

**LOCAL AND INTERNATIONAL RESPONSES TO ATTACKS ON
HEALTHCARE IN CONFLICT ZONES**
A CASE STUDY OF SYRIA

Master of Arts in Law and Diplomacy Capstone Project

Submitted by: Karen Taylor

Advisor: Professor Elizabeth Stites

July 21, 2018



THE FLETCHER SCHOOL

TUFTS UNIVERSITY

Acknowledgements

This paper is dedicated to the doctors, nurses and aid workers working in conflict zones who risk their lives every day to help others. You have shown us the true meaning of sacrifice. Without your dedicated service, healthcare for civilians in Syria would cease to exist. Many thanks to my advisor, Dr. Elizabeth Stites, for her timely and thoughtful guidance throughout the process. Thank you to Dr. Jennifer Leaning, Dr. Alex De Waal, Dr. Kimberly Howe and Dr. Stephanie Kayden for providing key suggestions that shaped the flow of this paper, and for helping me locate resources and participants to interview. Thank you to my husband and my parents for their constant support and encouragement.

TABLE OF CONTENTS

Introduction	4
Methodology	5
Scope	5
Global Prevalence of the Issue	5
Categorization of Attacks	6
Reasons for Attacks	7
Protection of Medical facilities, Personnel & Aid Workers Under IHL	9
Grave Breaches of IHL – A Growing Trend	11
<i>Attacks on Healthcare in the MENA Region</i>	13
<i>Attacks on Healthcare in Syria</i>	14
Local & International Responses to Attacks on Healthcare in Syria	21
Local Responses – A Picture of Adaptation & Resilience	21
<i>Adaptation of Healthcare Facilities: Underground & Cave Hospitals</i>	21
<i>Adaptation of Healthcare Delivery: New Tools, Procedures & Communication Methods</i>	23
<i>Ensuring Continuity of Medical Knowledge: Underground Training Facilities</i>	24
<i>Facing Ethical Dilemmas & the Impact on Well-Being of Medical Workers</i>	26
Mixed Responses from the International Community	28
<i>Response of the UN</i>	29
<i>Allegations of UN Complicity</i>	31
<i>Response of the U.S. and Major Donors</i>	32
<i>Response of MSF</i>	33
Healthcare Workers’ Perspectives on the Response of the International Community	33
Recommendations	36
To Medical Institutions and Members of Higher Education	36
To Donors	37
To I/NGOs Supporting Healthcare Delivery in Syria	38

To the United Nations39

Conclusion.....40

INTRODUCTION

In stark abrogation of the Geneva Conventions and the laws of war, the number of attacks on healthcare workers and health facilities have reached unprecedented levels in armed conflicts around the world. In 2016 alone, health care workers and facilities in 23 conflict-ridden countries suffered attacks.¹ The epicenter of these attacks has been Syria, where the conflict that began in March 2011 continues to rage unabated. Physicians for Human Rights (PHR) found that between March 2011 and November 2017, a staggering 492 health facilities were attacked, claiming the lives of 847 healthcare workers in Syria.² Deeply concerning is the fact that the majority of these deaths have been attributed to state militaries, actors that are required to abide by international humanitarian law (IHL) during armed conflict. In fact, PHR claims that the government of Syria (GoS) and its allies were responsible for 90 percent of these deaths while the remainder were a result of attacks by non-state armed groups such as ISIS, opposition groups, Kurdish fighters and international coalition forces.³ According to the Syrian American Medical Society (SAMS), the number of attacks in 2016 increased by 89 percent from 2015, which made 2016 the deadliest year for healthcare workers living in Syria.⁴

In Syria, health care workers have been directly targeted, shot, abducted or tortured.⁵ Deliberate and systematic targeting of healthcare facilities and health workers has become known as the “weaponisation” of healthcare. This strategy of war, described as a war-crime by human rights organizations, has had profound ramifications for health outcomes of civilians and has significantly impacted the conflict in Syria in favor of the government. The weaponisation of healthcare, or “using people’s need for health care as a weapon against them by violently depriving them of it,”⁶ has been used by the GoS to target and destroy the infrastructures that provide the basic essentials for human life as a means to crush and demoralize the opposition. The strategy can also include “obliterating medical neutrality and besieging medicine.”⁷ For example, according to PHR, the GoS weaponized healthcare from the very beginning of the Syrian conflict with the seizure of Daraa National Hospital in 2011, denial of medical care to government protestors,⁸ and subsequent criminalization of providing medical care to injured members of the opposition in 2012.⁹

Not only has this strategy resulted in large-scale loss of life, but it has sparked an exodus of health workers, added to the flow of Syrian refugees, and lent to the slow demise of healthcare infrastructure in the region. Inadequate healthcare has resulted in poor health outcomes, such as a lack of vaccinated children, the re-emergence of epidemics like cholera and polio, death from chronic but treatable illnesses, and a dramatic increase in unnecessary and risky caesarean sections.

In spite of attempts to draw the world’s attention to these egregious crimes, such as UN Security Council Resolution 2286 - which condemned attacks on medical facilities and personnel in conflict situations - the international community has been completely powerless to prevent further attacks or hold perpetrators accountable. Without justice, protection or respect, the healthcare workers who have not yet fled the country continue to carry the torch. They have been forced to adapt to new ways of protecting themselves and providing care under extreme living conditions, often working under siege with limited medical supplies, inadequate medical training, and in constant fear for their lives. To survive attacks, the healthcare delivery system has adapted dramatically. Hospitals have moved underground or into basements and caves¹⁰, and with the help of telemedicine, untrained medical residents perform surgeries under the guidance of surgeons living outside of Syria.¹¹

Although the prevalence of this issue has been brought to light by the efforts of human rights groups, NGOs and international organizations, research is limited as to how health care workers maintain resilience in the midst of attack and the coping strategies they employ to push forward. The risk of danger

and the lack of available, accurate and reliable data in the midst of conflict in Syria poses significant limitations to conducting thorough research on this matter.

With this in mind, the purpose of this inquiry is to explore how healthcare workers in Syria have responded to a rise in attack on healthcare, how health care delivery has evolved and adapted, and what can be learned from the resilience and ingenuity of healthcare workers working in extreme danger. Until justice prevails and the laws of war are upheld, the lessons learned from this inquiry will offer ways the international community can better serve and protect healthcare workers in danger zones and work to prevent the pattern of attacking healthcare from becoming a new norm during times of armed conflict.

METHODOLOGY

The methodology entailed a desk review of current literature on the topic, supplemented by an analysis of practitioner viewpoints. Practitioner viewpoints were acquired through a combination of semi-structured interviews and testimonials that were already available in the literature. Practitioners who were interviewed are healthcare workers who have directly provided healthcare in Syria during the conflict and/or are members of an organization that provides healthcare in Syria. A snowball method was used to acquire participants, the majority of whom are Syrian. The author contacted colleagues who had worked in Syria and also utilized academic networks to locate participants. All interviews were conducted over the phone or Skype and an approval from the Institutional Review Board of Tufts University was granted for this research.

Focusing on Syria as a case study, this report will first describe the scope of the problem and its impact on civilians in conflict-affected areas in Syria in order to provide the context for understanding the response of the healthcare system. An analysis of the response, as gained from interviews with healthcare practitioners, will be followed by targeted recommendations that the international community can refer to as it seeks to support healthcare workers in conflict zones.

There were several limitations to this report, including the difficulty of finding practitioners to interview, a small sample size of seven participants, the anecdotal and subjective nature of these sources, and the necessity of limiting the length of interviews in order to respect the practitioners' valuable time. Although the author planned to interview a larger pool of practitioners, the data obtained from interviews with seven participants illustrates some of the broader themes that emerge in this report. Due to constant upheaval in Syria and the resulting difficulty in obtaining raw data, a more thorough analysis about the extent of the problem and its impact on civilians and the health sector was limited. These limitations reflect the overall challenge of analyzing specific problems resulting from complex humanitarian emergencies wherein data is either missing or difficult to find, ongoing violence and political constraints prevent conducting research in-country, and accessing key informants can be ad hoc.

SCOPE

GLOBAL PREVALENCE OF THE ISSUE

It is strongly believed that attacks on healthcare around the world have been growing in both scale and magnitude over the last several years, although it is difficult to validate this claim due to the lack of systematic data collection. A report published in May 2017 by the Safeguarding Health in Conflict Coalition (a group of more than 30 civil society, health provider and human rights organizations), found

that in 2016, attacks on health facilities or health personnel had occurred in 23 countries compared to 19 countries in 2015.¹² Given that the data collection of these attacks only occurred in a few countries, combined with the fact that there is no uniform method to systematically track attacks on health facilities around the world, the Coalition could not provide an exact number of attacks that occurred worldwide in 2016.

The World Health Organization (WHO) has attempted to quantify the attacks globally. In an online tool, “Attacks on Healthcare Dashboard,” WHO reported that 302 attacks had occurred globally in 2016, resulting in 418 deaths and 561 injuries.¹³ However, the Coalition believes this number to be far lower than the actual number because it only reflects the incidents to which the WHO has access and does not necessarily include the incidents reported by other UN agencies, NGOs or independent facilities that have no association with WHO, the UN or NGOs.

The discrepancy between the incidents reported by the WHO and those reported by other agencies is often significant – for instance, the Coalition stated that the WHO reported one attack in Afghanistan in 2016 while the UN Assistance Mission in Afghanistan (UNAMA) reported that more than one hundred attacks had occurred there.¹⁴ Further, organizations in Turkey with a presence in Syria that are part of the Turkey Health Cluster (a UN humanitarian health coordination body), reported 402 incidents of violence against healthcare in Syria between November 2015 and December 2016 through the help of a real-time reporting tool, the Monitoring Violence against Health Care (MVH) network.¹⁵ This number is far higher than WHO’s reported number for incidents occurring globally in 2016. These discrepancies underscore that a preliminary challenge in grasping the trend and magnitude of this issue, let alone the feat of pursuing justice, is the lack of one single, official and systemized method of collecting, categorizing and verifying data on attacks on healthcare around the world.

Collecting, categorizing and verifying data about attacks is inherently political and thus, fraught with difficulty. However, credible data that accurately accounts for these attacks will be essential to pursue recompense and justice. A documentary produced by the Center for Strategic & International Studies in September 2017, *The New Barbarianism*, provides a compelling overview of the rise in attacks on healthcare and humanitarians and the limited ability of the international community to quell the violence. The documentary discusses the efforts of Physicians for Human Rights (PHR) in documenting and verifying these attacks. Susannah Sirkin of PHR relayed the critical importance of this work, stating “I wish I could say that these data were stopping the attacks or were creating at least some measure of accountability. To date, they have not. But, we have no doubt that one day these will be prosecuted in a court of law somewhere.”¹⁶

CATEGORIZATION OF ATTACKS

The Coalition states that there is no standard definition of what actually constitutes an attack, which presents yet another hurdle to compiling comprehensive reporting.¹⁷ However, the Health Care in Danger (HCiD) project, managed by the International Committee of the Red Cross (ICRC), has categorized attacks as violence against healthcare facilities, the sick and wounded, healthcare personnel, and medical vehicles.¹⁸ The Coalition has also grouped attacks into similar categories.¹⁹

The HCiD project states that over 90 percent of attacks on healthcare are directed at healthcare providers.²⁰ These attacks have involved abducting, arresting, detaining, threatening, torturing, injuring, harassing, intimidating, robbing or killing medical personnel. Healthcare personnel includes individuals involved in the direct delivery of medical care, support and administrative staff of healthcare facilities and ambulances.²¹ Violent attacks against the wounded and sick involve mistreatment, obstruction and

interference with healthcare (i.e. placing landmines or roadblocks), failure to provide care, or denying access to care. Violence against medical facilities has included the indiscriminate bombing of neighborhoods where health centers are located, deliberate shelling of medical facilities and ambulances, theft or destruction of medical infrastructure, targeted attacks of vaccine campaigns, forced entry, interference with the running of medical facilities, and the occupation of medical facilities by armed groups.²² Those responsible for these attacks include state militaries, pro-government militias, and non-state armed groups.

A variety of methods and weapons have been used to perpetrate these attacks. PHR has grouped types of weapons into six main categories: mortar fire, aerial bombardment, hand-held weapons, bombardment with unknown weapons, missiles and rockets, and unknown weapons.²³ Mortar fire and aerial bombardment are used most frequently.²⁴ SAMS further categorized the weapons used in aerial bombardments as barrel bombs, bunker buster bombs, cluster munitions, vacuum bombs, parachute bombs, artillery and shelling.²⁵

Beyond these categories, the act of perfidy, wherein armed combatants feign status as civilians or medical personnel in order to carry out attacks, has happened in Afghanistan in March 2017.²⁶ Similarly, the concealment of explosives in ambulances that pass through checkpoints and are then detonated in highly populated areas has also frequently occurred, most recently in Kabul in January 2018.²⁷ Another common method has been that of double strikes, wherein a first explosion draws a group of emergency responders, civilian bystanders and security forces to the site. The first strike is then quickly followed by a second, even bigger explosion that inflicts more casualties than the first. A third explosion might then target a nearby hospital where the wounded have been taken. Double strike attacks have occurred repeatedly in Syria, as verified by physicians working there; as well as in Kirkuk, Iraq in 2011.²⁸

In conclusion to this section, “attacks” can broadly refer to anything from verbal harassment and throwing rocks at a hospital to killing medical personnel and deliberately bombing hospitals. For the purposes of this report, “attacks” refer to incidents that involve the loss of life; severely hinder access to, or delivery of, healthcare; or result in the closure of healthcare facilities.

REASONS FOR ATTACKS

Targeting healthcare and denying access to care can be a powerful tool by which parties to a conflict can dictate outcomes and assert power. Although some hospitals have been collateral damage due to their being located in the line of fire, healthcare in Syria has been deliberately targeted by the GoS for a number of reasons.

According to a Syrian healthcare and humanitarian aid worker who worked in government-controlled territory from 2011 to 2017, and who spoke on condition of anonymity, the targeting of healthcare began almost at the same time as the uprising. However, this health worker noted that the reasons for attacks differed between government and non-government controlled areas. Between 2011-2013, doctors and nurses in government-controlled areas were arrested not only for providing medical care to protestors, but also for minor things, such as whispering statements about the Assad regime in hallways. To stay safe, this health worker said it was necessary to place a lot of space between s/he and others at work, never speak about things beyond work responsibilities, or express an opinion. Hence, the risk facing healthcare workers throughout Syria since 2011 has always been higher than the risk to civilians. Health workers were targeted not only for having suspect political views, but also for providing care to anyone who opposed the regime. Since 2013, the reasons for attacks on health workers appear to have morphed from

the targeting of political opponents to a more calculated strategy of war to control the outcome of the conflict.

The provision of humanitarian assistance and medical care in Syria has often been perceived to support the war effort of the opposing side. In the eyes of the state, then, this has made medical personnel and aid workers legitimate targets for attack.²⁹ As Abu Sa'Da et al. put forward, "Medical care given to insurgents that appears to amount to aid, even when dispensed impartially, becomes a justification for violence against health personnel."³⁰ Healthcare facilities and medical staff represent both the lifeline and preservation of the opposing side. In Syria, the targeting of hospitals has also accompanied the targeting of schools and infrastructure. As Jomana Qaddour, co-founder of Syria Relief and Development, has said, "They're targeting life – the very basic needs of life."³¹

Hospitals provide the very basics needs of life and their control becomes a key priority during conflict. If an armed group can control medical care, they can control the narrative and outcome of the war. As Abu Sa'Da et al. stated, "Their [hospitals] loss or destruction thus becomes a vital issue in protracted conflicts involving local and international alliances. Presenting itself as the essential role of protector and provider of health care creates and consolidates a power in place."³² Doctors are typically leaders in their community, so arguably, a type of symbiotic relationship exists between the health workers and the leaders of an opposition group: if the medical experts and facilities are present, then the confidence to stay the course and launch attacks is strengthened. Mr. Abo Their, a Syrian paramedic who was arrested and tortured by the regime for setting up field hospitals, gave proof that this is "now happening everywhere" in Syria. He said that "any [non-government] military unit would not accept to go to the frontline without a doctor or paramedic with them...in Idlib, all the military units were asking any doctor to come with them when they liberated a new area. The first day, their strategy was to build field hospitals after liberating an area so that the fighters would be encouraged to come."³³

Since the presence of functioning hospitals enables the continuation of the revolution in opposition-held areas in Syria, targeting them has become a key strategy of the GoS. If a hospital in opposition-controlled territory is attacked, civilians will likely flee and the frontline shrink. Mr. Abo Their corroborated this strategy: "Now, before any regime movement, the Syrian regime will target field hospitals, water sources and infrastructure with one month of airstrikes because they know that there is no military movement without doctors. They know that if they destroy field hospitals, the people will have lost their hope."³⁴ A report by the Atlantic Council also said that repeated targeting of healthcare has been used to either "impede opposition forces or to force civilian displacement,"³⁵ and was likely the reason that Aleppo eventually fell to government forces. As a result of these deliberate attacks, Dr. Abdulkarim Ekzayez at Chatham House says that now "some armed groups avoid having a base close to a health facility, as a way of reducing the risk of airstrikes."³⁶

Although the GoS and Russia repeatedly deny responsibility for attacks against healthcare facilities, when pressed, they point to their legal authority to protect state sovereignty. One such argument is the GoS' legal authority to respond to counter-terrorism threats. According to the Violations Documentation Center (VDC) in Syria, the GoS issued Counter-terrorism Law 19 and created the Counter-Terrorism Court (CTC) in 2012 in attempt to quell demonstrations.³⁷ Since then until the end of 2014, many of the more than 82,000 people who were referred to the CTC were tortured while in detention, forced to confess, denied right to legal counsel, whipped, beaten, tied with chains, and even issued with the death penalty without due process or fair trial. Grounds for these charges varied, but included merely cooking food for armed groups, to digging graves for "terrorists," to delivering medications to opposition-controlled areas. The VDC claims the regime used Law 19, the CTC, and Field Courts to systematically persecute political opponents and arbitrarily refer dissidents, including those who provide medical care or relief to the

wounded, to the terrorism tribunal. Through this policy, the GoS criminalized the provision of medical care to opponents as terrorism, thereby making these healthcare providers legitimate military targets and destroying the principle of medical neutrality.³⁸ Further, the GoS perceives the denial of medical care to civilians living in terrorist-controlled territory as legitimate. As Rami Kalazi, a neurology resident at an Aleppo hospital said, “The regime’s intelligence services have no mercy if they find out you’re working as a field doctor. For them, this is even much worse than carrying a weapon.”³⁹

Enacting Counter-terrorism Law 19 has served as a deterrent in more than one way: would-be protesters see that participants are denied medical care and left to bleed to death, which makes them less likely to participate.⁴⁰ Additionally, if a doctor is tortured into giving up the names of his colleagues, then these doctors would go into hiding or flee, effectively diminishing the presence and capability of the healthcare team in a given area. Although Law 19 and the CTC appeared to give the GoS a legal shield behind which to perpetrate attacks, the VDC claims that the arbitrary sentencing practices of the CTC violates Common Article 3 of the Geneva Conventions and as such, constitutes a crime against humanity.⁴¹

Closely related is the claim that the GoS can legitimately target a hospital if it is used as a human shield to protect enemies or terrorists.⁴² The argument is that hospitals can lose protected status under IHL and become viable for an attack if they are “used to commit, outside their humanitarian duties, acts harmful to the enemy.”⁴³ Some claim that the ambiguity of this phrase “lends itself to those who target hospitals,”⁴⁴ legitimizing the bombing of hospitals in exceptional cases. Even if it is legal to bomb hospitals in these rare circumstances, IHL still requires the attacking party to give fair warning prior to launching an attack. Doctors on the ground consistently report that warnings are never issued.

