Strengthening Data to Protect Healthcare in Conflict Zones

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Executive Summary

Attacks on healthcare in situations of armed conflict have been reported at alarming levels over the past two decades. In response to this problem, the UN Security Council unanimously passed Resolution 2286, which urges states to collect data on attacks on medical personnel, transport, and facilities. This data is essential to understand the scale and scope of the problem, protect health services and workers, prioritize resources to those most impacted, prevent future attacks, and hold perpetrators accountable.

A scoping review of existing data-collection systems and comparison of the two current global systems on attacks on healthcare—the World Health Organization's (WHO) Surveillance System for Attacks on Health Care (SSA) and the database produced by the Safeguarding Health in Conflict Coalition (SHCC), in partnership with Insecurity Insight (II)—reveals gaps in coordination, stakeholder engagement, and availability of useful data. Both databases face challenges collecting and verifying data using field-level reporting, while SHCC/II also uses open-source data. The systems also vary in geographic comprehensiveness, covering different countries and including information that often differs in depth, which makes it difficult to compare their data. Moreover, while the SHCC/II database publishes much of its data and attributes incidents to alleged perpetrators when possible, the SSA publishes less granular data and does not attribute attacks.

Multiple systems and actors, including governments and civil society organizations, must coordinate to overcome gaps in data collection and quality, geographical coverage, public availability of information, and naming of perpetrators. WHO, in particular, has a critical role and must strengthen the SSA to achieve these goals. To more effectively implement Resolution 2286, WHO, other UN entities, UN member states, and NGOs should consider the following recommendations:

- The World Health Assembly should adopt a resolution calling on WHO to address major concerns in the structure and operation of the SSA;
- WHO should make technical improvements to the quality and presentation of data in the SSA and be open to a range of data-collection methodologies;
- Other UN agencies, governments, and civil society organizations should take steps to improve the collection and sharing of data on attacks on healthcare to improve protection, prevention, and accountability; and
- Governments, NGOs, and other actors should increase the funding and capacity of existing data-collection initiatives.

Introduction

Violence against healthcare is a global problem, especially in armed conflict and other situations of violence, including political unrest. Efforts to protect health workers and the health systems they work in have thus far largely failed. Health facilities, transport, and personnel continue to be bombed, shelled, and destroyed, while health workers and patients are threatened, assaulted, intimidated, arrested, tortured, and killed in dozens of armed conflict situations on virtually every continent.[1] Attacks on healthcare have been reported at alarming levels over the past two decades, with repeated violations in Afghanistan, Ethiopia, Myanmar, Syria, Yemen, and, most recently, Ukraine.[2]

The impact on health systems and care for patients is devastating. As a nurse in Myanmar recently shared about his experience caring for patients since the February 2021 coup d'état in that country, "[Health workers] are not heroes. We are just trying to do our job taking care of sick people… When they nick our oxygen lines and try to arrest us, we just do that job underground and in secret. But we do not want to be martyrs."[3] He speaks to the experience of thousands of health workers across the globe.

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In response to this problem, in 2016, the UN Security Council bolstered the Geneva Conventions' 150-year-old commitment to protecting health workers and health services in armed conflict by unanimously passing Resolution 2286.[4] The resolution calls on states to collect data on attacks on medical personnel, transport, and facilities. Specifically, it

> *strongly urges* States and all parties to armed conflict to develop effective measures to prevent and address acts of violence, attacks and threats against medical personnel and humanitarian personnel exclusively engaged in medical duties, their means of transport and equipment, as well as hospitals and other medical facilities in armed conflict, including, as appropriate, through… the collection of data on obstruction, threats and physical attacks on medical personnel and humanitarian personnel exclusively engaged in medical duties, their means of transport and medical facilities, and to share challenges and good practice in this regard.[5]

Former UN Secretary-General Ban Ki-moon expanded on this call for data collection in follow-up recommendations for implementing Resolution 2286. He called on the United Nations to collaborate with humanitarian and other actors to ensure that data on the impact of hostilities on medical care "is systematically collected, verified and analysed" as "part of broader efforts to track and collect data and report on trends and gaps in compliance with international humanitarian and human rights law." He also urged that this data be made publicly available to inform responses, with the caveat that exceptions could be made where disclosure would risk the safety of UN personnel or operations, victims, witnesses, or sources.[6]

These recommendations underscore that, as with any health indicator or threat to healthcare,

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1 Safeguarding Health in Conflict Coalition (SHCC) and Insecurity Insight (II), "Unrelenting Violence: Attacks on Health Care in Conflict 2021," 2021; Rohini J. Haar et al., "Violence against Healthcare in Conflict: A Systematic Review of the Literature and Agenda for Future Research," *Conflict and Health* 15, no. 1 (December 2021).

2 SHCC and II, "Ineffective Past, Uncertain Future: The UN Security Council's Resolution on the Protection of Health Care: A Five-Year Review of Ongoing Violence and Inaction to Stop It," May 5, 2021; Leonard Rubenstein, *Perilous Medicine: The Struggle to Protect Health Care from the Violence of War* (New York: Columbia University Press, 2021).

3 Interview with a nurse in Myanmar, March 2022.

4 Protections of the delivery of medical care to the sick and wounded during armed conflict are enshrined in the first Geneva Convention of 1864, the subsequent Geneva Conventions of 1949, and their Additional Protocols of 1977.

5 UN Security Council Resolution 2286 (May 3, 2016), UN Doc. S/RES/2286.

6 UN Security Council, *Recommendations of the Secretary-General, Submitted Pursuant to Paragraph 13 of Security Council Resolution 2286 (2016), on Measures to Prevent Acts of Violence, Attacks and Threats against the Wounded and Sick, Medical Personnel and Humanitarian Personnel Exclusively Engaged in Medical Duties, Their Means of Transport and Equipment, as Well as Hospital and Other Medical Facilities, and to Better Ensure Accountability and Enhance Their Protection*, UN Doc. S/2016/722, August 18, 2016.

accurate documentation of attacks, whether at the local, national, or international level, is fundamental to preventing future attacks and protecting patients, personnel, and facilities. General incident data can answer questions as to when and where threats and attacks occur and which countries and locations are most at risk. More granular geotemporal and population data can improve understanding of regional risks and vulnerabilities and point to subpopulations that require more attention. Analyzing weaknesses in protection mechanisms can support targeted strengthening of measures to mitigate harm or protect personnel and patients. Examining the impact of attacks can illuminate broader health outcomes and guide those working to rebuild or relocate facilities and to train, reinforce, and support healthcare staff. Both global and conflict-specific data on attacks can also provide essential information for parallel or subsequent accountability measures. Without robust and detailed data on the scale and scope of attacks and their contexts, stakeholders cannot truly understand the problem, and without understanding it, they cannot address it.

