mechanisms. Accepting that one perfect system will be difficult to attain given differences in objectives, actors should:
  - Encourage deep collaboration between systems with differing purposes; and
  - Harmonize practices where possible to facilitate sharing and cross-verification of data.
- It should be recognized that, for health-focused mechanisms, some elements of justice-related data have to be considered to facilitate buy-in and inclusion among local actors, recalling that objectivity is more important than the perception of political neutrality.
- Health-focused mechanisms should aim to support the availability and functionality of health services. They require better guidance for impact measurement, particularly in terms of long-term studies of system/population impact of AHCC.
  - Studies should be conducted, and guidance developed, on best approaches to methodology and study design.
- Accountability-focused mechanisms should aim to mobilize political will to protect healthcare, and contribute to bringing perpetrators of AHCC to justice.
- A good understanding of context is a key factor in implementation. In particular, it should drive the customization of reporting tools and engagement with new actors. Removing data from its context could lead to its misuse. AHCC reporting should include data that describes the context in which an attack has happened – e.g. information related to basic political, social and economic determinants.

Taxonomy (for those creating and operating reporting mechanisms)

- Agree on a simple, clear definition of attacks across mechanisms and tend towards a broader definition of what constitutes an attack.
- Agree on precise categories of violence, paying specific attention to those that can obscure reality if left too broad.
- Recognize that contextualization is required for data to have sense.

- Each conflict will have features that require fine-tuning of data for the most accurate representation of events.
- Include local actors in the design of systems.
- Agree on general data structure or tagging system with a degree of flexibility to allow for context-specific customization, which will make datasets interoperable, yet context-sensitive.

Data collection and verification (for actors working with and governing reporting mechanisms)

- Harmonize and ensure rigour of collection processes.
- Consider engagement with non-traditional reporters (e.g. NSAGs) and other actors, as per contextual requirements, to capture a maximum number of data points.
- While secondary data are essential in identifying potential incidents, they cannot be enough as a sole source of information and should be complemented by primary data.
- Partnerships are essential for strengthening data collection and verification.
- Since some warring parties seek to justify their attacks on health facilities (and to make them legal or probable) by accusing health providers of using their facilities for military purposes, AHCC reporting could include indicators related to the status of the attacked facilities prior to such incidents. These indicators could be derived from the type of services provided, assets and supplies held, and actors running and financing the facility. Structured research is needed to develop such indicators in consultation with current reporting actors.
- Use, publish and promote technological innovations that help with reporting for all engaged actors. These could include those addressing verification through satellite imagery and mobile applications that assist in gathering primary data.

About the author

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Acknowledgments

In April 2016, in my office at Save the Children International in southern Turkey, I had a meeting with Dr Hasan Al Araj, who was at that time the head of Hama health directorate in northwest Syria. He was explaining to me the need for more protection for health infrastructure and health personnel. He had pushed health actors in the humanitarian cross-border medical response in northern Syria to adopt new designs for health infrastructure that ensured fortification against airstrikes and shelling. He established a hospital in a cave in northern Hama, which was named Al Maghara ('The Cave') Hospital. Only two days after our meeting, Dr Al Araj was killed in an airstrike that targeted his car as he was leaving the hospital. Dr Al Araj is one of at least 930 health personnel killed in the Syrian conflict between March 2011 and June 2021.

What happened to healthcare workers in Syria should never have happened, and it should never happen again. Not being able to find a health service in the moment you need it the most, and seeing perpetrators enjoying impunity, creates deep and long-lasting psychological, social and political scars that span generations. Targeting healthcare – something that feels like a common feature of modern conflict – should not be normalized or be something that we as health professionals learn to live with and work around. Although an immensely complex task, one of the essential infrastructural components required to avoid this is better documentation and evidence of these assaults. Not only must we gather this evidence, we must use it to create greater accountability. The goal of this research was not to somehow right the wrongs of history and condemn those criminals who targeted us; it is to help humanity build the tools we need to protect future generations from the tyranny we suffered. The pain of being targeted will haunt us for the rest of our days.

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Cover image: A man checks damage at a medical clinic following government air strikes on Binnish, in Syria's Idlib governorate, on 5 December 2016.

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