PROTECTION OF MEDICAL FACILITIES, PERSONNEL & AID WORKERS UNDER IHL

What privileges and protections does the law afford to hospitals, medical infrastructure, medical personnel and other aid workers during armed conflict? Does the law provide medical personnel, regardless of party affiliation, the same protections as local or international aid workers?

Early grievances about the heavy civilian casualties from wars in the first half of the 20th century led to the establishment of IHL, or the laws of war, enshrined in a series of Geneva and Hague Conventions. According to the International Committee of the Red Cross (ICRC), the 1949 Geneva Conventions and their Additional Protocols of 1977 and 2005 are at the core of IHL.⁴⁵ Their purpose is to protect non-belligerents and those who can no longer fight, such as prisoners or wounded combatants. IHL also requires all parties to the conflict to distinguish between combatants and non-combatants and to limit the use of certain weapons. The use of the red cross and the red crescent on a white background is one form of distinction that has been approved by IHL to clearly designate medical objects, facilities or personnel.⁴⁶

IHL provides protection to medical personnel and aid workers and forbids the attack of hospitals and medical infrastructure. Article 19 of the First Geneva Convention (1949) states, “Fixed establishments and mobile medical units of the Medical Service may in no circumstances be attacked, but shall at all times be respected and protected by the Parties to the conflict.”⁴⁷ Prior to this, Article 1 of the 1864 Convention stated that “Ambulances and military hospitals shall be acknowledged to be neutral, and as such, shall be protected and respected by belligerents...”⁴⁸ In these treaties, protection is specifically afforded to military hospitals as long as the hospital is not used for non-medical military purposes.

Later, protection was extended to civilian hospitals in Article 18 of the Fourth Geneva Convention: “Civilian hospitals organized to give care to the wounded and sick, the infirm and maternity cases, may under no circumstances be the object of attack, but shall at all times be respected and protected by the

Parties to the conflict.”⁴⁹ Regardless of whether a hospital or medical establishment is military or civilian-run, then, it is afforded protection under IHL. This protection shall not cease unless hospitals or medical units “are used to commit, outside their humanitarian duties, acts harmful to the enemy. Protection may, however, cease only after a due warning has been given, naming, in all appropriate cases, a reasonable time limit, and after such warning has remained unheeded.”⁵⁰ A similar requirement for civilian hospitals is contained in the Fourth Geneva Convention. Hence, unless the medical facility has been converted for non-medical military use (such as a military barracks or armory), it cannot legally be subjected to an attack.

In addition to protection for hospitals and medical facilities, legal protection of medical personnel is addressed in the Additional Protocols (AP). Article 16 of AP I and Article 10 of AP II states, “Under no circumstances shall any person be punished for having carried out medical activities compatible with medical ethics, regardless of the person benefiting therefrom.”⁵¹ Aid workers are also protected by IHL, as stated in Article 17 of AP I, “The civilian population and aid societies, such as national Red Cross (Red Crescent, Red Lion and Sun) Societies, shall be permitted, even on their own initiative, to collect and care for the wounded, sick and shipwrecked, even in invaded or occupied areas. No one shall be harmed, prosecuted, convicted or punished for such humanitarian acts.”⁵² For aid workers more generally, Article 71 of AP I states that while the participation of relief personnel is subject to the consent of the state, relief personnel “shall be respected and protected.” Grave breaches of these laws can amount to war crimes.⁵³ The GoS and Russia, the largest perpetrators of attacks on healthcare and humanitarian aid workers in the Syrian conflict, are signatory to the Geneva Conventions and the Additional Protocols, with the exception that Syria has not signed on to AP II and III.

Generally, consent of the state is necessary prior to engaging in relief activities. However, Common Article 3 of the Geneva Conventions is silent as to whose consent is required in situations of non-international armed conflicts (NIACs).⁵⁴ Some claim that the state’s consent is not needed if relief activities occur in non-government controlled areas and do not transit through state territory, however, this view infringes on the territorial sovereignty of the state. In response to the ambiguity surrounding consent, an Oxford guidance noted commission by UNOCHA stated that in such situations, all parties to the conflict shall be required to allow for the safe and unimpeded operation of humanitarian relief.⁵⁵

For their part, humanitarian aid workers and medical personnel are bound by IHL to uphold the principles of impartiality and neutrality in their activities. Medical personnel must impartially treat civilians and wounded combatants.⁵⁶ In practice, it can be extremely challenging, if not nearly impossible, for humanitarians to completely uphold each of these principles in perfect harmony. Breach of these principles is often the key sources of tension between humanitarians and the parties to a conflict. Partisan decisions to support oppressed groups in internal conflicts happen frequently, as evident in conflicts in Vietnam, Afghanistan the Cold War and elsewhere.⁵⁷ If there is evidence that aid has been used to develop the capabilities of a party to the conflict or provide one party with an advantage, then according to Article 23 of the Fourth Geneva Conventions, the sovereign state can actually suspend delivery of aid.⁵⁸ This is concerning because not only can activities be suspended, but aid workers also receive the least amount of protection under the law when providing relief during NIACs, which have defined the majority of conflicts in the last two decades and have thus far presented the greatest risks to humanitarians.⁵⁹ It appears then, that while attacks on aid workers and medical personnel are on the rise, the law and the international community have likewise been increasingly powerless to protect them in the face of brutal, albeit sovereign, states.

In conclusion to this section, IHL provides for the protection of all hospitals, medical infrastructure, medical personnel and aid workers regardless of affiliation (theirs or that of their beneficiaries).⁶⁰ This

means that non-medical aid workers, a Syrian doctor working at a government military hospital or at a civilian medical facility in government-controlled territory; an expatriate doctor working with an aid organization in non-government controlled territory, or a Syrian or expatriate doctor working in a civilian hospital in non-government controlled territory are all afforded protection under IHL and cannot be targeted for attack. However, humanitarians are responsible to act with impartiality and neutrality in order to maintain these protections.

Although medical staff working for the government of Syria are not categorically the same as aid workers, if they provide medical care and humanitarian relief in a conflict zone, they are entitled legal protection from attack. In times of peace, medical personnel are also afforded special protection from attack under human rights law.⁶¹ For purposes of this report, then, the term “humanitarian,” will be used to refer to both humanitarian aid workers and medical personnel, since both groups engage in humanitarian activities.

GRAVE BREACHES OF IHL – A GROWING TREND

Attacks on healthcare in the setting of conflict and insecurity are not new, however, the scale with which they have been occurring over the last decade is unprecedented. A historical view of attacks on healthcare provides an idea of when and where attacks happened before and how they have changed, especially in Syria.

According to an article in the International Review of the Red Cross, “Violent acts perpetrated against medical personnel with the aim of depriving the adversary of medical treatment are unfortunately all features of warfare examples of which may be found throughout the twentieth century.”⁶² Even prior to the adoption of the First Geneva Convention, medical personnel and civilians sustained numerous attacks, and the shelling of facilities with recognizable emblems has been decried since the siege of Paris in 1871.⁶³ Humanitarians and healthcare workers have thus always worked at their own peril while responding to complex humanitarian emergencies.

Despite the Geneva Conventions and efforts to uphold justice through international criminal tribunals, violations of IHL have become increasingly common. Humanitarians using recognizable NGO logos and emblems are targeted more readily and frequently. This may in part be due to the changing nature of war from that of conventional, state-on-state war to a rise in internal conflicts and low-intensity irregular warfare characterized by insurgencies, acts of terror, psychological and guerrilla tactics and urban warfare.

In his book, *The Utility of Force: The Art of War in the Modern World*, Rupert Smith argues that this paradigm shift in the use of force has resulted in wars and conflicts becoming increasingly protracted such that military victories are now rarely decisive. Rather, war is now fought in order to create the conceptual space wherein diplomacy, development, mediation, negotiation and humanitarian work can occur. Conventional warfare has shifted from the traditional battlefield to war amongst people living in urban settings. The proximity of war itself to civilians and humanitarian responders and the changing nature of conflict results in civilians becoming more frequently entangled in the crosshairs. Since health facilities are often located in urban areas, they are increasingly engulfed in the battle, which not only exposes civilians to risk but also impedes local access to healthcare. Now, not only are health centers typically located in the crosshairs of conflict, but they are also increasingly targeted.

According to Leonard Rubenstein, director of the program on human rights, health and conflict at the Center for Public Health and Human Rights within Johns Hopkins Bloomberg School of Public Health,

the increase in internal wars and asymmetric conflicts after the Cold War was accompanied with the targeted bombings of hospitals and clinics in Bosnia, Chechnya, Kosovo, Sri Lanka, Colombia and elsewhere. Crimes against health workers were particularly egregious in Sri Lanka in 2009 when the army bombed 10 hospitals more than 30 times in 5 months, killing more than 250 people.⁶⁴

Increased targeting of healthcare can also be seen as a phenomenon occurring within a broader trend of increased attacks on humanitarian aid workers. Empirical evidence points to this growing trend. Ken Isaacs, of Samaritan’s Purse, has been working in humanitarian settings since the 1990s. Recalling his work in Rwanda during the 1994 genocide, Isaacs said that, at that time, he never felt like his staff were targeted for attack. “They gave us space, they respected us,” he said. Now, recalling the deliberate targeting and abduction of 15 of his staff in South Sudan in March 2017, he believes that “respect for humanitarian workers by parties in conflict zones is gone.”⁶⁵

Humanitarian Outcomes has been tracking data on attacks on humanitarian aid workers since 1997 and reporting it on The Aid Worker Security Database (AWSDB). From January 1997 until December 2016, AWSDB reported that a total of 4,377 humanitarians, mostly local staff working for international or local NGOs, were victims of violence. It is unclear how many of these victims were medical personnel since this information is not disaggregated by profession. Nor is it clear whether victims were working for a relief organization or for a medical facility providing healthcare in-country.⁶⁶ What is clear, is that attacks on aid workers have increased four-fold since 1997.

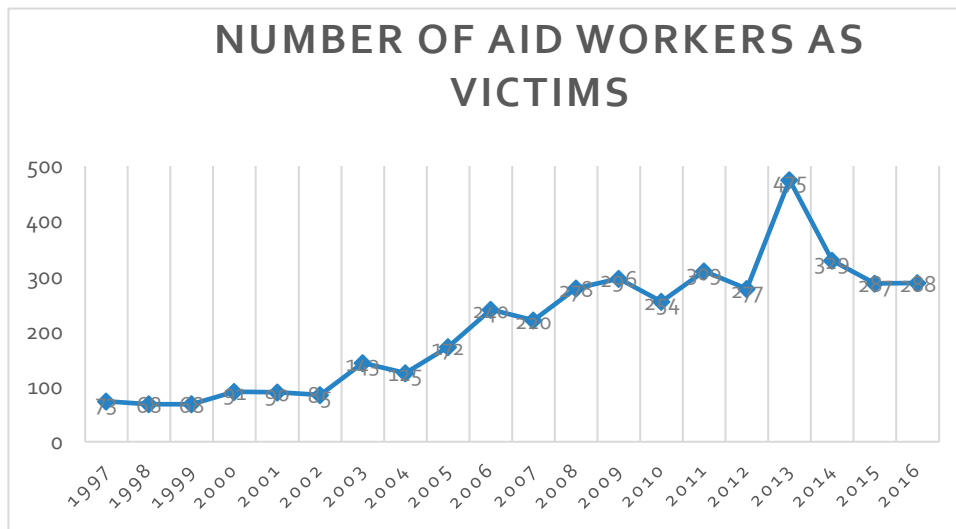


FIGURE 1 – DATA EXTRACTED FROM THE AID WORKER SECURITY DATABASE

Although attacks on healthcare are not new in armed conflict, both empirical evidence and recent data collection reveal that attacks are on the rise. This trend is similar to that of attacks on aid workers more generally. While in the past, violence “against medical facilities has been claimed only in the context of efforts to rid a country entirely of a foreign presence,” what seems to have changed since the Cold War is the deliberate and intentional nature of attacks on healthcare as a weapon of war.⁶⁷ As J. Stephen Morrison stated in his documentary, “What we see today is indeed a far more terrible and brutal period in which the scale and scope of violence against the health sector has expanded dramatically.”⁶⁸

ATTACKS ON HEALTHCARE IN THE MENA REGION

No place in the world has borne the extent of brutality against the health sector as has the Middle East and North Africa (MENA). The health sectors in Afghanistan, Turkey, Yemen, Libya Israel and the Occupied Palestinian Territories, Egypt, and Iraq have all suffered extensively – although Yemen, Afghanistan and Syria stand out as the hardest hit.

Locked in a geographical cage, Yemenis have been unable to flee the pummeling of Saudi coalition airstrikes. Reportedly, the Houthis share no regard for IHL either. The fragile healthcare system is in a state of collapse and the coastal blockade has severely impeded the disbursement of food, fuel and medicine throughout the country. If aid clears the ports, movement of even the most basic supplies is hampered by countless checkpoints, authorizations for approval, or young soldiers asserting their authority by deliberately hindering aid workers.⁶⁹ From March 2015 to December 2016, UNICEF reported 93 attacks on hospitals throughout Yemen.⁷⁰ Although healthcare provision in Yemen has been chronically limited due to a variety of natural disasters and repeated internal conflicts over the last decade, the upswing in attacks on hospitals has resulted in even less provision of healthcare and has contributed to a growing humanitarian catastrophe. In 2017, there were nearly a million suspected cases of acute water diarrhea (AWD)/suspected cholera, over 2,200 deaths from AWD and cholera, 239 suspected cases of diphtheria, nearly 300,000 people suffering with acute malnutrition, and fears that a polio outbreak may be looming.⁷¹

In Afghanistan, where more than 30 percent of the population lacks access to healthcare, the UNAMA reported 119 incidents impacting healthcare, the large majority of which were attributed to Armed Opposition Groups (AOGs).⁷² In many of these incidents, AOGs targeted vaccination campaigns, ransacked supplies or abducted medical personnel. In incidents where the Afghan military was responsible, medical staff or patients were killed in clinics accused of caring for Taliban members. Like Yemen, these attacks have further deteriorated the limited healthcare that is available. Vaccine-preventable diseases, malnutrition, and water-borne diseases were all on the rise in 2016. Moreover, the October 2015 tragedy at Kunduz - wherein U.S. forces mistakenly bombed an MSF trauma center for over an hour and killed 42 people⁷³ – marked a turning point for NGOs' sense of willingness to operate in danger zones and halted the provision of MSF's trauma care there. The Kunduz incident and an increased number of abductions has also infringed on the functioning of government hospitals, as well as the ability of expatriates to contribute to the government-sponsored healthcare. One expatriate dermatologist who worked in a government hospital said that the Kunduz incident made the local staff feel very nervous. However, the real danger for this expatriate as well as for local physicians, was the risk of being kidnapped and held for ransom – made starkly clear when a local attending physician was kidnapped in 2016. The other local physicians felt uncomfortable with an expatriate working at the hospital and as a result, the dermatologist's working days and responsibilities were curbed significantly such that s/he felt s/he could no longer contribute.