While Resolution 2286 does not specify who beyond individual governments should collect, compile, and report this data, the World Health Organization's (WHO) Surveillance System for Attacks on Health Care (SSA) has become the de facto leader on this issue within the UN.[7] In parallel, civil society groups, particularly the Safeguarding Health in Conflict Coalition (SHCC) and Insecurity Insight (II), have coordinated efforts to present more extensive and in-depth data at a global scale. Despite these initiatives, data remains incomplete, inconsistent, and insufficient.[8] Trends are difficult to track, impeding opportunities for protection, prevention, and accountability. The problems with the current systems exist at both the policy and the technical levels. So do the solutions.

This issue brief examines why data on threats to and attacks on healthcare in conflict is important to protection, advocacy, and investigation and how it can be improved and harmonized. It provides an overview of existing data-collection efforts and

identifies challenges and gaps at both the policy and technical levels. It also offers concrete recommendations to key actors to better utilize existing data-collection and reporting systems and address current gaps and discrepancies. The briefing draws on background research into the norms, laws, resolutions, and policies that guide protection of healthcare in armed conflict; a review and analysis of existing data-collection mechanisms; and more than twenty interviews with experts from governments, UN agencies, academia, and civil society

The Purposes of Data Collection

Collecting data on attacks on healthcare serves multiple stakeholders and purposes. There is no perfect system for collecting this data, and many attacks in armed conflict settings will not be reported for a variety of reasons, including due to security risks. Nonetheless, all stakeholders agreed on the critical importance of data collection, analysis and publication. This data is essential at the global level to understand the scale and scope of the problem and at many levels to analyze the dynamics and circumstances of attacks, patterns in where and when they take place, and who the targets appear to be. Such information is needed to develop strategies to protect healthcare at the local and international levels, prevent future attacks, and hold perpetrators accountable.

Protection

Data can provide warnings and guidance to help protect healthcare in high-risk areas, particularly the local health workers and facilities that are often most at risk. With consistent data on types, locations, and patterns of attacks and other threats, humanitarian organizations and health systems can organize and support a range of protection measures. To provide adequate protection, responders need to know whether attacks are concentrated in particular areas or due to specific circumstances, such as conflicts over control of territory, or if the violence is more generalized. They need to know whether attacks

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7 Resolution 2286 does call on the UN Secretary General to provide reports and updates to the UN Security Council. See: UN Security Council Resolution 2286 (May 3, 2016), UN Doc. S/RES/2286, paras. 12 and 13.

8 World Health Organization (WHO), "Surveillance System for Attacks on Healthcare (SSA)"; II, SHCC, and MapAction, "Attacked and Threatened: Health Care at Risk."

accompany efforts to displace populations, suggesting that healthcare is being targeted as a strategy to force flight. It is also important for them to know if attacks take place on roads during the transport of health workers and patients or whether they target stationary health facilities and personnel. This data can also help them understand whether these attacks are specifically targeting healthcare, suggesting they may be deliberate, or are part of indiscriminate violence, suggesting a failure to take necessary precautions required by international law.

Advocacy

Promptly making information publicly available—whenever it is possible to do so while ensuring the safety of those affected by or reporting attacks—allows UN agencies, governments, NGOs, the media, and global advocates to raise awareness of attacks in general or call to task perpetrators of specific attacks. As one delegate to a UN mission noted, "You cannot have an advocacy campaign without strong data."[9] For example, data on attacks can contribute to investigations by the Office of the UN High Commissioner for Human Rights (OHCHR) and Human Rights Council. It can inform diplomacy by UN agencies, governments, or inter-governmental bodies, bilateral or multilateral sanctions, and "naming and shaming," which are all legitimate and often life-saving responses to assaults on healthcare in conflict. Improved data could also stimulate and support reform within the political and military structures of parties to conflicts or give health providers and humanitarian organizations leverage in negotiating with them.

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Investigation

Data on incidents can notify investigators about potential serious international crimes, including war crimes. Global health data systems are not designed to ensure accountability through the investigation of crimes or justice for perpetrators of discrete incidents. Reporting organizations do not include criminal investigators, and their personnel are not trained in forensics or in how to investigate perpetrators and understand their military strategies and chains of command. However, data on attacks serve as important indicators of violations of human rights and humanitarian law. Investigators can use this data as leads, allowing them to identify priority regions or trends and irregularities to look into. In this way, data on attacks on healthcare can support a range of accountability processes and mechanisms.

Existing Data-Collection Efforts

Resolution 2286 was not the first decision by UN member states to propose better data collection and reporting to prevent attacks on healthcare and mitigate their impact. In 2011, civil society organizations convening around the World Health Assembly requested that the international community establish reporting mechanisms "with sufficient resources to collect and disseminate data regarding assaults on physicians, other healthcare personnel and medical facilities."[10] The World Health Assembly followed up in 2012 with Resolution 65.20.[11] This resolution calls on the WHO director-general to provide leadership in the systematic collection and dissemination of such data and gives WHO a key role in documenting and reporting violence against healthcare in complex humanitarian emergencies globally.[12] In 2014, the UN General Assembly supplemented this initiative by passing Resolution A/69/L.35, which urges member states, NGOs, and UN bodies to "develop effective preventive measures to enhance and promote the safety and protection of medical and health personnel,… including… collection of data on obstruction, threats and physical attacks on

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9   Interview with UN mission delegate, April 2022.