Perhaps the greatest detriment of Kunduz, however, will be the long-term impact that the U.S.' response to this incident could have for the meaning of accountability and for the viability of continued delivery of healthcare in danger zones. Although the Pentagon investigated the strike, the Department of Defense has been criticized for failing to commission an independent review. If the U.S. is unwilling to take the heat for this kind of failure, then this indicates that continued violations of IHL can be quickly forgotten, setting the stage for further acts of impunity.

ATTACKS ON HEALTHCARE IN SYRIA

The seven-year conflict in Syria has become the greatest humanitarian disaster of our time, claiming more than 480,000 lives and resulting in the displacement of more than 11 million people, including 5.2 million who have become refugees and 6.3 million who are internally displaced. This equates to roughly half of the country's pre-war population of 22 million.⁷⁴ The disruption of service delivery of every kind, especially in non-government controlled areas, has exacerbated the conflict and diminished access to health, education, employment opportunities, housing and food for the majority of Syrians. Meanwhile, the high inflation rate of roughly 25 percent has made the purchase of every-day life essentials a hard-earned luxury.⁷⁵

The deliberate targeting of healthcare has been a constant theme throughout the conflict. Although these attacks bear some semblance to incidents throughout the region, it is possible that they are indicative of a broader phenomenon around the globe. The scene grows dimmer each day the conflict continues. Susannah Sirkin, director of international policy at PHR stated that "The all-out assault on health facilities and professionals in Syria is the worst pattern of such attacks in modern history," making 2016 "one of the worst year's we've [PHR] documented."⁷⁶

PHR has documented a total of 492 attacks on facilities since the conflict began in Syria, which has claimed the lives of 847 medical personnel.⁷⁷ The main perpetrators have been the Assad regime and its Russian allies, who were responsible for 91 percent of the attacks, although ISIS has also been accused of abducting medical staff.⁷⁸ The GoS and Russia deny that the deliberate nature of these attacks, but clear evidence proves otherwise.

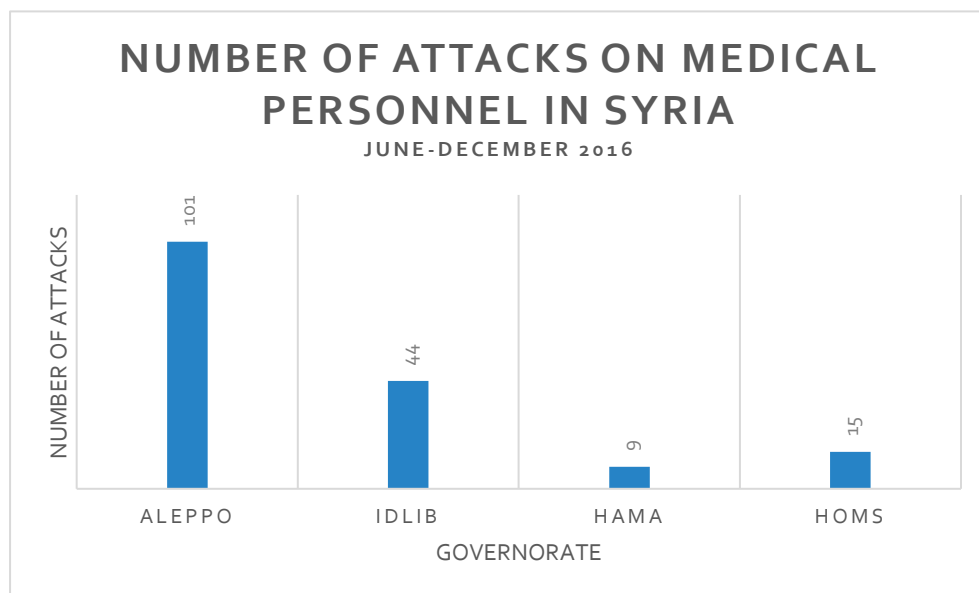


FIGURE 2 DATA EXTRACTED FROM SAMS REPORT, "THE FAILURE OF UN SECURITY COUNCIL RESOLUTION 2286 IN PREVENTING ATTACKS ON HEALTHCARE IN SYRIA"

While a complete assessment of every attack on healthcare in Syria will not be described, this report will highlight some areas that have suffered the most. According to PHR, medical facilities in non-government-held towns and cities in the governorates of Aleppo, Idlib, Hama, Homs, Daraa and Rif Dimashq have been the hardest hit. SAMS trained data collectors to track and verify attacks on medical personnel and facilities that occurred in some of these provinces from June to December 2016. All but four of these attacks were perpetrated by pro-government forces. The exceptions involved two incidents

in which the perpetrators were unknown; a third incident in Idlib involving a landmine placed by ISIS; and a fourth incident in which the opposition forces committed theft. As for the rest of the incidents, the types of weapons launched by pro-government forces involved air to surface missiles, artillery, cluster munitions, barrel bombs, chemical weapons, shelling, tank shelling, incendiary weapons, vacuum bombs, bunker buster bombs, parachute bombs and an explosive container.⁷⁹ These weapons are designed to inflict the most gruesome injuries as humanly possible.

The following graph, produced by the MVH network, provides a time trend for the attacks in these and other governorates:

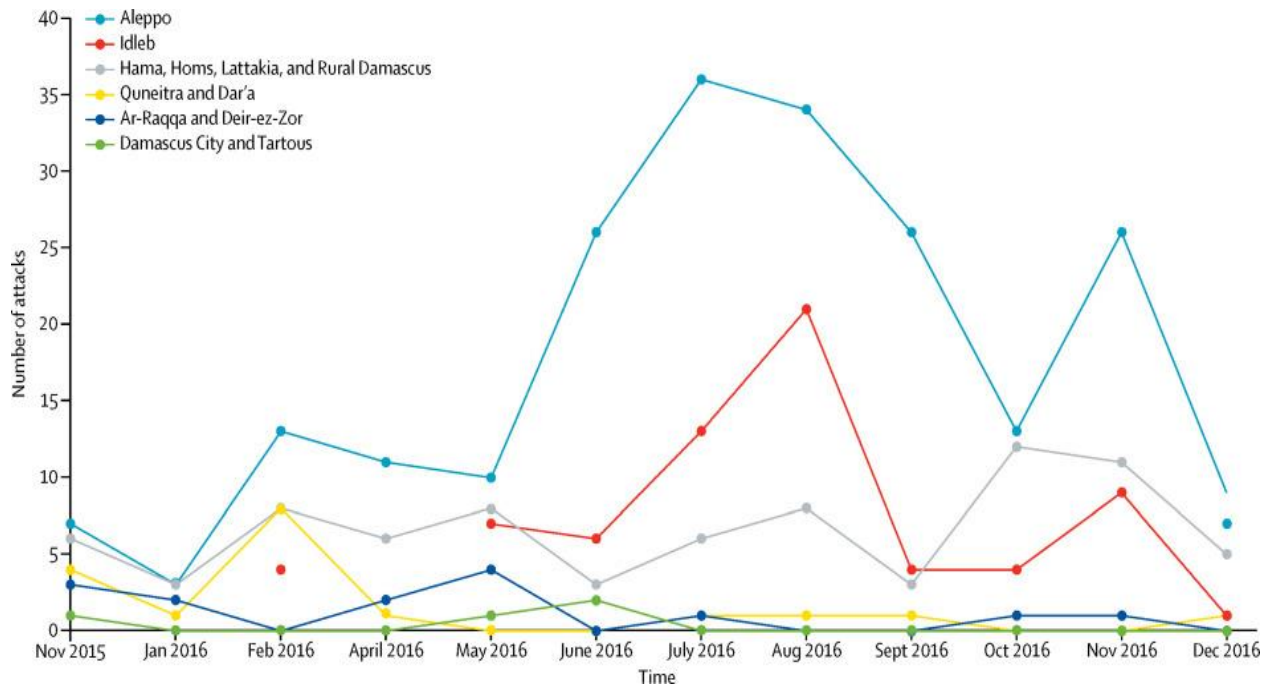


FIGURE 3 TIME TREND FOR ATTACKS (VERIFIED AND UNVERIFIED) ON HEALTH CARE REPORTED IN SYRIA, NOVEMBER 2015–DECEMBER 2016, DISAGGREGATED BY LOCATION. SOURCE: MOHAMED ELAMEIN ET AL., “ATTACKS AGAINST HEALTH CARE IN SYRIA, 2015–16: RESULTS FROM A REAL-TIME REPORTING TOOL,” *THE LANCET* 390. NO. 10109 (NOVEMBER 18, 2017): 2278–86.

A closer look and analysis of PHR’s interactive map⁸⁰ reveals that attacks by non-government forces, including the Free Syrian Army (FSA) and ISIS, mainly targeted national hospitals or state military facilities including the Harasta Military Hospital and the Tishreen Military Hospital, which had also been used as a barracks and as vantage point for regime snipers. Non-government forces also targeted a Police Hospital and a Russian military field hospital. On the other hand, the multitude of attacks by pro-government forces have targeted virtually every type of medical facility, include maternity care and vaccination centers, a contagious diseases center, hospitals in the Palestinian Yarmouk refugee camp, surgical and general hospitals, pharmacies, physical therapy centers, field hospitals, ambulances, clinics and medical warehouses.

An analysis of the PHR map clearly points to the *deliberate* targeting of health facilities. Numerous facilities were bombed repeatedly by pro-government forces, such as Medical Point in Douma, which was bombed 7 consecutive times, even after it had already suffered a chemical weapons attack.⁸¹ Furthermore, the MVH network reported that from November 2015 to December 2016, around 44 percent of hospitals

and 5.3 percent of primary care clinics in areas with a large number of non-government forces were attacked, with the majority of incidents directed at trauma care facilities, mobile teams and ambulances.⁸² Aleppo governorate, the heart of the opposition movement, sustained attacks on 63.2 percent of its hospitals and 13.1 percent of its primary care facilities during this time.⁸³ Moreover, 65.9 percent of facilities in areas across Syria with a large presence of armed opposition groups endured recurring attacks while 6 facilities were attacked at least 5 times.⁸⁴ Clearly, Susannah Sirkin's following assertion about the deliberateness of attacks has strong backing:

“Never in our 30 years of documenting attacks on health professionals and hospitals, have we seen anything like what the government of Bashar al-Assad has done to health in Syria. Here, unlike many of the other examples that we've documented, we see a government that is deliberately using a strategy of attacking hospitals, health facilities, medics, doctors, nurses as a strategy of war...the strategy of the government appears to be to see that hospitals and healthcare in opposition areas area actually the enemy. This is devastating and unlike anything we've ever seen.”⁸⁵

The health sector in Aleppo, the long-time stronghold of the opposition and formerly the largest city in Syria, has suffered the most extensively. By mid 2016, half of the city's population of 3 million had either fled or perished.⁸⁶ The mass exodus from Aleppo prior to the government's siege took with it many of the city's doctors and nurses. The siege, which lasted from September 2016 to December 2016, put all hospitals out of service.⁸⁷ It is highly likely that the GoS' targeted strikes against the health sector in November 2016 enabled them to advance swiftly and regain control of the city by December of that year. Although the GoS and Russia insistently denied perpetrating deliberate attacks on hospitals in Aleppo, this denial was strongly challenged by the Atlantic Council's compelling publication, “Breaking Aleppo” in February 2017, in which a large collection of evidence, including CCTV footage, photographs, eye-witness testimonies and news footage piece together before and after scenes of major attacks on hospitals in Aleppo.⁸⁸ The report points to the sheer volume of strikes on medical facilities, the GoS' knowledge of the terrain and location of hospitals in Aleppo, and the confiscation of medical equipment from aid convoys as clear evidence of the deliberate nature of attacks.⁸⁹

During the siege on east Aleppo, doctors rebuilt and refurbished hospitals as best they could between attacks. In their desperation, they began building hospitals underground, such as “M10,” the code name for the underground Sakhour Hospital. This too, was bombed 13 times until it was completely demolished in October 2016.⁹⁰ One physician who worked in Aleppo reported that at the beginning of the conflict, if there was an attack, the medical staff evacuated patients from the targeted hospital and relocated them to other hospitals. During the siege, however, evacuating patients to other hospitals became a death wish, since any ground movement was immediately spotted by drones, which could be followed by targeted strikes.⁹¹ According to David Nott, a British surgeon who trained Syrian medical personnel in trauma surgery in east Aleppo, there was no sterilization and no monitoring equipment for delivering anesthesia in the hospitals. Even if some machines were salvageable, there was not enough fuel for the generators to use them.⁹² Doctor Muhammad Waseem Muaz, one of the last pediatricians who stayed behind in Aleppo, was killed during a shift at Al Quds hospital during a missile strike.⁹³ Emblematic of the tragedy of Aleppo for all of the medical personnel who lived and died there, his death makes the words of a former SAMS advocacy officer ring powerfully true: “As go the hospitals, so goes the hope of the people.”⁹⁴ Aleppo fell weeks later.

Since the end of the battle for Aleppo, the GoS tightened its grip on Eastern Ghouta, where a siege continued for over four years. Mere miles away from Damascus proper, children were eating grass in Ghouta. The GoS' siege on the neighborhood and daily airstrikes have devastated the healthcare apparatus. The government's discovery and seizure of the secret underground tunnels linking Eastern

Ghouta with Damascus, through which critical patients were smuggled, snuffed out the last remaining life-line for the suburb. The limited number of aid convoys allowed in were deliberately stripped or “deleted” of surgical supplies, blood donations, blood transfusion equipment, intravenous fluids, screening kits for blood-borne pathogens, sterilization equipment, antibiotics, insulin, vaccinations, supplements for nursing and pregnant mothers, dialysis equipment, and EKG paper.⁹⁵

These supplies are just the basic essentials for any hospital or primary care clinic one might visit in the United States. A single dose of insulin, one vaccine, a few liters of intravenous fluids, or even a single round of treatment of intravenous antibiotics could mean the difference between life and death for a patient. The WHO continues to spend millions of dollars buying these supplies on behalf of the Syrian Ministry of Defense even though few supplies are permitted through checkpoints by the GoS.⁹⁶ Instead, (and as will be discussed later), the WHO’s willingness to shoulder the burden of buying medical equipment that is simply removed or redistributed from convoys to the coffers of state-run NGOs enables the Assad regime to invest its funds into developing more and newer methods of brutality to crush the opposition.

Negotiating the evacuation and transfer of the most critical patients out of besieged areas is mentally and emotionally exacting for doctors. Deliberating who is to be chosen for evacuation is the equivalent of deciding who will die and who will live. Doctors in Eastern Ghouta faced threats from the families of patients who were not chosen to be evacuated.⁹⁷ At the end of a painful and delicate decision-making process, doctors must then await the whims of the GoS to authorize an evacuation. As they wait, patients die, new lists are drawn up and new deliberations are made. In December 2017, when an evacuation finally happened exactly two months late, 29 critically ill patients (out of over 400) were ultimately evacuated in exchange for pro-Assad combatants who had been captured in Eastern Ghouta.⁹⁸ These innocent civilians were, in essence, treated as bargaining chips. Unfortunately, the overall situation of civilians in Eastern Ghouta deteriorated rapidly throughout the spring of 2018. A ceasefire issued in February was wholly disrespected and attacks on civilians and healthcare facilities continued unabated until the entire town surrendered to regime forces in April.

The conditions for medical staff working in opposition-controlled areas are extremely grim. With basic infrastructure destroyed, one of the biggest challenges involved in operating a health center is finding enough clean water and maintaining electricity to run medical devices and refrigerators. Faced with these shortages as well as a dearth of basic medical supplies and human resources, health workers are expected to perform the impossible by caring for an influx of trauma patients.⁹⁹ A report by the Lancet notes that this is especially problematic because “Syria’s medical training did not include specialisation in trauma management, intensive care, or emergency medicine before the crisis.”¹⁰⁰ With a shortage of trauma-trained surgeons to begin with, doctors are having to practice beyond their scope of training to fill these gaps.¹⁰¹ Further, there are no there rehabilitation or mental health services, nor is there is a possibility to perform cat scans or MRIs, which makes it very difficult to act quickly or perform surgery on patients with brain injuries.¹⁰²

Although the de-escalation zones that resulted from the May 2017 Astana talks¹⁰³ were meant to create the conditions for “rapid provision of humanitarian aid, commercial access, infrastructure rehabilitation, [and] medical aid,” these zones have afforded little to no increase in the delivery of healthcare in opposition-controlled areas. According to reports by Mercy Corps’ Humanitarian Access Team, medical evacuations in these regions continue to be a matter of negotiation, not of urgency, while moving across lines is essentially impossible.¹⁰⁴

IMPACT ON HEALTH OUTCOMES

To understand how healthcare delivery has been affected by the conflict, WHO implemented a study in 2014 to investigate the performance of hospitals and health centers across Syria. The study evaluated indices for both hospitals and health centers across Syria, which were based on the Syrian Health Resources and services Availability Mapping System (HeRAMS) dataset. HeRAMS was implemented in 2013 to collect information on the performance or responsive capacity of the healthcare system nationwide. Responsive capacity was reflected in how the health facilities scored on three dimensions - accessibility, readiness and efficiency.¹⁰⁵ The study showed that across all 14 governorates in 2014, the average performance of health centers in Syria was 0.51 out of 1, or 51 percent of the optimal “best performance” in Syria,¹⁰⁶ and that “the average performance of public hospitals in Syria is 57 percent of the standard and comprehensive hospital.”¹⁰⁷

Although a pre-conflict study conducted by the Syrian Center for Policy and Research (SCP) in 2009 revealed a failure of the health system to achieve reforms, a desk review did not reveal a similarly rigorous study as the HeRAMS project about healthcare performance prior to 2011. Hence, it may not be possible to draw a clear conclusion as to how much the health system has deteriorated as a direct result of the conflict, however, a reduction of healthcare performance by as much as half, as claimed by the HeRAMS study, is noteworthy. The latest reports from the HeRAMS dataset reveal that 51 percent of the 111 public hospitals were fully functioning in February 2018.¹⁰⁸ In the fourth quarter of 2017, public health centers fared even worse, with only 46 percent of the 1,804 centers fully functioning.¹⁰⁹ Since a comprehensive follow-up study of the performance of the health system has not occurred since 2014, one can assume that healthcare performance, especially in opposition-controlled areas, is now far worse.

While this report mainly focuses on the healthcare situation in opposition-controlled areas, the perspective of a Syrian health worker who worked in Damascus-affiliated hospitals and aid organizations serving government-controlled areas provides insight into how healthcare is functioning in these areas. This health worker, who spoke on condition of anonymity, described her/his role with international aid organizations to “rehabilitate” primary health centers controlled by the Ministry of Health (MoH) or the Ministry of Higher Education:

“We cannot decide anything - the Ministry of Health will give you a list [of primary health centers] they want to rehabilitate... whenever we’d go to a place, we’d find that there are almost no doctors and no human resources. The most they have are a few technicians and nurses but apart from that there is no clinical expertise. At the same time, you find that doctors are being condensed into a few very small centers inside Damascus center itself, but if you go even 10 kilometers outside of Damascus, you’ll find it very challenging to access healthcare... It’s become the norm to go to a clinic and wait for 5-6 hours, even in Damascus.”

The health worker implied how the selection of centers to be rehabilitated was subject to the political whims of the regime: “If you see the list of the centers that the Ministry of Health selected to be rehabilitated, they are not directly related to the needs of the people. For example, there was a facility on the border with Lebanon that they wanted to rehabilitate so that it would give the appearance that they had a nice new facility, but it had never been attacked and didn’t need to be rehabilitated.” An aid organization s/he worked pushed back when they saw the list, not least because there was no way they could justify rehabilitating centers that did not need to be rehabilitated to donors. The health worker does not know the extent to which the aid organization was successful in its mission to rehabilitate the health centers that really needed it. Another aid organization involved in similar work, however, was forced to close their entire health outreach. Although clinics in government-controlled territory may not have borne

the brunt of direct attack as those in opposition-controlled areas, those in need of support have at times been willfully neglected.

With respect to the impact on health outcomes, the SCP reported that life expectancy in Syria dropped from 70.5 years from before the conflict to 55.4 years by 2015.¹¹⁰ Dewachi et al. claim that the disease burden presenting the most challenges includes chronic conditions like heart disease, diabetes and hypertension.¹¹¹ These conditions have been further aggravated by the lack of secondary and tertiary care. In fact, SAMS estimated that at least 200,000 people have died from treatable chronic diseases since the beginning of the conflict until mid 2016,¹¹² while the leader of the National Coalition for Syrian Revolutionary and Opposition Forces said that only 30 percent of 2 million people with high blood pressure receive treatment and 8,000 people die from heart attacks every year.¹¹³

Primary and preventive care in opposition-controlled areas has been brought to a near standstill while trauma care takes precedence. Fuel shortages and electricity cuts means there is not enough power to preserve the cold-chain for medicine like insulin. Childbirth has become a risky endeavor, with the majority of pregnant women scheduling caesarian sections because they cannot risk spending more than one night in labor at a hospital. In such circumstances, maternal mortality rates have risen significantly. Preventable diseases like polio,¹¹⁴ and measles have also risen due to a lack of clean water, sanitation, housing, and the GoS' interference with vaccination campaigns.¹¹⁵ An article by MSF noted that due to violence in Aleppo, gathering a large crowd of children and parents together to implement a measles vaccination campaign was simply too risky.¹¹⁶

Other adverse outcomes, such as poor recovery and rehabilitation from mass injuries, have also resulted from unorthodox surgical procedures used in the setting of sub-par operating conditions. For instance, individuals who received surgery in Syria have shown up in Jordan without medical paperwork and with little knowledge or understanding of the operation they endured.¹¹⁷ This makes it extremely challenging for doctors providing follow-up care to decipher patients' medical histories and plan appropriate treatment. Adverse outcomes for trauma victims may also result from the inability to complete a series of surgical interventions. For instance, a patient might need numerous surgeries for a severe injury, however, if it is unsafe for the patient to stay in a facility for longer than a few hours, then the patient is at high risk for infection if moved to a setting with poor infection control.¹¹⁸

There is also a high possibility of patients succumbing to infection or complications after surgery. Apart from sub-par operating conditions, this may be due to shortened hospital stays and a lack of appropriate post-surgical wound care. According to Dr. Hariri, a Syrian physician who worked in numerous hospitals in Aleppo and now works for the Union of Medical Care and Relief Organizations (UOSSM), the length of stay in a hospital after major surgery in Syria was usually one and a half days. In the setting of the Syria crisis, patients are discharged after only one or two hours.¹¹⁹ In western countries, by comparison, standard care after major surgery entails a few hours in a post-anesthesia care unit with highly experienced nurses, followed by an inpatient stay of one to three days on an acute medical ward (with close observation for the first twelve hours), followed by discharge to a rehabilitation unit if necessary. During their stay, patients in western settings receive a robust round of intravenous antibiotics over the course of two to three days to keep infection at bay. In Syria, however, the severe strain on resources and capacity pushes comprehensive post-surgical care to the wayside. Given that the death rate after surgery ranges from 1.2 percent to 21.5 percent in Europe under good conditions,¹²⁰ one can only hypothesize the rates at which death occurs as a result of post-surgical complications in Syria.

MAP OF ATTACKS ON HEALTHCARE IN SYRIA

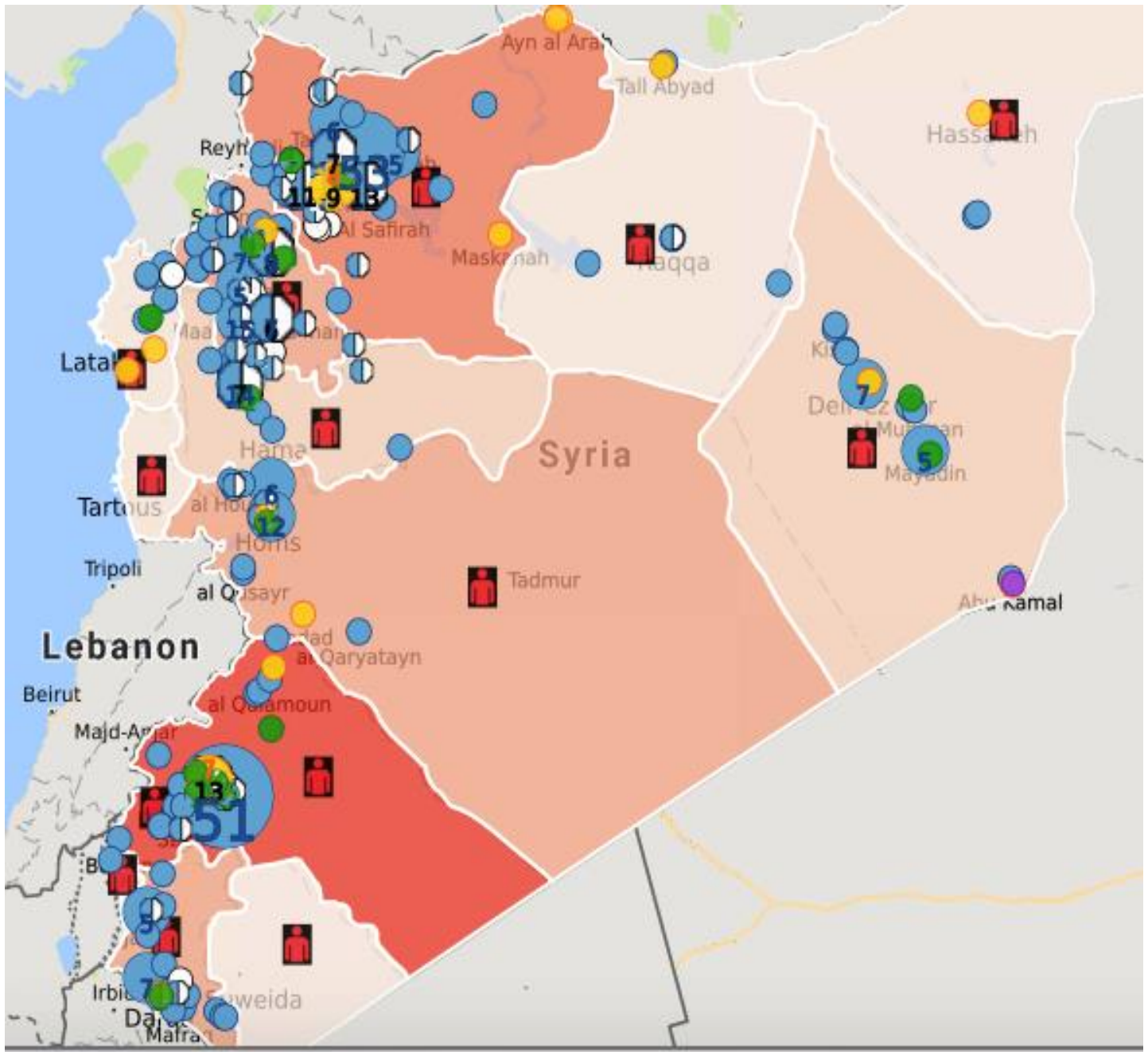


FIGURE 4 AREAS WHERE HEALTHCARE HAS BEEN ATTACKED IN SYRIA AS OF FEBRUARY 2018. BLUE DOTS REPRESENT ATTACKS BY PRO-GOVERNMENT FORCES AND YELLOW DOTS REPRESENT ATTACKS BY NON-GOVERNMENT FORCES. SOURCE: PHR, "ANATOMY OF A CRISIS"

LOCAL & INTERNATIONAL RESPONSES TO ATTACKS ON HEALTHCARE IN SYRIA

LOCAL RESPONSES – A PICTURE OF ADAPTATION & RESILIENCE

Healthcare workers have adapted in countless ways to survive ongoing bombardment while providing care. They have moved underground, built cave hospitals, innovated medical equipment, used tele-medicine and even started underground training facilities in an effort to provide some semblance of healthcare. Although the international community has attempted to end the attacks through repeated public condemnation, UN Security Council resolutions have been unsuccessful. Their failure has only further normalized the weaponisation of healthcare.

ADAPTATION OF HEALTHCARE FACILITIES: UNDERGROUND & CAVE HOSPITALS

Dr. Hariri reported how, early on in the conflict, medical staff learned to protect themselves by building “sacrificial floors” – two or three empty stories above their area of operations that could absorb the brunt of an attack.¹²¹ Medics built concrete walls around hospitals, covered all surfaces with sandbags and even began to change the colors of ambulances or camouflage them with mud.¹²²

When architectural fortifications were not enough, medics began building hospitals underground. The first system of underground hospitals in Syria, the Free Medical Association (FMA), was established by Dr. Mahmoud Mustafa in 2012 after much of Aleppo had fallen to the GoS.¹²³ Alseeraj for Relief & Development, an NGO that supports healthcare facilities throughout Syria, has also pursued this strategy. After one of their health centers was attacked five times in Ghouta, they were faced with the decision to either change location or enhance the security of the building.¹²⁴ They decided that since the top floors were already destroyed, they would be more secure if they stayed in the same location and built underground. As other Syrian medics noted in a report by The Syria Campaign, doctors worked with engineers and city planners to determine how to move operations and trauma care into basements, then began moving entire facilities underground just as schools and playgrounds also moved underground.¹²⁵ These underground facilities, given code-names like M10, were crucial by the time the GoS’ barrel bomb campaign began in 2013. By mid-2017, twenty-one underground hospitals had been built in opposition-held areas.¹²⁶

One of the most ambitious of these underground enterprises is Avicenna Women and Children’s Hospital, being built in Idlib under the direction of Dr. Khaled Almilaji, the chairman and CEO of Sustainable International Medical Relief Organization (SIMRO). Although a lack of funding interrupted the construction that began in October 2016, a crowdfunding campaign has set construction of the hospital back on track. It was scheduled to be completed this past May, 2018 and is comprised of two underground floors that include a large trauma area, twelve operating theaters, four emergency rooms, a post anesthesia care area, and an intensive care unit. An entire floor is devoted to the care of women and children.¹²⁷

Although underground facilities have offered some level of protection, Allen-Ebrahimian noted that “the more Syrian hospitals burrowed underground seeking protection, the harder Russian forces sought to hit them.”¹²⁸ Indeed, Mr. Ahmad Al-Dbis, the security and safety director of UOSSM, said that sometimes the local beneficiaries will not seek care at the cave hospitals because they believe it will be targeted.¹²⁹ All of this had fed into paranoia about whether or not to share hospital coordinates with the UN, since even after coordinates are shared, hospitals are still struck. Dr. Hariri believes that one of the hospitals his

organization supports was bombed after the coordinates were given to the UN, which he thinks were then handed to the Russian military.¹³⁰ Further, some medical workers have been hesitant to confirm or deny whether their hospital was struck, for fear of somehow playing into the regime's strategy of weaponising healthcare by confirming that a strike on a hospital was successful.

Opposed to other medical workers who do not want to publicize the coordinates of their hospitals, Dr. Almilaji believes hospitals will be better protected if they are high profile and if publicity focuses on the humanitarian work carried out at the hospital. He thinks that other hospitals being secretly built underground have been perceived as a direct challenge to Russia and the GoS. Instead, having nothing to hide in the building of a hospital (even if it is built underground), he claims that if Avicenna Hospital is highly publicized, it will not be perceived as a direct challenge to the regime.¹³¹

Along with building underground, health workers have also moved healthcare operations into caves. According to The Syria Campaign, the idea originated with Dr. Hasan Al-Araj, who owned Kafr Zita Specialty Hospital in Hama. When attacks on hospitals began to escalate, he built Central Cave Hospital in Kafr Zita with the support of numerous aid organizations. Fully equipped with sterilization equipment, operating rooms, an intensive care unit, pharmacy, lab, medical ward, X-ray facilities, and even ceramic tile floors, the hospital was built in roughly a year and cost about half a million dollars.¹³² Three more cave hospitals were built by mid-2017.¹³³ These hospitals have protected medical workers as they provide care for thousands of people and perform hundreds of operations each month, yet - even deep in the ground - these hospitals remain vulnerable to attack by bunker buster bombs and chemical weapons.

The GoS and Russia first began deploying bunker-busting, or BETAB-500 bombs in East Aleppo during the siege of 2016.¹³⁴ Designed to penetrate prior to detonating, bunker buster bombs are capable of blasting through thick layers of solid stone. Reports from the ground suggest that these bunker buster bombs were dropped on the cave hospital in Kafr Zita on February 1, 2018, rendering inoperable what had become known as the "safest place" in Syria.¹³⁵ Dr. Hariri stated that digging deeper into caves in order to withstand these bombs is difficult because the sophisticated machinery necessary for digging deeper is not available.¹³⁶

Underground and cave hospitals face other unique challenges, such as vulnerability to chemical attacks. Since gas is heavier than air, chemical gases like sarin and chlorine can penetrate deep into the ground. Hence, it is particularly important for underground and cave hospitals to have adequate ventilation and enough oxygen in case of a chemical attack. There have been instances, such as the attack at Latannah Hospital in Hama Province, when barrel bombs with chemical agents were dropped at the entrance and caused respiratory and neurological injuries.¹³⁷ Since the construction of underground and cave hospitals is also extremely expensive, Dr. Hariri believes that the best recourse is to build small health facilities that can be as mobile as possible. "There is no need for a 200 or 300 bed hospital," he said. "It's better to have a 10-bed facility and not put all your eggs in one basket because if you lose one facility, you lose some things but not everything."¹³⁸

Apart from fortifying healthcare facilities, Ahmad Al-Dbis has been integral in helping health workers improve safety and security measures for themselves and their patients. As part of an early warning system, he uses walkie-talkies to guide ambulance drivers on the safest routes and sends hourly updates to ensure that everyone knows which roads are open. He creates contingency plans where, previously, no emergency protocols ever existed. Mr. Al-Dbis also leads step by step safety and security training for the managers, directors and security personnel of health facilities, who in turn train ambulance drivers, doctors, nurses, mobile health teams, and even patients on safety procedures they can follow in case of an attack. Training is targeted to the specific needs of each group, for instance, ambulance drivers are trained

in how to safely navigate checkpoints and doctors are taught how to best protect themselves while operating on patients who have sustained chemical attacks.¹³⁹

ADAPTATION OF HEALTHCARE DELIVERY: NEW TOOLS, PROCEDURES & COMMUNICATION METHODS

Besides adaptations to healthcare facilities, medical workers have improvised new methods of operating when resources are scarce. Doctors have relied on telemedicine to train medical personnel, monitor critical patients, and even conduct complex medical procedures. The initiative to use telemedicine was started by SAMS in 2013 in response to a shortage of doctors and the onslaught of trauma cases requiring specialized training.¹⁴⁰ Using a system of webcams, monitors and Skype or WhatsApp, teams of doctors in countries outside of Syria work in shifts to monitor the care of patients requiring intensive care and to direct surgical operations. Dr. Abd al-Aziz al-Adel, a general surgeon who headed the health office in rebel-held Aleppo, said that apart from providing a golden opportunity to save lives, one benefit of telemedicine was that it could provide for continuity of care even if the patient was moved to a different facility.”¹⁴¹