10   World Medical Association, "WMA Declaration on the Protection and Integrity of Medical Personnel in Armed Conflicts and Other Situations of Violence," October 12, 2022.

11   World Health Organization, "Sixty-Fifth World Health Assembly, Geneva, 21–26 May 2012: Resolutions and Decisions Annexes," WHO Doc. WHA65/2012/REC/1, March 16, 2012.

12   Leonard S. Rubenstein, "Transforming the WHO's Role in Advancing the Right to Health in Conflict," *Global Health Governance* 12, no. 1 (2018).

health workers."[13]

A handful of member states, including the Central African Republic, Colombia, France, Nigeria, Pakistan, and Spain, have developed systems for cataloging or have encouraged reporting violence against healthcare in their own countries.[14] Systems take various forms, including development of indicators on violence in the national health data system or the creation of separate systems that may cover conflict-related violence, non-conflict-related violence, or both. In Colombia, for example, the Ministry of Health established the Misión Médica to raise awareness of and bolster laws protecting healthcare in conflict and to collect incident reports for national-level work on the issue. The Misión Médica, now in its twentieth year, is broadly recognized in Colombia as the country's healthcare-protection mechanism. The data, some of which is publicly available, has been used to enhance protection through internal and external coordination and for national and regional advocacy.[15]

A few NGOs, as well as the International Committee of the Red Cross (ICRC), have been leading efforts to better document and stop violence against healthcare for decades. The ICRC launched its "Health Care in Danger" program in 2011 at its thirty-first international conference. Similarly, Médecins Sans Frontières (MSF), in response to violence witnessed by its staff in their hospitals, established the "Medical Care Under Fire" project in 2012, which has documented and reported on incidents of violence against MSF's own programs, including the US military airstrike on the Kunduz surgical hospital in Afghanistan in October 2015.[16] While neither organization reports

publicly in detail on the scope and scale of violence against healthcare, they have brought attention to the problem and were instrumental in the design and adoption of Resolution 2286. The NGO Physicians for Human Rights has also produced important reports on country-specific situations since the 1980s, first in El Salvador and the Balkans and more recently with its widely cited interactive map of attacks on health facilities in Syria.[17] Other NGOs and UN systems have also reported on attacks in a range of countries and regions.[18]

In 2012, the Safeguarding Health in Conflict Coalition (SHCC) was established as part of a widening movement to protect healthcare globally through better data collection, reporting, and advocacy.[19] Since 2015, the coalition of more than forty organizations has published annual reports on the state of attacks on healthcare worldwide, presenting data and related narratives and recommendations on the implementation of Resolution 2286. Since 2018, its leading partner in data collection has been Insecurity Insight (II), a Switzerland-based humanitarian-to-humanitarian organization that supports the aid sector and documents violence against civilians in conflict settings through media monitoring and analysis. II monitors online news and social media to capture incidents of attacks on healthcare then reviews, verifies, and categorizes the details of these incidents. The SHCC and II collate, clean, and organize the data for the coalition's annual reports, country-specific alerts, and regular updates on select countries and contexts.[20] The coalition's 2021 annual report lists 1,335 documented incidents of attacks on healthcare and presents detailed data on fourteen countries. From January 2016 through October 2022, the SHCC reported 8,838 incidents,

13 UN General Assembly Resolution A/69/L.35 (December 5, 2014), UN Doc. A/69/L.35.

14 Health Care in Danger, "Ministers of Health Meeting on Protection of Health Care from Violence," May 23, 2022.

15 Ekaterina Ortiz Linares and Marisela Silva Chau, "Reflections on the Colombian Case Law on the Protection of Medical Personnel against Punishment," *International Review of the Red Cross* 95, no. 890 (2013).

16 Unni Karunakara and Peter Maurer, "Medical Care under Fire," Médecins Sans Frontières (MSF), May 21, 2013, available at https://www.msf.org/medical-care-under-fire .

17 Physicians for Human Rights, "Illegal Attacks on Health Care in Syria: Methodology," available at https://syriamap.phr.org/#/en/methodology .

18 Syrian American Medical Society (SAMS), "The Failure of UN Security Council Resolution 2286 in Preventing Attacks on Health Care in Syria," January 2017; SAMS, "Civilians, Civilian Infrastructure in Northwest Syria Face Heightened Attacks: Ten Schools, One Hospital Attacked Today," February 25, 2020; Amnesty International, "Syrian and Russian Forces Targeting Hospitals as a Strategy of War," press release, March 3, 2016; Bellingcat, "Medical Facilities Under Fire: Systematic Attacks during April 2017 on Idlib Hospitals Serving More than One Million in Syria," April 2017; Human Rights Watch, "'Targeting Life in Idlib': Syrian and Russian Strikes on Civilian Infrastructure," October 15, 2020. Systems developed to manage health services, such as WHO's Health Resources and Services Availability Monitoring System (HeRAMS), also sometimes collect data on attacks as part of their reporting on service interruptions in countries including Afghanistan and Syria. World Health Organization, "Health Resources and Services Availability Monitoring System (HeRAMS)," available at https://www.who.int/initiatives/herams .

19 SHCC, "Safeguarding Health in Conflict Coalition," https://www.safeguardinghealth.org .

20 Insecurity Insight and SHCC, "Methodology 2020," May 2020.

6,263 of which occurred in conflict settings.[21] II's online dashboard lists attacks in more than twenty-seven countries and, since 2018, its annual reports have cataloged incidents in fifty-four countries.[22]

In 2014, WHO began developing a global reporting dashboard on violence against healthcare to implement its mandate under World Health Assembly Resolution 65.20. This reporting system is not directly linked to Resolution 2286, which does not specify who is responsible for collecting data.[23] However, those present during the drafting of Resolution 2286, which WHO supported, indicated that an additional global data-collection system was not developed or mandated in part because WHO's dashboard was already underway and understood to be the de facto intergovernmental reporting mechanism on attacks on healthcare.[24]

Following several years of refinement, WHO launched its dashboard in December 2017 as the Surveillance System for Attacks on Health Care (SSA). The SSA only covers specific countries with complex humanitarian emergencies, and its utility is limited by lack of detail in its public reporting. Nonetheless, it has become a source of crude data for UN missions, news media, humanitarian NGOs, and health providers, most recently in the context of the war in Ukraine. Like the SHCC report, the SSA is designed to be a standardized and systematic global approach to collecting data on attacks on healthcare in emergencies.[25] Based on its published methods documents, WHO collects initial reports of violence from data received via ministries of health and various NGOs within the official humanitarian health clusters. It then approves these initial reports in its registration system.[26] Incident reports include standardized data such as a description and details of the attack and its toll on health workers

and others as well as on the functionality of the facilities impacted.[27] These incidents are then verified by a headquarters team based on a second independent source. The information published on the dashboard is limited to the date, broad category of attack, and number of deaths and injuries.