Expanding the number of facilities that can use telemedicine, however, necessitates strong internet access and identifying medical workers who are willing to work beyond their scope of expertise in high risk zones – both of which are difficult to secure.¹⁴² The Teleradiology Relief Group, a group of radiologists around the globe who provide assistance to healthcare providers in Syria through the internet and social media, said that other limitations to the effectiveness of this work is that poor techniques, such as the lack of proper contrast dye – which is important for ultrasounds - can result in poor quality images that are very difficult to interpret.¹⁴³

Safeguarding the privacy of patient information is another key challenge in enhancing and expanding the use of telemedicine. In general, safeguarding patient privacy is one area that Dr. Almilaji said has been especially violated throughout the conflict – both with respect to the use of telemedicine and otherwise. “Privacy is everything,” he said. “Information about any patient on paper or in their records, or even information that is circulated verbally – that was really, really violated. We couldn’t consider the security issues – like, if anyone knew that this patient was in this hospital today – that would be a problem. This is a very high security issue that has not been considered at all. Nothing is protected regarding patient information... Privacy was not considered in the first seven years at all.”¹⁴⁴ Dr. Almilaji and his team are working to resolve this issue, not only as it relates to direct patient care, but also as it relates to the use of telemedicine. The more sensitive the patients’ information, or the more privacy that is necessary, the less interoperability doctors might have while trying to use telemedicine. Hence, Dr. Almilaji and his team are working to build a more secure online platform beyond simply using Skype or WhatsApp, wherein many other functions - including setting up shifts for doctors, sharing images, remotely supervising surgeries, and ensuring that only the patient’s clinical team can access the patient’s record - can all be integrated into one single, safe and secure platform that offers more ease in operability. “Our first concern is to protect the privacy of the patient while using the platform” he said. “We really need to know who’s seeing that data.”¹⁴⁵

Hard-pressed for resources when medical supplies are scarce or cannot be smuggled in, medical workers have improvised new ways and tools to perform routine medical care. Since intravenous fluids and blood transfusion products are usually deleted from aid convoys, Fouad et al. describes how health workers have devised a new way to make normal saline, added anticoagulants to urine collection bags in order to collect and store blood, and produced homemade external fixators for orthopedic operations.¹⁴⁶ One physician even began producing his own anesthetic and successfully used the drug on patients undergoing

caesarian sections. Shortages of medications and other supplies have also led to an adaptation of treatment protocols. Dr. Almilaji said that doctors have tailored new and very strict protocols based on available resources. To prevent individual doctors from feeling guilty about not giving a patient enough of one medication, they all agree to abide by the protocol, even if they know it might not work. For example, even though the standard protocol for prescribing Augmentin (an antibiotic commonly used to treat pneumonia), is 14 days, Dr. Almilaji said how doctors know that 90 percent of patients will recover with a shorter dose or will stop taking the medicine once they feel better. Doctors then adapt the protocol by prescribing a shorter course of Augmentin.¹⁴⁷ While this change to medical practice might be effective in the short-run during an emergency, there is a risk that this could lead to widespread antibiotic resistance. Indeed, a Palestinian colleague of this author who provided healthcare to Syrian refugees arriving in Jordan recalled how many of them were infected with strains of bacteria that were resistant to mainstream antibiotics.

Early on in the conflict, once medical workers realized that they could be criminalized, interrogated, tortured or even killed by the Assad regime for caring for protestors, communication and decision making between healthcare workers went metaphorically underground as well. To evade intelligence agents and security forces, doctors used numeric codes to describe injuries through phones that were linked to fake identification numbers or false names of dead people in order to reduce the risk of being traced.¹⁴⁸ Some patients were also given pseudonyms if they were particularly at risk for arrest. Secrecy was so thick that Mohammad Yasser Tabbaa, a co-founder of the Syrian Expatriate Medical Association (SEMA), said “There are some doctors, until now, after four or five years of working with them, I still don’t know their real names.”¹⁴⁹

New means of organizing and administering health and relief services also developed. According to Mr. Al-Dbis, the numerous local and international aid organizations supporting healthcare in opposition-controlled areas worked independently of each other from 2012 to 2015. In 2016, however, they realized that they needed to collaborate in order to avoid duplicating their efforts. Since then, around 47 local and international aid groups joined forces under the umbrella of the Syria Relief Network (SRN) to better coordinate and administer relief. Mr. Al-Dbis says this cooperative effort has been effective at saving money, completing thorough needs assessments, and delivering services to the people who need it most. Even though he is employed by UOSSM, being a member of the umbrella network enables him to serve where he is needed, such as with SAMS on a project south of Aleppo.¹⁵⁰ Mr. Al-Dbis added that, with financial backing from GIZ, a German development agency, UOSSM and SAMS also support eight health directorates throughout opposition-controlled areas. This project pays the salaries of medical staff, enabling them to continue working inside Syria. Although the health directorates have a good working relationship, the regime has attempted to damage their reputation by spreading lies about the doctors, claiming they are terrorists or that they support Jabhat al Nusra.¹⁵¹

ENSURING CONTINUITY OF MEDICAL KNOWLEDGE: UNDERGROUND TRAINING FACILITIES

The massive exodus of doctors from Syria has dismantled the pipeline of medical knowledge within the country. According to PHR, more than half of Syria’s doctors have left. Nurses, technicians and ambulance operators have fled as well. This brain drain is a nation-wide problem and not limited to opposition-controlled areas. A Syrian healthcare worker who worked in government-controlled hospitals said that the exodus of healthcare workers from government-controlled areas was originally a direct result of being targeted for providing care to protestors. Now, the exodus is due to an indefinite draft. He said that most doctors who finish their residencies are trying to leave the country to avoid forced conscription,

since an indefinite draft would mean losing hard-earned technical skills. The departure of these residents has placed significant pressure on those residents who have remained, increasing the lengths of shifts and workload. This problem persisted until 2017, when the School of Medicine in Damascus began mitigating their losses by increasing the number of students admitted into the residency program from 25 to roughly 100 students per year. The School of Medicine is itself reeling from the loss of faculty members who have also fled for their lives.

This massive brain drain spells huge challenges ahead for the training and certification of a new medical corps, which will take years to fully restore. In the meantime, responding to the health crisis has demanded that medical personnel work outside of their fields of training. Dr. Almilaji, who attended medical school for four years, was forced out of the classroom and into makeshift hospitals.¹⁵² He had planned to specialize as an ear, nose and throat (ENT) doctor but was unable to finish his residency due to the conflict, so he began working in the realm of primary care in Aleppo.¹⁵³ Dr. Hariri spoke of a urologist who performed a laparotomy.¹⁵⁴ Another expatriate doctor who worked in Aleppo spoke of how even barely trained medical students performed surgeries with the use of telemedicine.

Meanwhile, a handful of other Syrian physicians have poured their energy into developing underground training facilities in opposition-controlled areas. Dr. Hariri is one of them. A physician from Aleppo and director of the Aleppo City Medical Council, Dr. Hariri was trained as a general surgeon, but with the conflict, worked as a trauma surgeon and operated on thousands of patients along with his team in a network of makeshift hospitals.¹⁵⁵ Dr. Hariri now works with UOSSM to train medical students underground, though it is unclear whether this training literally occurs underground. To avoid detection from the GoS, the underground medical school is “scattered everywhere so there’s no exact place [of instruction].” “There are many branches in different places and we keep them hidden,” he said.¹⁵⁶ This is the 3rd year the medical school has been in operation and so far, 150 students are enrolled. He expects the first group of students to graduate by 2021 or 2022.

Although secrecy has safeguarded the school thus far, Dr. Hariri spoke of several challenges that could threaten the continuity of the program. The first is the conflict itself. “We are very concerned about our students’ lives,” he said.¹⁵⁷ Other challenges include securing enough funding for the faculty members, acquiring and maintaining necessary laboratory supplies, and securing enough experts to teach basic science courses.

Virtual training has been filling some of these curriculum gaps. Partnerships with the State University of New York (SUNY) at Albany and Yale University have helped provide this online education. Faculty members at Yale worked with the dean’s office to provide the Syrian students access to online medical materials. Yale and SUNY also collaborated to provide entire online courses and evaluate their effectiveness.¹⁵⁸ When asked about how the virtual connection for online training was going, Dr. Hariri said that it is going alright, but that even though they recruit high school graduates with excellent grades, translation is a “nightmare” since the students lack fluency in English. Now, the students are trying to learn English on top of an already very demanding medical training program in an extremely Spartan and volatile setting.

He went on to describe how the students are managing their studies in spite of the conflict: “They are studying very hard, using their mobile phones to study because they don’t have laptops. Laptops are a luxury; even electricity is a luxury for them. The internet for their phones costs them a lot. They download the lectures at the training center because they cannot download large files at homes.”¹⁵⁹ Massive electricity shortages, combined with the need to access and download large learning files from the internet means generators are in high demand. Yet, no matter how much the international community might try to help by sending supplies, the GoS or sanctions against Syria prevent the medical school from

acquiring much needed equipment. For instance, Dr. Hariri said that Microsoft donated 80 laptops, but sanctions prevented the school from receiving them. Even if Microsoft sent 200 laptops, “if the political situation doesn’t change, it will be of no use for us,” he said.¹⁶⁰

Further, Dr. Hariri said that the issue of accreditation still hangs in the balance. He implied that this was the biggest source of discouragement for students. “They believe they are risking their lives and losing their time by training and studying so much if they cannot be accredited doctors at the end of the program,” he said.¹⁶¹ Despite all of the other challenges, Dr. Hariri’s main goal is for the medical school to be fully accredited. He wants the school to at least meet the minimum standards so that his students can be recognized internationally as physicians – not for the purpose of exporting them out of Syria but for keeping them in the country to replenish the pipeline of medical doctors.¹⁶²

FACING ETHICAL DILEMMAS & THE IMPACT ON WELL-BEING OF MEDICAL WORKERS

Healthcare workers have innovated methods of coping with dwindling resources and mounting pressures in their quest to provide care, however, the constant strain undoubtedly leaves behind psychological and emotional wounds. A key challenge facing medical workers is that they find themselves the custodians of hope in the eyes of the people on the one hand and the object of suspicion in the eyes of the regime or armed groups on the other. The ethical dilemmas that emerge from this oxymoronic position entangles doctors in a web of decisions that are impossible to make without letting themselves down or shouldering loss. Caught in the crosshairs of battle; eating, sleeping and working 18-24 hour shifts in austere conditions; facing increasing responsibility and anxiety, doctors are prone to lose morale and are seemingly damned by one side if they discharge their professional duties and damned by the other (or themselves) if they do not. As one medical professional who worked in Aleppo said, “We don’t have time to be scared. We are being crushed like bugs daily, and the world has abandoned us.”¹⁶³

The ethical dilemmas that emerged from conversations with doctors working in Syria centered on being pressured by armed groups from both sides, being forced to triage and care for patients differently due to the dynamics of the conflict, and being limited in their consideration for sensitive issues involving gender and privacy.

Dr. Nidal, a Jordanian doctor and veteran humanitarian who worked at trauma hospitals with MSF near Aleppo, described being caught between the regime and Al Nusra, which operated close to the hospital.¹⁶⁴ Al Nusra was hostile toward the MSF team, urging them to hire people from among their group and trying to institute strict rules in the hospital. Although the MSF team treated their injured combatants, the staff refused to agree to the group’s demands. Al Nusra responded by killing one of the doctors on claims of slander.¹⁶⁵ The group also threatened colleagues of Mr. Abo Their in Eastern Ghouta. They had been urging a managing physician of a health center supported by Alseeraj (a humanitarian aid organization), to help injured Al Nusra combatants on their base. Alseeraj had already instituted a policy, however, that forbid doctors from leaving the health center to treat anyone off-site. Al Nusra kept pressuring this physician, but he refused and insisted that their injured come to the hospital as civilians without weapons. Interpreting this as an act of defiance in a territory under their control at the time, Al Nusra detained the physician for three months.¹⁶⁶

In general throughout the conflict, doctors have used a war medicine triaging system, wherein victims are triaged as black, red, green or yellow. Those marked black are usually mortally wounded, dead on arrival, or the necessary resources to save them are unavailable. Those marked red receive immediate priority and are in need of immediate life-saving care. Yellow is given to those needing urgent attention but whose injuries are less critical. Green is given to the walking wounded, or those with injuries that are not

immediately life-threatening. According to a trauma care physician who worked in Aleppo, even this triage system was altered due to the severity of the conflict. “Triage just gets more extreme - black gets to be more inclusive...reds become a different group altogether,” he said. If triaging black is more inclusive, this means that either he has treated an onslaught of victims who have little to no chance of survival, and/or the medical supplies that could save them are unavailable or in short supply. The ability to recognize when a patient crosses the threshold from red to black takes time and intuition that can only be gained from experience, since every person’s physiological response to traumatic injury is different. When primary care doctors, who are typically unaccustomed to making these types of life and death decisions, are thrust into the role of trauma care doctors performing war medicine triage, they undoubtedly face an overwhelming force of pressure and responsibility. Additionally, Mr. Abo Their recalled how after a recent attack in Eastern Ghouta, an Alseeraj-supported health center with only three doctors was inundated with more than sixteen victims at once, among whom were cases involving chlorine gas. With such a small team, the doctors could not attend those with less chance of survival. Short on medicine and equipment, sometimes all they could do was offer victims water.¹⁶⁷ Critically wounded patients who are impossible to identify are moved to a room or a home where other civilians or a nurse cares for them, according to Dr. Hariri. There is no time to contact the families of these patients.

In Dr. Almilaji’s experience, most ethical violations are made in the trauma area when the person first arrives at a hospital. In this setting, safeguarding patient privacy and dignity stood out to him as an area that really suffered. In a conservative society where the genders do not often mix, he said that it was especially difficult to protect the privacy of the medical records of female patients. “For us this was really horrible,” Dr. Almilaji said.¹⁶⁸ And although he did not provide much detail, he said he would not have been comfortable with some of the medical procedures if the patient being treated had been his sister, mother or child. Mr. Abo Their added that earlier in the conflict, between 2014 and 2015, some pregnant women or their families refused to be examined or operated on by a male physician. This became a problem when the last obstetrician in Eastern Ghouta was a male. Placing a high value on female virtue, some families of pregnant women who needed caesarian sections chose to risk the lives of both mother and baby rather than be examined by a male obstetrician.¹⁶⁹

Physicians also described some of the psychological and physical ramifications of dealing with these kinds of pressures and ethical dilemmas. Dr. Nidal, who has also worked in some of the toughest conditions in Yemen, Iraq and South Sudan, said that the worst of his missions was in Syria. Like many other doctors who completed cross-border missions from Turkey into northern Syria, he would stay for three to seven days, working 24 hour shifts every other day. However, since his specialty was in high demand, he often worked 24 hours straight for an entire week, then took a two day break before returning to work, keeping this pace for two months at a time. This grueling pace took a toll on Dr. Nidal, and he developed an illness from which he still suffers.

Dr. Nidal described how others on his team grew psychologically ill from the stress, noting how an Australian teammate developed depression and began drinking heavily. MSF, who Dr. Nidal said kept a close watch on the behavior of their teams and intervened when necessary, immediately evacuated the Australian. MSF also provided the medical teams with the phone number of a volunteer psychologist, who could be reached by satellite phone when needed.¹⁷⁰ Although this field support and mandatory visits with a psychologist at the end of the mission were helpful, Dr. Nidal feels discouraged now that he has settled back into his normal routine. “No one asks about you, your health, and what you are doing. It’s a lonely feeling,” he said.¹⁷¹

An added challenge for Dr. Nidal and his team was that, after their hospital suffered a direct strike from the regime near Aleppo, he and the other expatriates were evacuated from there to Kilis, Turkey. They left

behind twenty or so local staff and attempted to supervise the operation of the hospital via radio from Kilis. However, the regime's offensive intensified shortly thereafter, and Dr. Nidal lost touch with the local team left in Aleppo. He has no idea how they continued to provide medical care or how long the hospital continued to function.¹⁷² Though he did not speak directly about this, one can infer how challenging it must have been for a team comprised of both expatriates and locals, who had worked in harmony with each other, to suddenly be split in two. The expatriates would have likely felt guilty about leaving since they had a free ticket out while their comrades did not. Arguably, their leaving would have been even more demoralizing for the local staff who were left to fend for themselves.

The physician who provided trauma care in Aleppo, and who spoke on condition of anonymity, said that his team coped by sticking together and staying close. Even though they worked 14 to 18 hour shifts for two to three weeks straight, he said there was good camaraderie among the group. "There's nothing like this that gels people together despite different ideologies," he said. For his team, just having a shift schedule was a luxury. On an individual level, however, this Christian physician coped by depending on his faith and simply not talking about the enormous challenges he faced. "The less you talk about it, and the less people know, the better," he said.

Mr. Abo Their also discussed the importance of the psychological toll the conflict has on medical workers. He said it was imperative for medical workers to be able to cope psychologically if they chose to work in this kind of setting. "It makes a difference because this affects everything – your work, your agency, everything. It's not easy at all. When everything around you is going crazy, you have to avoid having any emotional feelings, paranoia or panic attacks. You have to know yourself," he said. He believed that psychological care and breaks were essential to the longevity of this work, stating "Even the most important guys on the field have to take a rest. Even if they believe that rest is not important for them, and that they can complete their work and help more people, my point is, that without rest, we will lose these guys. Anyone who is exhausted or tired can't give. He will be angry and unmotivated. But if you want to give more, take a rest."¹⁷³ While he thinks that all medical workers should receive psychological support, they are simply not getting it right now.