Since 2017, the SSA has reported attacks in eighteen countries and territories with complex humanitarian emergencies. However, as of August 2022, thirty-seven additional countries and territories with no reported attacks are listed on the dashboard, even though there is evidence of attacks in a number of them.[28] A total of 4,092 attacks have been documented on the SSA dashboard between March 2015 and October 2022. Since 2017, a short section on violence against healthcare in the UN secretary-general's annual report on the protection of civilians has cited data from both the SHCC/II database and WHO's SSA.[29]

Challenges and Gaps with Current Data-Collection Efforts

A review and comparison of the two main global data-collection systems on attacks on healthcare—the SSA and the database produced by SHCC and II—provides insights into their strengths and weaknesses, as well as opportunities for policy and technical improvements that could promote better protection, advocacy, and investigation. This brief discusses five issues: (1) data collection and verification methods, (2) geographical coverage, (3) challenges with access to information, (4) problems with attribution, and (5) security considerations.

Both databases record a range of types of attacks,

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21 II, SHCC, and MapAction, "Attacked and Threatened: Health Care at Risk." Data accurate as of November 8, 2022 (for attacks documented between Jan 1, 1900, and Oct 31, 2022).

22 This summary data was compiled from review of the SHCC annual reports, Insecurity Insight website, and data available on the Humanitarian Data Exchange, with thanks to Brian Elmore.

23 UN Doc. S/RES/2286; UN Doc. S/2016/722.

24 Interviews with people present during these discussions, April–June 2022.

25 WHO, "WHO's Response, and Role as the Health Cluster Lead, in Meeting the Growing Demands of Health in Humanitarian Emergencies," May 26, 2012.

26 WHO health clusters are a humanitarian coordination mechanism wherein the WHO country team leads and coordinates international and local humanitarian organizations that provide health services. The cluster system aims to ensure that services are well coordinated and avoid redundancies through information sharing and good communication. Currently, there are thirty-one health clusters or sectors, of which two are regional coordination mechanisms. WHO, "Surveillance System for Attacks on Health Care (SSA): Methodology," December 2018.

27 Benjamin Mason Meier, Hannah Rice, and Shashika Bandara, "Monitoring Attacks on Health Care as a Basis to Facilitate Accountability for Human Rights Violations," *Health and Human Rights* 23, no. 1 (June 2021).

28 Based on analysis of data available on the SSA dashboard as of August 12, 2022, and November 7, 2022.

29 UN Security Council, *Protection of Civilians in Armed Conflict: Report of the Secretary-General,* UN Doc. S/2022/381, May 10, 2022.

including threats against health workers and abductions, arrests, injuries, and killings of health workers; obstruction of healthcare delivery; and incursions into, looting of, and damage to health facilities. They record and report dates, times, and locations with varying degrees of specificity. The SHCC/II database provides information on alleged perpetrators, while the SSA does not. They also vary in how they define types of attacks, how much information about incidents they provide, and their format and content, which makes comparing their data virtually impossible. A comparison of the methods and scope of these two global data-collection efforts is presented in Table 1.

Table 1. Comparison of the WHO SSA and SHCC/Insecurity Insight data

	WHO SSA	SHCC/Insecurity Insight
General Information		
Summary	Mandated by World Health Assembly Resolution 65.20; managed by WHO Health Emergencies Programme	Consortium of forty-two academic centers, human rights and humanitarian NGOs, health worker advocacy groups, and others; data collection led by Insecurity Insight
Date range	2017 (first report backdated to March 2015) to present	2015 to present
Total number of incidents reported as of October 31, 2022	4,092	6,263 (conflict-related) 8,838 (all attacks on healthcare including violence related to conflict, political unrest, COVID-19, and vaccinations)
Geography covered	18 countries and territories based on WHO criteria for complex humanitarian emergencies (though 54 countries and territories are listed on the WHO dashboard)	54 countries where conflict-related events have been reported (events defined as conflict-related based on the perpetrator's affiliation with a party to the conflict), with additional countries included on the interactive map
Methodology	Health cluster and field-office reporting[30]	Open-source analysis with contributions from aid agencies and other organizational partners[31]
Verification	One source required for SSA partners; for attacks not directly on SSA partners, at least two independent sources required to qualify as "confirmed"	Validation protocols adapted to specific conflict contexts that specify the technical analysis required to validate the sources and content (protocols available upon request)
Reporting	SSA dashboard with crude data only; information behind the dashboard might be shared with other UN entities upon formal request; rare public statements	Public reporting including the SHCC annual report, Insecurity Insight map and dashboard, monthly news brief with links to sources and ad hoc country reports for high-priority countries (Ethiopia, Myanmar, Sudan, and Ukraine in 2022, for example), spreadsheets on the Humanitarian Data Exchange (HDX) website

30 The methods are available at https://www.who.int/publications/i/item/surveillance-system-for-attacks-on-health-care-(-ssa) .

31 The methods are available at https://insecurityinsight.org/wp-content/uploads/2022/05/SHCC-Methodology-2021.pdf .

	WHO SSA	SHCC/Insecurity Insight
Data Availability		
Presentation	Categorical and numerical data only	Categorical, numerical, and narrative data as well as names of affected facilities and personnel; graphs and charts illustrating numbers and types of attacks reported in specific conflicts
Geolocation granularity	Country only	Town, city, or district, including geo-coordinates, to allow for automated mapping of the data; detailed geo-location obscured in some settings because of security concerns (though mapping on the administrative level may still be possible)
Date granularity	Date only	Date and time available to the precision level reported in the original source
Health-system sector affected	Health workers, patients, and other victims; health facilities and health transport are the main variables	Health workers, patients, transports, and facilities are the main variables; each has multiple sub-variables for type of attack, health infrastructure affected, and type of impact
Personnel granularity	Health workers and other victims sometimes aggregated; numerical values presented under the following categories: "victims of attack" (under "total deaths" and "total injuries") and "abduction/arrest/detention of health personnel or patients" (under "total number of health workers" and "total number of patients")	Health workers killed, kidnapped, assaulted, or injured (data on non-health workers is not reported); health workers disaggregated by employer (international NGO, Red Cross, or national health system), whether they are international or national staff, whether they are female or male, and their role (doctor, nurse, paramedic, etc.), if available; attacks on patients and other individuals reported in narrative format where available
Attack granularity	Categorical data on type of attack publicly available; categories include violence with heavy weapons, violence with individual weapons, obstruction, removal of assets, psychological violence, militarization, removal of personnel, assault, violent search, setting fire, chemical agent, criminalization of healthcare, and "unknown"	Categorical and narrative descriptions of the attack itself available, including the weapon, type of attack, target, and result; for example, the weapon used (e.g., artillery, airstrike, or threat) and a brief explanation of what happened (e.g., "Unknown armed men attacked a polio vaccination team at the start of an anti-polio vaccination campaign. The vaccinators remained unharmed but a passerby was shot and killed.")
Attribution of perpetrator	None	Categorical (such as "state actor" or "armed militant group") and named as reported by the source
Assessment of affected health resources	Numerical data for facilities, patients, transport, supplies, warehouses, and personnel	Numerical data for "health facilities damaged," "health workers killed," "health workers kidnapped," and "health workers injured" available on the map; more detail available on the HDX website and monthly news briefs
Additional data access points	Not available	Interactive map, spreadsheets available for analysis on the HDX website, detailed incident reports available, additional data on non-conflict settings (e.g., attacks related to COVID-19, Ebola, political and vaccination-related violence); subsets of data shared with other civil society initiatives such as the Explosive Weapons Monitor (focused on sub-analysis of explosive weapons data)

Methods for Collecting and Verifying Data

The methodological framework for data collection and verification is important, especially given that attacks on healthcare are both a public health issue and a protection and security issue. When developing this framework, engaging both public-health experts and experts on weapons and security is critical to avoid communication breakdowns and disengagement between these two sectors.

Every methodology has inherent biases that limit or skew what is captured. Field-level reporting allows for the collection of valuable and generally more reliable data from trusted partners. However, this reporting may not capture data from organizations that are not affiliated with the initiative, have not been empowered to report, or use minority languages, as well as data on incidents that are not reported to any organization. Field-level reporting can thus be complemented by open-source investigations to capture data from social and news media, including from sources in hard-to-reach locales that may be missed by field-level reporting. But open-source analysis also has limitations. Analysis of the media can be subject to bias due to the locations covered by mainstream media and the editorial process determining what they choose to report. For analysis of both social and news media, verification is critical to guard against using false reports or obtaining information from fake accounts—a process that requires expertise.

The accuracy and verification methods of the SHCC/II database and SSA differ and appear to be continually evolving. II tries to verify incidents with secondary and tertiary independent open-source data, checking the quality of the source and reaching out to trusted partners when possible.[32] These verification protocols differ between contexts to take into account the nature of the conflict and the level of access to information. For example, in Ukraine, II uses an additional verification level based on satellite images. However, II acknowledges the limitations of its verification process, which could be confounded by reporting bias and

challenges in categorization.[33]

The SSA has more clearly defined verification methods. Incidents are classified into four levels of confidence—"rumour," "possible," "probable," or "confirmed"—based on the assessed reliability of the data source. A social media post would be classified as a "rumour," a media report as "possible," an eyewitness account reported directly to an SSA partner as "probable," and a direct attack on an SSA partner or a direct eyewitness account by an SSA partner as "confirmed." For attacks not reported directly by SSA partners, at least two "independent sources" are required for the incident to qualify as "confirmed." However, while the SSA's published methodology requires WHO to follow up on attacks that are not directly reported by its partners, it is not clear what proactive efforts are made to confirm possible or probable attacks.

WHO's data-collection and verification efforts are limited by insufficient engagement with other members of health clusters and protection clusters and civil society stakeholders. Interacting with and training local organizations on data collection is critical to ensure local ownership of and engagement with the data, to capture the direct experiences of those under threat, and to adapt data-collection methods to specific contexts. Coordination between global and field-level data collectors can also facilitate quicker analysis by providing early indicators of patterns and early warning of threats to inform prevention strategies even if advanced data analysis is not feasible.

Geographic Comprehensiveness of Data

The SHCC/II and WHO SSA databases cover different countries and include information that often vastly differs in depth. These differences have both practical and political explanations. In both initiatives, the availability of data varies from country to country depending upon how the information was initially collected, who collected it, what details were documented, and what was reported to those who were pooling the data. These

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32 Interviews with those familiar with the methodology, April–June, 2022.

33 Categorizing incidents that have multiple targets can be challenging, especially as it is often unclear what the primary target was. If, for instance, a transport vehicle carrying a health worker is attacked and the health worker kidnapped, the data collector must record both the health worker attack and the transport attack as one unique incident. Interview with Insecurity Insight staff, May 2022.

variations in how information is gathered and shared reflect ethnic, political, social, and cultural differences. Overall, the SHCC/II database includes incidents in more than three times as many countries as the SSA.