Dr. Almilaji also claimed that spiritual beliefs have been essential for medical personnel to stay the course, but so too, has desensitization. At first, he and his colleagues were motivated by the belief that they would be rewarded for doing the right thing in staying behind to provide care. But case after case of witnessing carnage, "you get used to it," he said. He went on, "You know – at first I used to hear the missiles a couple of meters above our house in Aleppo – and we only had one floor above us [an indication of less security]. The first time I thought 'wow' and couldn't sleep. But then after that it became normal. So weeks and weeks later, you stay because you become desensitized and lose the feeling of horror."¹⁷⁴

Being forced to make difficult choices while in a constant state of psychological distress and physical hardship undoubtedly undermines morale.¹⁷⁵ In this context, it is reasonable to wonder how long healthcare workers can withstand this level of duress without appropriate psychological support. An added danger may lurk around the issue of desensitization. Is it possible that the longer physicians are forced to adapt healthcare delivery to the changing dynamics of the conflict, the more this might subconsciously and inadvertently contribute to the normalization of violence against healthcare? Could a growing desensitization somehow further cement the normalcy of these attacks and diminish the urgency to end them?

MIXED RESPONSES FROM THE INTERNATIONAL COMMUNITY

RESPONSE OF THE UN

This report discusses the international community's response to attacks on healthcare in Syria mainly as the response of the United Nations, the institution vested with the maintenance of international peace and security. What steps has the UN taken to reduce attacks on healthcare in Syria and what has been the result?

The UN has issued numerous resolutions in an attempt to end attacks on healthcare, but these have failed. Chief among these resolutions is Resolution 2286, issued on May 3, 2016, which strongly condemned “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 hospitals and other medical facilities” and demanded “that all parties to armed conflicts...ensure the respect and protection of all medical personnel and humanitarian personnel.”¹⁷⁶ Resolution 2286 has failed. According to a report by SAMS, the rate of attacks on healthcare in Syria actually increased by 89 percent or once every 29 hours, after this point.¹⁷⁷ Further, nearly 80 percent of the attacks on healthcare in Syria that year occurred *after* the resolution was issued.¹⁷⁸

In October 2017, the president of the ICRC, Peter Maurer, called on states to urgently uphold Resolution 2286 by better documenting the attacks, scrutinizing military doctrine and operations to ensure respect for healthcare facilities, ensuring that domestic legislation regarding the delivery of impartial medical care aligns with IHL, and engaging in bilateral dialogues with ICRC on the issue.¹⁷⁹ This blueprint of action items, however, was nearly the same as the blueprint offered in 2014 by the ICRC.¹⁸⁰ In the span of those three years, the healthcare situation in Syria has only worsened. The only way this resolution and others like it can be upheld is if all states party to the conflict respect the Geneva Conventions to which they are bound. The issue is that the Syrian regime and its ally, Russia, have largely violated every UN sponsored ceasefire and resolution directed at reducing the suffering of civilians and attacks on healthcare. The resolution is thus meaningless if every other state complies except for the main parties to the conflict.

Shortly after Resolution 2286 was issued, 9,000 participants from NGOs, the private sector and 180 Member States of the UN came together at the 2016 World Humanitarian Summit (WHS) in Istanbul. There, they pledged to move the Agenda for Humanity forward, a key component of which is to “uphold the norms that safeguard humanity.”¹⁸¹ Leaders at the Summit ultimately agreed to champion the norms that safeguard humanity by upholding the rules of war.

In the lead-up to the WHS, a lack of accountability for perpetrators led international actors to push for greater respect for IHL. Secretary General Ban Ki-Moon suggested increasing support for the International Criminal Court (ICC) and creating a monitoring mechanism to serve as a ‘watchdog’ that would “systematically track, collect data, and report on trends on violations of IHL, gaps in compliance and accountability.”¹⁸² Though largely open to this idea, at the 32nd International Conference of the Red Cross and Red Crescent in December 2015, States could not agree on the principles and scope of such a mechanism. Primarily concerned with safeguarding sovereignty, States instead committed to keeping the door open to the concept by continuing to hold consultation forums. As guardian of the Geneva Conventions, the ICRC continues to lobby for these forums especially since, unlike most laws, the Geneva Conventions do not have a built-in review process.¹⁸³ ICRC president Peter Maurer was encouraged that many States have started to engage in dialogue about their concerns over violations of IHL.¹⁸⁴ Despite the lack of progress on the compliance mechanism, however, a clear message was sent to the WHS, that humanitarians were serious about upholding the rules of war that protect human dignity.¹⁸⁵

Prior to the WHS, extensive consultations in the MENA region also revealed a consensus on the need to bring perpetrators of IHL to justice. MENA stakeholders called on the League of Arab States and the Organization of Islamic Cooperation to speak out against violations. Many criticized the Security Council for failing to maintain peace and security, suggesting that veto power be banned when deciding on humanitarian issues. Several key stakeholders discussed the possibility of invoking the Responsibility to Protect (R2P) doctrine and highlighted the need for humanitarians to receive specialized training to effectively negotiate with parties to the conflict, with the hope that this could improve outcomes for safeguarding medical facilities.¹⁸⁶

At the Summit itself, discussions about attacks on healthcare circled back to the importance of strengthening respect for IHL as the key to safeguarding civilians and medical missions.¹⁸⁷ Many participants issued commitments “to promote and enhance efforts to respect and protect medical personnel, transports and facilities, as well as humanitarian relief personnel and assets against attacks, threats or other violent acts.”¹⁸⁸ Overall, there were 183 commitments related to the safe operation of humanitarian and medical missions.¹⁸⁹ While the majority of commitments were somewhat generic, there were some concrete ones directly related to protecting humanitarian and medical missions in conflict zones, including in Syria. For example, ACF International pledged to create a rapporteur to deal specifically with the protection of aid workers.¹⁹⁰ Belgium promised to try to end the Syrian government’s arbitrary withholding of consent for the passage of humanitarian relief, a huge barrier for cities under siege in Syria that cannot technically be labeled “siege” cities if access roads (which are arbitrarily closed) still exist.¹⁹¹ Austria offered a series of some of the most concrete commitments, including training foreign armed forces in laws protecting medical personnel and promoting fact-finding missions to track attacks on healthcare.¹⁹²

In spite of these commitments, many humanitarians were discouraged that few actionable steps were taken to address the attacks on healthcare in Syria. For many, the test of the Summit’s success was whether it would change the lives of civilians who undergo constant threat of bombardment. Though commendable, The Brookings Institution dubbed a statement by 24 States affirming the importance of IHL as lacking real teeth while hospitals continued to be bombed.¹⁹³ Even at the outset of the Summit, hopes were dashed when MSF refused to attend. Pointing out how 75 of its hospitals had been bombed the year before, MSF called the Summit a “fig-leaf of good intentions,” lamenting it for ineffective, non-binding commitments and for essentially allowing mass violations to be ignored.¹⁹⁴

The 23 Syrian NGOs who attended were shocked by the overwhelming silence on Syria. Executive director of Baytna Syria described it as follows: “We keep hearing from the UN that Syria represents the biggest humanitarian crisis since World War II, so one would think Syria would be at the center for the first ever humanitarian summit, yet it was completely neglected.”¹⁹⁵ More than 80 Syrian NGOs responded to what they saw as a completely inadequate response by putting forward a series of wide-ranging recommendations. With respect to the targeting of medical and relief workers, they called for revisions in the Security Council voting system on matters pertaining to humanitarian affairs and for Security Council resolutions to include implementation and accountability measures that would be enforced.¹⁹⁶

Although the Summit may not have made many gains for the protection of healthcare in Syria, at the very least, it appeared to achieve broader consensus on the importance of respecting the rules of war. The crux of the matter, however, remains in convincing States party to a conflict to uphold IHL and bringing violators to justice. Exactly how to do this remains ambiguous, since enforcement action taken by the Security Council could infringe on the fundamental principles of state sovereignty and non-intervention. Further, there is no system to hold perpetrators accountable. As Dr. Ghanem Tayara, an International

Chairman of UOSSM said in response to a string of attacks that occurred during the 2017-2018 holiday season, “It’s shameful that there has never been a formal prosecution for these war crimes and it severely undermines the UN’s credibility.”¹⁹⁷

ALLEGATIONS OF UN COMPLICITY

Mr. Abo Their, who eventually became the CEO of Alseeraj for Relief and Development in Turkey, expressed grave concern about the lack of neutrality in the UN and other organizations. “There are no good people inside the international NGO offices in Damascus. There is a lot of corruption inside the offices in Damascus,” he claimed.¹⁹⁸ Mr. Abo Their has been looking into the activities of WHO and the World Food Program (WFP) for the last two years. He alleged that WHO had been supporting the blood bank in Syria, but that during the conflict, the blood bank came under the control of the Ministry of Defense instead of the Ministry of Health. So, while WHO sent supplies such as blood bags to the blood bank through WFP, these supplies were allegedly diverted to the [Syrian] military units. “I don’t think WHO actually knows what’s happening,” he alleged. “They think they are helping a blood bank and that’s it.”¹⁹⁹

There is disagreement among local Syrian aid workers, however, about which government entity actually controls the blood bank. Another Syrian healthcare worker, who spoke on condition of anonymity, claimed that since its establishment in the 1940s, the blood bank has remained under the authority of the Ministry of Defense and was never under the Ministry of Health. If the control and distribution of blood products has always been under the political and military arm of the regime, then it would be hard to wrest it from its grasp and place it in the hands of humanitarian-minded civilians during times of conflict. Although WHO claims they have demanded that blood products be delivered to both sides of the conflict and that their protests have been ignored when supplies were blocked from opposition-controlled areas, a Fox News article by George Russell and Annie Sparrow suggests that this public portrayal of impartiality is simply a fig leaf. Rather, the article alleges that during the conflict, WHO apparently served as a go-between for the GoS and Abbott (a global health care company based in Chicago) in the procurement of blood bank supplies for the GoS. This occurred, the article claims, after EU and US sanctions against Assad would have impeded the GoS’ direct purchase of blood bank supplies from Abbott.²⁰⁰

These and other accusations of UN complicity have done little to help the delivery of healthcare in Syria, or at the very least, the public’s perception of the issue. A report by The Syria Campaign presented a compelling case of how the UN has forfeited the principles of independence, impartiality and neutrality by bowing to demands and threats from the GoS since the siege of Daraa in 2011. When the GoS threatened to withdraw the UN’s ability to operate and visas for expatriate staff if the UN provided aid to Daraa, the report says that “UN agencies did not unite or set out red lines or conditions for their cooperation with the Syrian government. Rather, they chose to accept the government’s constraints on their operation. As a result, a culture of compliance was born.”²⁰¹ Even though the GoS relies heavily on the UN, the UN’s failure to use their negotiating power and international clout enabled the GoS to dictate the terms of agreement, and manipulate UN machinery in accordance with its political aims. While the UN judged that close relations with the government could improve humanitarian access, the report alleges that the opposite has happened. Most concerning now is, years into the conflict, the UN has shown few indications of learning from these lessons, and has never, according to The Syria Campaign in 2016, “assessed how far it has strayed from its principles.”²⁰² An article by The Guardian written the same year also gave further evidence of the UN propping up the GoS by channeling millions of dollars to government-related charities and Syrian businesses that are sanctioned by both the US and the European Union.²⁰³

In response to frustrations with the UN and months of impeded aid delivery to besieged areas, a coalition of 73 aid groups announced their intent to withdraw from the Whole of Syria program. This program is the UN's mechanism to coordinate and share information about the overall humanitarian response in Syria.²⁰⁴ Organizations providing life-saving healthcare and search and rescue operations were among the coalition.

RESPONSE OF THE U.S. AND MAJOR DONORS

The United States has historically been a major funder of humanitarian assistance, however, the Trump Administration's blueprint budget for 2018 reduced funds for both USAID and the State Department by 28 percent from the previous year.²⁰⁵ As a result, USAID anticipates closing 30 to 35 of its field missions and cutting global health funding in 41 countries.²⁰⁶ The Overseas Contingency Operations budget, which is designed for "extraordinary costs, primarily in war areas like Syria, Iraq, and Afghanistan"²⁰⁷ and comprises roughly 32 percent of the budget for USAID and State, has also been reduced.²⁰⁸ Altogether, these reductions result in a shortfall of \$8.8 billion for all diplomacy and development programs.²⁰⁹

Numerous other challenges and policies impede the extent to which the U.S. and other key donors support healthcare delivery in opposition-controlled areas in Syria. USAID has become wary of relying on implementers and their subcontractors to provide cross-border relief into Syria after a 2017 investigation exposed widespread fraud in cross-border programming. These abuses included "procurement fraud, product substitution, bid-rigging, and kickback schemes,"²¹⁰ and "collusion between vendors and implementers...inflated billing, and false claims."²¹¹ As a result, USAID suspended \$239 million that was meant for humanitarian programming in Syria and also warned the Office of Global Health about relying too much on implementing partners.²¹² This sum is significant, given that so far this year, the U.S. has only given 11.9 percent (or \$76.6 million) of the \$643.5 million in total funding for humanitarian assistance in Syria, according to Financial Tracking Services.²¹³ Moreover, the majority of these funds are allocated to UN agencies, such as WFP, while only 9.8 percent of the overall funds is allocated for NGOs and Red Cross agencies operating in Syria.²¹⁴ Accordingly, one can infer that the pool of funds available for local healthcare responders who operate outside of the UN system is much, much smaller.

Another challenge pointed out by The Syrian Campaign is that donors are slow to fund ongoing adaptations to medical care because building cave and underground medical facilities is generally regarded as development work and not within the realm of humanitarian response.²¹⁵ Although two categories are typically funded separately, it is often difficult to distinguish the lines between humanitarian and development work in a protracted humanitarian emergency.

International and local support of healthcare response and direct access to civilians is also curtailed by a series of national and international counterterrorism laws. The U.S. Patriot Act of 2001 is but one counterterrorist law designed to impede the financing of terrorists, however, millions of dollars designated for aid agencies working in conflict zones have also been blocked without adequate explanation.²¹⁶ According to Thomson Reuters Foundation, which surveyed 21 NGOs operating in Syria, a quarter of respondents' bank accounts were frozen and three quarters of respondents said payments to their accounts had been delayed or blocked since the start of the crisis in Syria. Western Union, the money transfer system used by NGOs to pay cash salaries to doctors, drivers and other staff, has also delayed or blocked these payments to staff who live close to the Syrian border.²¹⁷

Donors have also required more in-depth audits and stringent compliance measures since the rise of ISIS. This has raised operating costs and severely hampered the effectiveness of NGOs, such that the workload increased by an average of 7,000 extra man hours per charity.²¹⁸ Additionally, international NGOs inside

Syria which formerly operated in areas nearby terrorist groups risked being blacklisted or even prosecuted for providing material support to terrorist groups if humanitarian funds were inadvertently diverted. Some NGOs have been forced to avoid working in these areas altogether, severely limiting the ability to reach and assist civilians in-need.²¹⁹

RESPONSE OF MSF

The contributions of MSF are briefly touched on here, since the organization has played a key role among the INGOs providing healthcare in Syria. MSF has been involved since the beginning of the conflict, but its standard protocol of supporting existing health systems and setting up emergency medical care has had to adapt drastically to the unique context. It has been challenging for MSF to adapt its standard of providing the best level of care in any context with what is feasibly possible in such a constrained, politically-charged, and resource-limited setting in Syria.²²⁰ For example, many facilities supported by MSF must now operate in low-profile, hidden locations with limited bed capacity to avoid being targeted. At the same time, security measures that would better safeguard medical facilities have had to be cut short so as to not disclose the existence of a medical facility.²²¹ The organization has also been developing plans to decentralize medical services, wherein services for more stable patients will be housed in separate facilities from services for critical patients.²²² While these adaptations may have reduced the risk of attacks, they have also limited the ability of civilians to locate and access services that are intentionally kept hidden, and have also impacted the type of services and level of care that are provided.

Although MSF typically employs both national and international staff, the increased rate of violence against health workers has prompted the organization to greatly reduce the presence of international staff in Syria. This has meant that MSF has begun to take on more of a supportive role of other Syrian providers in the medical network rather than be a direct provider of care.²²³ Typically, MSF is one of the only healthcare providers leading the way to provide medical care in a conflict zone, but in Syria, it is one among many medical actors, a role that has been challenging for the organization.²²⁴ These issues are emblematic of those that limit the operations of other INGOs involved in healthcare delivery in Syria, which points once again to the significant role and responsibilities that local responders must bear.

HEALTHCARE WORKERS' PERSPECTIVES ON THE RESPONSE OF THE INTERNATIONAL COMMUNITY

The healthcare workers who were interviewed by this author were asked how the response of the international community has been helpful or harmful to the healthcare situation in Syria. Although they were asked specifically about healthcare, their responses circled back to the politicization of humanitarian aid more generally - a hallmark issue of the crisis in Syria.

Though interviewees did have some positive things to say about the helpfulness of the international community, these were minimal at best. One doctor said, "they have done one thing – listen to us, and that's it." Another healthcare worker was appreciative of the support that some INGOs have offered, saying "without them, we wouldn't have had any power to do anything. We wouldn't have had the resources to do anything – to bring doctors into the area and to bring medicines in." Among international actors involved, MSF received the most accolades. "MSF were our best people," one doctor said, "because they were not swayed by any politics or influences or alliances and they were always just coming to help us." Another doctor concurred that MSF "is doing a really great job helping health centers in besieged areas." An expatriate trauma doctor liked the MSF practice of working with locals in danger zones and placing expatriate staff outside of the "messy areas" to manage the situation from a distance.