Because of its data-collection methodology, the SSA depends on cooperation from each local WHO office, which in turn may be influenced by the host-state government or specific conflict environment. Reporting by governments can be inconsistent or withheld, especially when government entities are suspected perpetrators within their own countries or do not want to publicize their inability to contain violence within their borders. Further, there may be no local WHO office mandated to report attacks either for logistical or political reasons. A WHO office may also lack the time, skills, or will to report incidents in a timely manner or might be concerned that reporting could endanger its other functions and priorities. In a stark example, the well-publicized murder of three MSF workers in Tigray, Ethiopia, has not been reported in the SSA; in fact, as of this writing, the SSA has not recorded a single attack on healthcare in Tigray.[34] In contrast, II has reported seventy-five incidents of violence against healthcare in Ethiopia since January 2020.[35]

> Existing databases vary in how they define types of attacks, how much information about incidents they provide, and their format and content, which makes comparing their data virtually impossible.

In Ukraine, on the other hand, where violence against healthcare was an early indicator of Russia's indiscriminate attacks on civilians and civilian infrastructure, WHO was able to collect, verify, and report incidents more quickly than in other contexts. In this case, WHO's efforts were facilitated by the cooperation of the Ukrainian Ministry of Health, whose health facilities documented and reported violence. Understanding the urgency of the situation, the local WHO team reacted quickly to develop a plan, deploy additional personnel, cooperate with the national health ministry, prioritize the establishment of a robust verification system, and coordinate closely with WHO headquarters to report incidents. The reports proved to be a critical resource for WHO, allowing the director-general to make strong public condemnations. This response with respect to attacks in Ukraine was virtually unprecedented in the rapidity and the breadth of its incident reporting and public statements of condemnation.

Public Access to Information

Beyond gaps in which countries the databases cover, the SSA lacks public granular data on the time and location of incidents within a country. This information is critical to protect healthcare and prevent attacks, as well as to reconcile data between different databases. When the country and date are the only details with which to match incidents in different databases, collation and comparison of data are not possible. Discrepancies between datasets can number in the hundreds for one country alone, suggesting that more granular data is needed, and data should be shared and compared between databases.[36]

While the SHCC/II database publishes much of its data, WHO's SSA not only limits public access to the location of incidents but also withholds narrative descriptions of them. This may be due to perceived security risks to humanitarian agencies and workers, those reporting incidents, or WHO's own country offices. But the blanket withholding of data from public scrutiny also prevents more rigorous review of methods and validation of information by governments, NGOs, and the media. This can lead to misunderstanding and misreporting, as well as inadequate prevention and protection responses.

Moreover, WHO does not report information back to those who submitted reports as a rule, while II does so on a case-by-case basis. This one-way data-sharing system, where partners submit data to one central agency but this data is not subsequently

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34 MSF, "Ethiopia: MSF Demands Investigation into Killing of Three Staff Members in Tigray," July 7, 2021; Simon Marks and Declan Walsh, "'Finish Them Off': Aid Workers, Found on Battlefield, Executed by Soldiers," *New York Times*, March 17, 2022.

35 II, SHCC, and Map Action, "Attacked and Threatened: Health Care at Risk."

36 This is based on a comparative analysis of the two databases by Elizabeth Yie-Chuen Chong, a graduate student at Johns Hopkins University.

shared with those partners or other trusted local groups, is neither ethical nor sustainable.[37] It reduces the incentives for other organizations to continue reporting incidents and limits the value of local protection mechanisms. WHO has a moral obligation to actively leverage its knowledge to promote the humanitarian aims of prevention and protection. Toward this end, WHO could draw on the Office for the Coordination of Humanitarian Affairs' (OCHA) recently published "Data Responsibility Guidelines," which lay out a principled approach to data sharing that balances privacy and security considerations with the responsibility to share data.[38] A pilot program of WHO's long-planned effort to bring together health clusters and protection clusters to develop a joint framework on a range of issues including attacks on healthcare could also be a step toward better data sharing.

Naming of the Perpetrator and Accountability

The SHCC/II database and most other reputable databases covering attacks on civilians in conflicts attribute each violent incident to a specific alleged perpetrator or category of perpetrator (state, non-state actor, etc.) when the perpetrator can be clearly identified and verified through their systems.[39] However, the SSA, as a rule, does not list the alleged or reported perpetrator, including in the case of the recent prominent attack by Russia on the maternity hospital in Mariupol, Ukraine.[40] Identifying the entity that is responsible or presumed responsible for launching an attack on healthcare or detaining, injuring, or threatening health personnel is critical to protection and prevention, as well as account-ability, which is widely understood to be a pre-requisite for the prevention of future attacks. Given that WHO insists that it does not have a mandate to identify perpetrators, even when they are widely known and acknowledged by UN bodies, another solution must be found to fill this glaring gap.

Addressing the Security Risks

Given the complex, violent, and dynamic contexts within which attacks on healthcare are perpetrated, more nuanced assessments of the risk of publicly disclosing event details and locations are critical. A reasonable approach must strike a balance between publishing important and relevant information that allows for violations to by publicly called out and protecting those most at risk, including local facili-ties and health workers, as well as humanitarian operations. Stakeholders emphasized three mecha-nisms by which this would be possible: (1) using a more sophisticated security protocol with multiple options for publicizing attacks that is responsive to local dynamics and actors; (2) sharing data in a strat-ified manner with trusted partners where possible; and (3) anonymizing and broadening the sources of data so that individual reporters are not identifiable. While data released in different contexts may vary, a more dynamic and granular approach would be a significant improvement on the overly broad and restrictive mechanisms currently in place.

Roles and Responsibilities

No single system can overcome these gaps in data collection and quality, geographical coverage, public availability of information, and naming of perpetrators. There is a need for coordination among multiple systems that address the various data needs and use complementary approaches. This requires clearly identifying the roles and responsibilities of different actors.

Governments

While governments themselves are often the perpe-trators of the most devastating attacks on healthcare, whether within or outside of their borders, they also play a critical role in reporting violence against healthcare in their territories. Some states have

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37 WHO, "Framework of Engagement with Non-State Actors," May 28, 2016.

38 OCHA Centre for Humanitarian Data, "OCHA Data Responsibility Guidelines," October 2021.

39 Other organizations that identify the perpetrator include the Watchlist on Children and Armed Conflict, Uppsala Conflict Data Program, and UN Assistance Mission in Afghanistan (UNAMA), as well as NGOs like Physicians for Human Rights.

40 However, the World Health Assembly's May 2022 resolution on Ukraine does highlight the evident perpetrator. WHO, "Health Emergency in Ukraine and Refugee Receiving and Hosting Countries, Stemming from the Russian Federation's Aggression," May 23, 2022.

reported attacks on healthcare perpetrated by other countries or non-state actors, but states often suppress or deny credible or independent information on attacks carried out by their own forces.[41] Under international law, states must acknowledge, investigate, and provide reparations for such attacks, which are violations of humanitarian norms and international humanitarian law. While NGOs and UN agencies also play a role in presenting and acting on data on attacks on healthcare, only governments have the power to harness data to limit their own attacks on healthcare and meaningfully protect and support facilities and personnel in their territories. Governments are also the primary donors for data-collection initiatives, including the SSA, which is entirely state-funded, and the SHCC/II database, which is partly state-funded.

At the global level, governments are also uniquely positioned to use data on attacks on healthcare to take meaningful action in intergovernmental fora. A small number of committed governments could provide global leadership to prioritize the issue in the UN Security Council, General Assembly, and Office of the Secretary-General. Resolution 2286 was initially drafted by Egypt, Japan, New Zealand, Spain, and Uruguay and cosponsored by eighty-four UN member states. While some states, including Spain, have stayed actively involved on the issue, most of the states that initially advanced Resolution 2286 and its many cosponsors have become relatively disengaged. Moreover, the Group of Friends of Resolution 2286, based in Geneva, makes recommendations on national policy and legislation to protect healthcare, but few states, even within the group, have implemented these recommendations consistently.

> A reasonable approach to security must strike a balance between publishing important and relevant information that allows for violations to be publicly called out and protecting those most at risk.

World Health Organization

Many stakeholders agree that WHO is the appropriate lead institution to continue developing, revising, and strengthening global data collection and reporting on violence against healthcare, a key task mandated by Resolution 2286. WHO is the organization best positioned to engage with the health facilities and health workers who are at risk as part of its work on strengthening health systems. Moreover, as WHO is the "directing and coordination authority for health within the United Nations system," the credibility and clout of a WHO-based mechanism can hold member states accountable for prevention and protection better than systems based in other institutions.[42]

However, WHO has experienced significant challenges and limitations in this work. As a UN member-state organization, WHO faces diplomatic pushback on the data it reports, which makes it difficult to attribute attacks to a government perpetrator. With its focus on field-based reporting initiated by health clusters, WHO is limited in the countries it reports on and the type of data it collects. The quality of this data is also dependent on continuous support and training to WHO field offices, partners in the health cluster, and other local organizations.

These concerns have been brought to WHO's attention by NGOs, medical and nursing groups, humanitarian and public health experts, independent think tanks, and commentaries in major journals.[43] To address these concerns, it has been recommended that WHO substantially increase the geographic areas it reports on, adhere to its own methodology by following up on reports from sources not formally part of the cluster-based reporting system, share data with NGOs, and present more details on the SSA dashboard. But these recommendations have not been implemented. And while WHO agreed to an expert review of the SSA's scope, reach, and impact in late 2021, this review has yet to be conducted. Confidence in the SSA and its commitment to comprehensive and effective reporting has deteriorated among member states, particularly those that are most supportive of global action to prevent attacks on healthcare. Some states that previously provided financial support to the SSA are now declining to do so.

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41 See, for example: US Department of Health & Human Services, "G7 Health Ministers Condemn Attacks on Health Facilities in Ukraine," press release, March 23, 2022.

42 UN Academic Impact, "World Health Organization."

Civil Society Organizations

WHO cannot and should not report on attacks on healthcare alone or in a silo. Civil society organizations such as Insecurity Insight and other SHCC members, human rights organizations, local and regional organizations, and journalists must and will continue to collect and report on attacks, serve as additional sources of information to fill gaps, and verify information in global databases. They can pioneer new methods such as sophisticated open-source data collection and verification and triangulation of reporting both on a global scale and at the local level. Civil society organizations are also frequently the actors best-placed to use data on attacks on healthcare to develop protection plans or prioritize where to deploy humanitarian resources. All of this work complements the work of UN agencies and member states, much as how the Watchlist on Children and Armed Conflict works in tandem with UNICEF's Monitoring and Reporting Mechanism on grave violations committed against children in situations of armed conflict.

Conclusion and Recommendations

Resolution 2286 correctly identifies data collection and reporting on attacks on healthcare as critical to the protection of healthcare in conflict settings. Yet this task is not being fulfilled. Due to the different goals, capacities, mandates, resources, and access of different UN agencies and NGOs and differences in the context of these attacks, no centralized entity can be entrusted to be the sole data source on attacks on healthcare. There is a need for systems managed by both WHO and civil society organizations, with increased collaboration and data sharing among them. Resources aimed at protecting healthcare must thus prioritize both the WHO system and civil society mechanisms. Increased engagement and leadership by member states is also needed to commit to protecting

healthcare in conflict settings.

Individual systems also need to improve their data-collection efforts. They need to coordinate and train health workers on the ground to collect, clean, and report data. They need to publish information on attacks that is consistent and detailed enough to serve different needs. And they need to use multiple sources and methodologies to compare and cross-check data. For Insecurity Insight, verification of incident reporting can be made more transparent and robust over time. An update to the SSA's methodology has already been planned but has been disrupted by various setbacks, including the emergence of new conflicts and disease outbreaks; this update must be initiated. More broadly, WHO's leadership needs to prioritize attacks on healthcare alongside other global health concerns and to provide more focused oversight of the SSA. Interaction with local organizations is also critical for local ownership of and engagement with the data, capturing the direct experiences of those under threat. Once these system improvements are set in motion, these sustainable and credible data-collection systems could be better harmonized and made more collaborative.

All of these improvements must be undertaken with an eye to the ultimate purposes of data collection, including protection, advocacy, and accountability. Stakeholders expressed a deep need for more concerted and frequent advocacy against attacks on healthcare, especially by WHO. As one academic expert noted, "Data is step one, but data needs to be turned into actionable information. We don't want [only] simple spreadsheets… At the end of the day, we need to use it [data] for actual changes to the system to protect health workers."[44] Similarly, a UN agency representative observed that "if you reduce the data to a bean-counting exercise, you have lost the plot."[45]

For these improvements to occur, WHO, other UN entities, UN member states, and NGOs should consider the following recommendations.