With regard to the UN, the most positive statement was given by a doctor who said that since UN agencies are more affiliated with local NGOs, “UN agencies can sometimes be good partners for local organizations because they facilitate funds more easily for them than international NGOs can.”

Overall, however, healthcare workers were deeply disappointed with the ineffective response and the lack of concern shown by the international community – their poignant responses were tinged with an almost palpable level of frustration. When asked what the international community had done to help, one Syrian healthcare worker said, “Nothing, not any benefit. They are only afraid and worried... The silence caused a lot of harm... You know, the regime used chlorine, napalm, sarin, barrel bombs and all kinds of weapons in Syria. Many of these weapons are criminal and don’t respect the laws of war. Nobody stopped the regime,” he said.

“I can’t say I’ve ever observed much support from the UN. I must say that I’ve been disappointed with any global group players,” said a doctor who provided trauma care in Aleppo.

The Syrian physician who said that the only thing the international community had done was listen then added: “Listening is not enough. I’ve met with De Mistura and more than thirty of the Security Council members... I’ve been in the State Department and the White House many times and nothing happened. I will never enter into the State Department again because they are liars. ‘We cannot promise you anything,’ they say. So what, then? Why are you meeting with us? We don’t like to meet with anybody because all of them are liars. We are totally pessimistic and feeling down from these politicians... We are depending on the people now.” This physician went on to say how he and his colleagues expect very little from the US in particular – “You know, your president said ‘maybe if Assad used new chemical weapons, we might act.’ We are sure that your president will do nothing. Syrians expect that at least someone will take care of them. We need to protect innocent people, innocent children.”

Another Syrian health worker recalled a serious issue with a UN convoy in 2014. The convoy was meant to deliver aid to Eastern Ghouta and parts of Damascus, and ICRC delegates were said to have observed the delivery of the aid. The health worker alleged that the convoy actually went to areas under regime control near Damascus, and not to Eastern Ghouta. The health worker believes that this was a setup by the regime to show the world that the dire situation portrayed on the media is fake and that there are no problems near Damascus. He went on to say that a high-level member of WFP in Syria is the wife of a Syrian foreign minister. “If this is the case,” he said, “how can I believe WFP is neutral?”

Another Syrian health worker’s sentiments were similar: “The problem with the UN is their affiliation with the government of the country. So if the government is the reason for the problem, we will lose the UN... [the UN] might sometimes be biased toward the Ministry of Health, which might jeopardize access to health for people. We need to fix this.”

Although another Syrian doctor acknowledged the sensitive situation of aid organizations working in close proximity to the government, he said that the UN has “become very hesitant to do the right thing.” For example, “When ISIS was violating human rights, the UN was very clear [about the unacceptability of these actions]; but when speaking about the regime and states in general, their role has not been clear.” This doctor then expressed concern about how the aid industry has, even if inadvertently, placed large sums of money into the hands of oppressors. “Through the UN, millions of dollars are being channeled to the governments’ pocket every year in different ways. Just look at the Four Seasons Hotel – how much of the money being spent there by the UN is being channeled to the government? We haven’t even started analyzing the impact of the aid that is supposedly meant for besieged areas.”

This doctor thinks things would likely be far different if the UN did not have offices in Damascus. “That would have a lot of impact,” he said. “Because at the moment, micro warlords – or people who can benefit from conflict because of their relationships and their ability to cross lines – those people are now benefiting more from the UN, either directly or indirectly. If you look into Syriatel and MTN Syria [the two mobile operators in Syria, one of which is run by Rami Makhoul, a target of EU sanctions²²⁵], how many hundreds of thousands of dollars are being channeled through their contracts into the conflict? How much of the aid is actually going to the people in need? You really have a lot of challenges trying to assess this from the UN and the reports of other organizations. You cannot 100 percent say that all of the aid went to the people who needed it,” he said, then added that although the aid industry has “clean” and “dirty” sides, he thinks that international aid has done more harm than good in Syria.

Themes that emerge repeatedly from desk research and responses of healthcare workers are not only the powerlessness of the international community to prevent attacks on healthcare and civilians, but the inability and lack of political will to effectively provide or support the delivery of humanitarian relief. Similar to the healthcare workers interviewed for this report, the UN and other international aid organizations are also placed in extremely challenging situations. Their ability to operate in-country with the permission of the government has come at a high cost. Numerous accounts of alleged complicity or of international aid organizations having to work under the close watch of the regime risks sending the signal to the humanitarian community that setting aside the core humanitarian principles of neutrality and impartiality is acceptable, and even necessary, in complex emergencies. Since every complex humanitarian emergency is political, it is likely difficult for humanitarians to be purely neutral and impartial without making the tradeoffs that mark them as complicit. If this continues to be the case, however, could humanitarian members of the international community also risk losing sight of their core tenets to respect the humanity of all people and to restore dignity to victims?²²⁶ Despite the good intentions of providing aid, what does a hesitancy, or inability, “to do the right thing” mean for the future of humanitarian action, especially if the UN is at the helm?

While these questions cannot be fully explored here, the crisis in Syria marks a watershed moment – not only for the future credibility of the laws of war designed to protect civilians and aid workers in conflict, but also for the future of humanitarian action and the capacity to which humanitarians can (or even should) operate in extremely delicate situations. Clearly, the status quo of international humanitarian aid is not working in Syria. Indeed, critics assert that aid actually spawns the suffering it is meant to redress, a central premise put forward by Phillip Gourevitch in his 2010 critical analysis of the humanitarian aid industry. Although his point holds some truth, it does not mean that the international community can just give up. The world in which humanitarians are flung is imperfect. The humanitarian system was never deliberately engineered to meet ever-increasing humanitarian needs; rather, it has evolved over time in response to needs and the changing conflict dynamics that create those needs. Greater shared responsibility and respect for IHL are necessary if humanitarians are going to fulfill these responsibilities. Until the overwhelming majority of recipients refuse offers of humanitarian assistance in times of need, the international community must never be derailed from alleviating unnecessary suffering.

The local healthcare workers who bear the brunt of responsibility to support their fellow man when the international community has failed them should never have to utter such cutting criticisms again. It is time for a new paradigm of aid delivery that involves creative solutions to bypass the constraints of limited or no access to people in need, and which works in tandem with a justice system that holds perpetrators accountable.

RECOMMENDATIONS

Interviewees were asked what advice they would pass on to healthcare workers if a conflict like the one in Syria were to break out in another country. The goal behind this question was to derive core lessons learned from these healthcare workers' experiences that could advise the delivery of healthcare in current and future complex emergencies. Interviewees were also asked what they wished the international community would do as it related to healthcare in Syria. The latter question mostly received statements expressing frustration about the lack of effective response, which were discussed earlier in this report. The following recommendations, which incorporate the responses of interviewees to these questions, are directed to members of the international community intent on supporting the continued delivery of healthcare in Syria.

TO MEDICAL INSTITUTIONS AND MEMBERS OF HIGHER EDUCATION

I. SAFEGUARD MEDICAL KNOWLEDGE & THE PIPELINE OF MEDICAL PERSONNEL

Syrian physicians and aid workers have repeatedly emphasized the importance of medical education and safeguarding the pipeline of medical personnel as critical to the continuation of medical care in conflict zones. "Education is more important than relief, more important than my bread and my food and my drug," one Syrian physician stated. "Without education, people will become militants – there is no other option...Start as early as possible to build up a new generation of healthcare providers...you don't want to have a situation where there is no doctor," he said. At the very least, people affected by this conflict should be trained in first aid because, as highlighted by a Syrian health worker, "you don't know when you might see someone who needs your help." A Syrian doctor who lost his opportunity to complete his medical residency in Syria claimed that it is more critical for medical students to remain in school than it is for them to leave school in order to provide immediate help during the conflict. Failing to complete medical school has become a huge problem for many medical students who now cannot be hired as a physician by any organization, even if they have field experience. The key, however, with safeguarding medical knowledge and capacity building, "is finding people, not money or facilities," said another Syrian health worker. "Because if you have a hospital without a doctor, what use is that?"

With this advice in hand, medical institutions and members of higher education around the world are strongly urged to consider how their institution can partner with underground medical schools in Syria to provide support and accreditation. First, institutions should explore how, and the extent to which, these underground schools could best benefit from a partnership. This could entail providing online training courses and materials that students can download onto their computers or cell-phones. It could also entail sending professors to teach semester-long courses of the basic sciences to fill in gaps in the curriculum. Institutions are encouraged to follow the model established by Yale and SUNY, which have led the way by providing free online courses for Syrian students attending underground medical school. If sanctions are lifted, or if the grip by the regime softens on opposition-controlled areas, institutions can support these medical schools by supplying equipment such, as computers and laboratory technology.

Most critically, a partnership should work toward accreditation for these underground schools without sacrificing the quality or standards required for thorough medical training. Doing so will move medical students one step closer toward obtaining the certifications they need to be recognized as practicing physicians. Even if these graduates are not recognized by the Syrian government itself, perhaps they could practice under the umbrella of INGOs serving in Syria as long as their education is accredited.

Accreditation could also ensure that these graduates have a better chance at securing a job elsewhere, if necessary.

Medical institutions can also collaborate with NGOs to support the provision of basic medical training for patients and their care-takers. This would involve training programs that teach the basics of first aid, psychological first aid, infection control, and maintaining good nutrition. This programming is especially critical because patients are often discharged prematurely and doctors and nurses have limited time to spend with them. There is simply not enough time to adequately educate patients about caring for themselves at home. This results in a knowledge gap during the recovery phase, wherein patients are at increased risk of succumbing to their injuries.

II. PROVIDE TECHNOLOGICAL EXPERTISE TO IMPROVE TELEMEDICINE PLATFORMS

Medical personnel are increasingly relying on the use of telemedicine to conduct surgical procedures when specialists are not readily available. As discussed earlier by the physician building the largest cave hospital in Idlib, the technological platform for telemedicine needs further improvement so that it is more interoperable and so that patient privacy is protected. Developments in computer science and cyber technology can be channeled into this initiative in order to ensure the security of private information.

III. DESIGN ACADEMIC FELLOWSHIPS FOR SYRIAN MEDICAL STUDENTS & PHYSICIANS

Academic institutions are encouraged to follow the example set by Brown and Harvard University, which have designed academic fellowships for early-career scholars and practitioners working to find solutions for the most challenging humanitarian issues. Several Syrian physicians have attended these programs, one of whom is Dr. Hariri, who has taken the skills he has learned back to Syria. Providing continuing education opportunities like these not only creates positive links between academia and areas affected by conflict and humanitarian crises, but also grows the knowledge and expertise of affected people when fellows return to home to invest in their communities.

TO DONORS

I. FUND THE FORTIFICATION & BUILDING OF INNOVATIVE MEDICAL SITES

Syrian aid workers need support from donors to fortify and build innovative medical sites, such as underground and cave hospitals. Funds are needed to repair existing facilities and to fortify them in case of an attack. Underground training facilities, underground hospitals and cave hospitals need medical equipment, and technological expertise, especially for the construction of ventilation systems that can protect staff and patients from exposure to chemical weapons. Unfortunately, however, the Syrian physician building a cave hospital said that donors have not given directly to his project in four years. This forced him to crowdsource funds to complete construction of the cave hospital, since he was only able to obtain a portion of the needed funds from the UN Humanitarian Fund.

According to both the Syria Campaign and the Strategic Advisory Group for the Turkey-based Health Cluster (which includes WHO, Health Directorates in opposition-controlled areas, and Syrian medical organizations), the best strategies to protect medical personnel and their patients in Syria now is the “fortification of existing hospitals under technical guidance from specialized engineers in fortification of infrastructures” and “construction of self-contained underground fortified hospitals of not more than twenty beds.”²²⁷ Donors can also look to fund organizations who’s engineers utilize the ICRC’s Health Care in Danger project, which provides specific recommendations and manuals on how to best fortify healthcare facilities.

To bridge the humanitarian-development funding divide, donors should designate the funding of hospitals and medical facilities as a completely separate category deserving of its own funding stream, since medical care is foundational to all humanitarian and developmental initiatives. Without sustained medical care, neither emergency relief or development work is possible in the setting of complex emergencies.

II. DIRECTLY FUND LOCAL NGOS & MEDICAL ORGANIZATIONS IN SYRIA

Local humanitarian response is almost always more appropriate and effective than any external response, since locals are most familiar with the changing situation on the ground, are more likely to have access to civilians in hard-to-reach areas, and are working on behalf of their own communities. As such, instead of channeling the majority of funds through the UN and using a large host of implementing partners and sub-contractors, the U.S. and other major donors should consider funding more well-established Syrian NGOs and medical organizations more directly. According to an independent advocacy organization, many of these NGOs based out of Turkey have developed a high level of operational capacity over the course of the last seven years, which will enable them to provide assistance that is in line with international standards.²²⁸ Although bypassing the UN system may mean that donors will need to first trial their partnerships with eligible Syrian NGOs and medical organizations with pilot programs, in the end, this method could save funds and provide better oversight of the program. Direct partnerships will also require a substantial shift in the partnership model, but it would be a step toward endorsing one of the key outcome of the WHS, which was to develop the localization of humanitarian aid.

TO I/NGOS SUPPORTING HEALTHCARE DELIVERY IN SYRIA

I. TAKE MEASURES TO SUSTAIN & RECRUIT MORE MEDICAL PERSONNEL

Syrian aid workers have expressed difficulty in finding and maintaining enough staff to adequately provide healthcare without overextending themselves. Their shifts are long and gruesome, and they are exhausted. One Syrian aid worker also noted that supporting the family needs of healthcare providers is important to ensure that these providers can stay the course. He discussed how many doctors providing cross-border aid from southern Turkey into Syria have re-located their families to Turkey. Doctors worry about the safety and well-being of their families while they are away in Syria, and time at home with them is often limited to only a few hours at a time. Ensuring that doctors receive the wages they need to provide for the needs of their families is critical - not only in helping to assuage the concerns of the current medical force, but also for attracting other medical personnel to join the ranks. "If you can support us with providing salaries...the money helps us to continue to live," he said.

Steps must be taken by NGOs and INGOs to sustain and recruit medical personnel to address these challenges. First, I/NGOs should develop programs with the chief aim of paying the salaries of medical personnel and providing for the needs of their families. Some donors, such as GIZ, are leading the way in this with their support of SAMS and UOSSM. Additionally, I/NGOs should design programs to support the families of medical personnel who have been detained, disappeared or killed as a result of providing healthcare.

Second, all I/NGOs operating in Syria must ensure that psychological support is available for and accessible by all medical staff. Conversations with participants revealed that psychological support is direly needed, and although some support has been provided, there is much room for improvement. Even within the organizations that provide psychological support, some of the most critical members of the organization do not have enough time to receive psychological care. Organizations should follow the lead of MSF, which requires all medical team members to meet with a psychologist for six months after a

medical mission, and which set up a phone on the hospital compound with twenty-four hour access to a psychologist. Crucially, however, regular psychological care must be made available to local providers, who may not have the luxury to leave the site of the conflict as easily as an expatriate healthcare provider. Implementing programs that offer psychosocial support tailored specifically for healthcare providers is just as important as implementing programs that offer psychosocial support to civilian survivors of conflict (which is now a common among many I/NGOs involved in the Whole of Syria response). Even if the medical implementing partners of I/NGO are short-staffed, psychological care, or at least regular check-ins with a trained counselor, should be mandatory for every medical provider. This requirement should be built into the project design and budget for I/NGOs employing healthcare providers in Syria. When hiring and training employees, I/NGOs must send a clear message that maintaining mental well-being in the midst of complex emergencies will be taken seriously.

TO THE UNITED NATIONS

I. CONTINUE TO DOCUMENT ATTACKS ON HEALTHCARE

The UN must continue to document attacks on healthcare and ensure that all current methods of documenting attacks are streamlined into one clear, uniform and standardized collection system. This will eliminate discrepancies in reporting, and strengthen the body of evidence that is necessary to pursue accountability and justice for perpetrators. Whether or not this means strengthening of the current MVH network, the UN is in a prime position to ensure that this core objective is met so that humanitarian responders know exactly which health facilities have been targeted, and which civilians are in most need.

II. CONDUCT INTERNAL REVIEWS REGARDING ALLEGATIONS OF COMPLICITY & TAKE MEASURES TO ADDRESS ALLEGATIONS

It is time for the UN to be more transparent about their actions and about how funds are spent. The UN must conduct internal reviews within every cluster to investigate exactly where funds have been allocated, how funds have been spent, and who has benefitted from these funds. These internal reviews should be made available to all donors so that donors can decide the extent to which they wish to continue a partnership with the UN. If investigations expose fraudulent or unprincipled use of funds, the UN must own responsibility and issue public apologies if necessary.

The UN must also set firm expectations and working conditions with the GoS. It can no longer bow or heed the directive of the GoS if these directives mean that aid will not be administered impartially to the most vulnerable people. If the GoS insists on controlling humanitarian funds and supplies, especially medical supplies, then the UN must withdraw from its working agreement with the GoS. The UN can no longer afford to forfeit the principles of impartiality, neutrality, and independence, most critically while overseeing the response to the worst humanitarian disaster of our time.