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43 Lawrence O. Gostin and Leonard S. Rubenstein, "Attacks on Health Care in the War in Ukraine: International Law and the Need for Accountability," *Journal of the American Medical Association* 327, no. 16 (April 26, 2022); Annie Sparrow, "Health Care Under Fire," *New York Review of Books*, June 23, 2022; Abel F. Dadi and Tesfaye B. Mersha, "WHO's Surveillance System for Attacks on Health Care is Failing Ethiopia," *The Lancet* 399, no. 10331 (March 26, 2022).

44 Interview with academic expert, April 2022.

45 Interview with UN agency representative, May 2022.

World Health Assembly Resolution on Improved Data Collection and Reporting

The World Health Assembly should adopt a resolution calling on WHO to address the major concerns in the structure and operation of the Surveillance System for Attacks on Health Care (SSA). This resolution should:

- Call on the director-general to provide higher-level management of and oversight over the SSA;

- Mandate an external, expert review of the system's processes, including recommendations for improvements;

- Establish an independent body to oversee the SSA, as the World Health Assembly has done in other circumstances;

- Encourage WHO to engage in regular and periodic discussions with local and international stakeholders to explain how data is being collected and used for protection and to inform the ongoing evolution of the system;

> There is a need for systems managed by both WHO and civil society organizations, with increased collaboration and data sharing among them.

- Encourage WHO to collaborate with other UN agencies and civil society organizations to mutually share their data;

- Call on UN agencies and NGOs to seek bilateral agreements with WHO to obtain data relevant to their respective mandates;

- Mandate a review of WHO's Framework of Engagement with Non-State Actors (FENSA) and other data-sharing systems to allow NGOs to access SSA data in a manner that complies with principles of data responsibility;

- Affirm the joint operational framework for the health and protection clusters in relation to the protection of healthcare; and

- Request that WHO confidentially share SSA data on violations of international human rights and humanitarian law, including on reported perpetrators, with OHCHR, the

Office of the Special Representative for Children and Armed Conflict, and conflict-specific mechanisms such as international independent commissions of inquiry and UN rapporteurs on countries with high levels of attacks to enable these entities to engage in investigations that are beyond WHO's mandate or expertise.

Technical Upgrades to Expand, Improve, and Share Data on the SSA

Even while a World Health Assembly resolution is in process, WHO could make many technical improvements to the quality and presentation of data in the SSA, including by:

- Proactively working with NGOs, UN agencies, and others to expand data collection;

- Engaging with technical experts on weapons, surveillance systems, and investigative techniques to strengthen data collection and verification;

- Leveraging new technologies such as open-source investigations and remote forensic architecture analysis to identify additional incidents;

- Approaching security related to sharing of data with context-specific and case-by-case classifications;

- Improving the SSA dashboard by including location and incident details, as well as reported perpetrators when these are obvious (such as aerial attacks when only one conflict party has aircraft) or have already been identified by other UN agencies, unless specific security considerations require otherwise;

- Optimizing the SSA dashboard by clarifying in which contexts WHO is actively collecting data, categories of victims and health personnel, and categorical data-coding protocols;

- Initiating technical upgrades to the SSA dashboard that allow it to be integrated into

other data-management systems to facilitate data sharing (e.g., through application programming interface systems); and

- Maintaining data security while publishing more detailed data, including by using a more sophisticated security protocol with multiple options for publicizing attacks that is responsive to local dynamics and actors; sharing data in a discrete manner with trusted partners where possible; and anonymizing and broadening the sources of data so that individual reporters are not identifiable.

Coordination and Leadership by Other Actors

Beyond WHO, other UN agencies, governments, and civil society organizations can take steps to improve the collection and sharing of data on attacks on healthcare:

- Governments, the UN secretary-general, and relevant UN agencies including OCHA, OHCHR, and UNICEF should share their methods, data, and reporting capacities and roles on attacks on healthcare.

- The secretary-general should use his authority to foster coordination and cooperation among relevant UN agencies on strengthening WHO's SSA and better harmonizing and sharing its data with trusted entities, including civil society organizations.

- The Human Rights Council should discuss the establishment of a permanent thematic international independent commission of inquiry to investigate, document, and report on this egregious violation of the right to health and humanitarian laws and norms.

- Member states' ministries of health should monitor and report on attacks on healthcare, in line with their obligations under Resolution 2286.

- The UN secretary-general should consider

issuing a specific report on attacks on healthcare and the implementation of Resolution 2286 (in addition to the short summary in the annual report on the protection of civilians). The secretary-general should liaise with UN special rapporteurs on specific countries to ensure they are fully briefed on the impact of these attacks on health systems, regularly report and arrange meetings on attacks in emergency or extreme situations, and consider, in consultation with member states, a listing for grave violations such as the one mandated under the UN Monitoring and Reporting Mechanism for children and armed conflict.[46]

- UN leadership, including in the Executive Office of the Secretary-General, WHO, OHCHR, OCHA, UNICEF, and the Department of Peace Operations (DPO), in response to trusted information from NGOs and individual governments, should dramatically scale up and speed up their public condemnation of egregious attacks on healthcare, as they have in the case of Ukraine.

Funding and Capacity

Existing data-collecting initiatives require more funding and capacity. Toward this end:

- Governments and other donors should commit long-term funding to WHO and relevant NGOs to ensure they have adequate financial and human resources to gather, coordinate, and disseminate data on attacks on healthcare;

- WHO, individual governments and NGOs should be resourced to provide more training at the local, regional, and global levels to increase awareness of how to protect healthcare, document violations, and improve systems for reporting and sharing data; and

- WHO should assess its human resources at headquarters and in the field and submit specific requests to enhance its capacity to collect, report, and share data.

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46 Office of the Special Representative of the Secretary-General for Children and Armed Conflict, "A Mandate to Protect Children Affected by Conflict," September 2020.

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