III. INSIST THAT ALL PARTIES TO THE CONFLICT CEASE ATTACKS ON HEALTHCARE

The UN must not cease to call upon all parties to the conflict to immediately cease attacks on healthcare as long as these crimes are being committed. The UN must consistently bring this issue to the forefront at the Security Council, and continue to issue resolutions that could bring about the cessation of attacks on healthcare. The UN must continue to use every diplomatic channel it can to emphasize the importance of respecting the laws of war that protect healthcare, aid workers and medical personnel in times of conflict. Further, the UN must strive to hold perpetrators accountable for their crimes against healthcare. It can take steps in this direction by using the UN's International Humanitarian Fact-Finding Commission to build a case that can be presented to the International Criminal Court.

CONCLUSION

Attacks on healthcare and aid workers in conflict zones around the world have grown in scale, but the extent to which attacks are occurring in Syria is unprecedented. In Syria, the weaponisation of healthcare as a strategy of war has wrought untold havoc on the health of civilians and the health system.

Since the beginning of the conflict, medical personnel and aid workers have risked their lives to continue to provide healthcare. The mass exodus of medical personnel from Syria, destruction of hundreds of medical facilities, and constant threat of attacks have forced healthcare workers to devise new ways of providing care. This remarkable resilience in the face of extreme opposition is evident in the building of cave and underground hospitals, and the development of new technologies, methods of communication and new operational procedures. Local NGOs and medical organizations have been pivotal in sustaining this adaptation of healthcare delivery in Syria. Donors are wary of funding local responses because of the heightened risk of losing resources to fraudulent activity. Meanwhile, both donors and implementers are constrained from funding and providing effective delivery of humanitarian aid by a multitude of policy restrictions and counter-terrorism laws. These challenges will undoubtedly cause more disruption and delay to the delivery of healthcare in Syria unless solutions can quickly be found. Now is the time for the international community to act by directly supporting local delivery of humanitarian aid and healthcare in Syria.

Although I/NGOs, such as MSF, have contributed immensely to the cause, the response of the UN leaves much to be desired. Despite the good intentions of the UN and repeated attempts to gain access to people in need, the UN has itself been manipulated. Much needed assistance has been diverted from the millions of civilians who are being punished by the government of Syria and its allies. The inability of the UN and other major humanitarian actors to withstand the grip of the regime risks making humanitarian aid a victim of the war in Syria.

The crisis in Syria, and the unprecedented scale of attacks on healthcare in particular, is a watershed moment not only for Syria, but for the future credibility of humanitarian aid and the laws of war. The Geneva Conventions have been revised repeatedly since their origin in 1864. Perhaps now is the time for them to be revised again. Perhaps now is also the time to re-evaluate the tenets of the UN Charter itself, which stipulates the terms by which humanitarian actors can provide aid in a country whose government is the root cause of suffering. Unless humanitarians and the international community begin to seriously contemplate and take steps to address these challenges, a climate of tolerance for violence against healthcare will continue. Attacks on healthcare, and the normalization of these attacks, are scourges on the meaning of humanity itself that can only be reversed if we, the international community, take diligent steps to put them to an end.

Endnotes

- ¹ “Impunity Must End: Attacks on Health in 23 Countries in Conflict in 2016,” ReliefWeb, accessed December 8, 2017, <https://reliefweb.int/report/world/impunity-must-end-attacks-health-23-countries-conflict-2016>.
- ² “Anatomy of a Crisis: A Map of Attacks on Health Care in Syria,” Physicians for Human Rights, accessed April 16, 2018, https://s3.amazonaws.com/PHR_syria_map/web/index.html.
- ³ “Anatomy of a Crisis: A Map of Attacks on Health Care in Syria, Findings as of October 2017,” 3.
- ⁴ Fouad M Fouad et al., “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* 390, no. 10111 (December 2, 2017): 2518, [https://doi.org/10.1016/S0140-6736\(17\)30741-9](https://doi.org/10.1016/S0140-6736(17)30741-9).
- ⁵ Alexandra Bradford, “The Syrian Doctor Building an Underground Hospital for Women and Girls,” Syria, accessed January 6, 2018, <https://www.newsdeeply.com/syria/articles/2018/01/03/the-syrian-doctor-building-an-underground-hospital-for-women-and-girls-2>.
- ⁶ Fouad et al., “Health Workers and the Weaponisation of Health Care in Syria,” 2516.
- ⁷ Fouad et al., 2516.
- ⁸ Elise Baker and Widney Brown, “Doctors in the Crosshairs: Four Years of Attacks on Health Care in Syria” (Physicians for Human Rights, March 2015), https://s3.amazonaws.com/PHR_Reports/doctors-in-the-crosshairs.pdf.
- ⁹ Fouad et al., “Health Workers and the Weaponisation of Health Care in Syria,” 2517–18.
- ¹⁰ Fallon, Kathleen, “Saving Lives Underground: The Case for Underground Hospitals in Syria” (The Syria Campaign, May 2017), 7, <https://foundation.sams-usa.net/wp-content/uploads/2017/05/Saving-Lives-Underground-report.pdf>.
- ¹¹ Fouad et al., “Health Workers and the Weaponisation of Health Care in Syria.”
- ¹² “Impunity Must End,” 9.
- ¹³ “Attacks on Health Care Dashboard: Reporting Period: 1 January to 31 December 2016” (World Health Organization, 2017), http://www.who.int/emergencies/attacks-on-health-care/attacks_dashboard_2016_updated-June2017.pdf?ua=1.
- ¹⁴ “Impunity Must End,” 19.
- ¹⁵ Mohamed Elamein et al., “Attacks against Health Care in Syria, 2015–16: Results from a Real-Time Reporting Tool,” *The Lancet* 390, no. 10109 (November 18, 2017): 2278–86, [https://doi.org/10.1016/S0140-6736\(17\)31328-4](https://doi.org/10.1016/S0140-6736(17)31328-4).
- ¹⁶ J. Stephen Morrison, *The New Barbarianism* (Center for Strategic & International Studies, 2017), <https://www.csis.org/features/new-barbarianism>.
- ¹⁷ “Impunity Must End,” 20.
- ¹⁸ “The Issue,” ICRC Health Care In Danger, August 26, 2015, <http://healthcareindanger.org/the-issue/>.
- ¹⁹ Safeguarding Health in Conflict Coalition, “No Protection, No Respect: Health Workers and Health Facilities Under Attack 2016 and Early 2016,” May 2016, <https://www.safeguardinghealth.org/sites/shcc/files/SHCC2016final.pdf>.
- ²⁰ “The Issue.”
- ²¹ “The Issue.”
- ²² “Impunity Must End,” 20.
- ²³ Elise Baker and Widney Brown, “Doctors in the Crosshairs: Four Years of Attacks on Health Care in Syria,” 5.
- ²⁴ Elise Baker and Widney Brown, 5.
- ²⁵ Adham Sahloul and Mohamad Katoub, “The Failure of UN Security Council Resolution 2286 in Preventing Attacks on Healthcare in Syria” (Syrian American Medical Society, January 2017), <https://www.sams-usa.net/wp-content/uploads/2017/03/UN-fail-report-07-3.pdf>.

-
- ²⁶ Patricia Gossman, “Deadly Attack on Afghan Hospital a War Crime,” Human Rights Watch, March 8, 2017, <https://www.hrw.org/news/2017/03/08/deadly-attack-afghan-hospital-war-crime>.
- ²⁷ Emma Graham-Harrison and Akhtar Mohammad, “Kabul: Bomb Hidden in Ambulance Kills Dozens | World News | The Guardian,” accessed February 23, 2018, <https://www.theguardian.com/world/2018/jan/27/scores-of-people-wounded-and-several-killed-in-kabul-blast>.
- ²⁸ Caroline Abu Sa‘Da, Françoise Duroch, and Bertrand Taithe, “Attacks on Medical Missions: Overview of a Polymorphous Reality: The Case of Médecins Sans Frontières,” *International Review of the Red Cross* 95, no. 890 (June 2014): 323, <https://doi.org/10.1017/S1816383114000186>.
- ²⁹ Abu Sa‘Da, Duroch, and Taithe, 320.
- ³⁰ Abu Sa‘Da, Duroch, and Taithe, 319.
- ³¹ Bethany Allen-Ebrahimian, “Hospitals Become the Front Line in the Syrian Civil War” (Foreign Policy, May 31, 2017), <https://foreignpolicy.com/2017/05/31/syria-hospitals-assad-civil-war-russia-usaid/>.
- ³² Abu Sa‘Da, Duroch, and Taithe, “Attacks on Medical Missions,” 320.
- ³³ Kinan Abo Their, Interview, March 13, 2018.
- ³⁴ Kinan Abo Their, Interview, March 13, 2018.
- ³⁵ “Breaking Aleppo: Hospital Attacks,” Breaking Aleppo (The Atlantic Council, February 2017), <http://www.publications.atlanticcouncil.org/breakingaleppo/>.
- ³⁶ Dr. Abdulkarim Ekzayez, “Attacks on Healthcare in Syria Look Like a Bloody Strategy of Forced Displacement,” *Chatham House*, February 23, 2018, <https://www.chathamhouse.org/node/35001>.
- ³⁷ “Special Report on Counter-Terrorism Law No. 19 and the Counter-Terrorism Court in Syria: Counter-Terrorism Court: A Tool for War Crimes” (Violations Documentation Center in Syria - VDC, April 2015), <http://www.vdc-sy.info/pdf/reports/1430186775-English.pdf>.
- ³⁸ Fouad et al., “Health Workers and the Weaponisation of Health Care in Syria,” 2517.
- ³⁹ Ellen Francis, “The War on Syria’s Doctors,” *Foreign Policy*, August 11, 2016, <https://foreignpolicy.com/2016/08/11/the-war-on-syrias-doctors-assad-medicine-underground/>.
- ⁴⁰ Alexandra Bradford, “The Syrian Doctor Building an Underground Hospital for Women and Girls.”
- ⁴¹ “Special Report on Counter-Terrorism Law No. 19 and the Counter-Terrorism Court in Syria: Counter-Terrorism Court: A Tool for War Crimes,” 34.
- ⁴² Neve Gordon and Nicole Perugini, “Military Attacks on ‘Hospitals Shields’: The Law Itself Is Partly to Blame,” *Just Security* (blog), October 20, 2016, <https://www.justsecurity.org/33712/military-attacks-hospitals-shields-law-partly-blame/>.
- ⁴³ “Treaties, States Parties, and Commentaries - Geneva Convention (I) for the Amelioration of the Condition of the Wounded and Sick in Armed Forces in the Field. Geneva, 12 August 1949,” ICRC, accessed February 22, 2018, <https://ihl-databases.icrc.org/applic/ihl/ihl.nsf/7c4d08d9b287a42141256739003e636b/fe20c3d903ce27e3c125641e004a92f3>.
- ⁴⁴ Neve Gordon and Nicole Perugini, “Military Attacks on ‘Hospitals Shields.’”
- ⁴⁵ “The Geneva Conventions of 1949 and Their Additional Protocols - ICRC,” accessed February 22, 2018, <https://www.icrc.org/eng/war-and-law/treaties-customary-law/geneva-conventions/overview-geneva-conventions.htm>.
- ⁴⁶ “What Is International Humanitarian Law?” (International Committee of the Red Cross, July 2004), https://www.icrc.org/eng/assets/files/other/what_is_ihl.pdf.
- ⁴⁷ “Treaties, States Parties, and Commentaries - Geneva Convention (I) for the Amelioration of the Condition of the Wounded and Sick in Armed Forces in the Field. Geneva, 12 August 1949.”
- ⁴⁸ “Treaties, State Parties and Commentaries - Convention for the Amelioration of the Condition of the Wounded in the Field. Geneva, 22 August 1864,” ICRC, n.d., <https://ihl-databases.icrc.org/ihl/INTRO/120?OpenDocument>.
- ⁴⁹ “Treaties, States Parties, and Commentaries - Geneva Convention (IV) Relative to the Protection of Civilian Persons in Time of War. Geneva, 12 August 1949,” ICRC, accessed February 22, 2018,

<https://ihl-databases.icrc.org/ihl/385ec082b509e76c41256739003e636d/6756482d86146898c125641e004aa3c5>.

⁵⁰ “Treaties, States Parties, and Commentaries - Geneva Convention (I) for the Amelioration of the Condition of the Wounded and Sick in Armed Forces in the Field. Geneva, 12 August 1949.”

⁵¹ “Treaties, States Parties and Commentaries - Protocol Additional to the Geneva Conventions of 12 August, 1949, and Relating to the Protection of Victims of Non-International Armed Conflicts (Protocol II), 8 June 1977,” ICRC, n.d., <https://ihl-databases.icrc.org/applic/ihl/ihl.nsf/Article.xsp?action=openDocument&documentId=D321BEBD8192C5E0C12563CD0051E85A>.

⁵² “Treaties, States Parties and Commentaries - Protocol Additional to the Geneva Conventions of 12 August, 1949, and Relating to the Protection of Victims of Non-International Armed Conflicts (Protocol I), 8 June 1977.”

⁵³ “What Is International Humanitarian Law?”

⁵⁴ “Oxford Guidance on the Law Relating to Humanitarian Relief Operations in Situations of Armed Conflict. Commissioned by the United Nations Office for the Coordination of Humanitarian Affairs” (UNOCHA, October 2016), <https://www.unocha.org/sites/unocha/files/Oxford%20Guidance%20pdf.pdf>.

⁵⁵ “Oxford Guidance on the Law Relating to Humanitarian Relief Operations in Situations of Armed Conflict. Commissioned by the United Nations Office for the Coordination of Humanitarian Affairs,” 17.

⁵⁶ Michele Heisler, Elise Baker, and Donna McKay, “Attacks on Health Care in Syria — Normalizing Violations of Medical Neutrality?,” *New England Journal of Medicine* 373, no. 26 (December 24, 2015): 2489–91, <https://doi.org/10.1056/NEJMp1513512>.

⁵⁷ J. Stephen Morrison, *The New Barbarianism*.

⁵⁸ Abu Sa‘Da, Duroch, and Taithe, “Attacks on Medical Missions,” 316.

⁵⁹ Helen Durham and Phoebe Wynn-Pope, “Protecting the ‘Helpers’: Humanitarians and Health Care Workers During Times of Armed Conflict,” in *Yearbook of International Humanitarian Law 2011 - Volume 14*, Yearbook of International Humanitarian Law (T.M.C. Asser Press, The Hague, The Netherlands, 2012), 327–46, https://doi.org/10.1007/978-90-6704-855-2_10.

⁶⁰ “Impunity Must End,” 18.

⁶¹ “Impunity Must End,” 18.

⁶² Abu Sa‘Da, Duroch, and Taithe, “Attacks on Medical Missions,” 313.

⁶³ Abu Sa‘Da, Duroch, and Taithe, 319.

⁶⁴ J. Stephen Morrison, *The New Barbarianism*.

⁶⁵ J. Stephen Morrison.

⁶⁶ “Security Incident Data | The Aid Worker Security Database,” accessed February 5, 2018, <https://aidworkersecurity.org/incidents/search?start=1997&detail=1>.

⁶⁷ Abu Sa‘Da, Duroch, and Taithe, “Attacks on Medical Missions,” 313.

⁶⁸ J. Stephen Morrison, *The New Barbarianism*.

⁶⁹ J. Stephen Morrison.

⁷⁰ J. Stephen Morrison.

⁷¹ “Yemen Humanitarian Situation Report” (UNICEF, November 2017), <https://reliefweb.int/sites/reliefweb.int/files/resources/UNICEF%20Yemen%20Humanitarian%20Sitrep%20November%202017.pdf>.

⁷² “Impunity Must End,” 21.

⁷³ J. Stephen Morrison, *The New Barbarianism*.

⁷⁴ “Quick Facts: What You Need to Know about the Syria Crisis,” Mercy Corps, March 9, 2017, <https://www.mercycorps.org/articles/iraq-jordan-lebanon-syria-turkey/quick-facts-what-you-need-know-about-syria-crisis>.

⁷⁵ “Syria’s Economic Outlook- Fall 2016,” Text/HTML, World Bank, accessed February 10, 2018, <http://www.worldbank.org/en/country/syria/publication/economic-outlook-fall-2016>.

-
- ⁷⁶ “Health Workers and Facilities in 23 Conflict-Ridden Countries Attacked with Impunity in 2016,” IntraHealth, May 3, 2017, <https://www.intrahealth.org/news/health-workers-and-facilities-23-conflict-ridden-countries-attacked-impunity-2016>.
- ⁷⁷ “Anatomy of a Crisis: A Map of Attacks on Health Care in Syria,” Physicians for Human Rights, accessed January 6, 2018, https://s3.amazonaws.com/PHR_syria_map/web/index.html.
- ⁷⁸ Bethany Allen-Ebrahimian, “Hospitals Become the Front Line in the Syrian Civil War,” May 31, 2017.
- ⁷⁹ Adham Sahloul and Mohamad Katoub, “The Failure of UN Security Council Resolution 2286 in Preventing Attacks on Healthcare in Syria.”
- ⁸⁰ “Anatomy of a Crisis: A Map of Attacks on Health Care in Syria, Findings as of October 2017.”
- ⁸¹ “Anatomy of a Crisis: A Map of Attacks on Health Care in Syria, Findings as of October 2017.”
- ⁸² Elamein et al., “Attacks against Health Care in Syria, 2015–16,” 2281.
- ⁸³ Elamein et al., 2283.
- ⁸⁴ Elamein et al., 2283.
- ⁸⁵ J. Stephen Morrison, *The New Barbarianism*.
- ⁸⁶ J. Stephen Morrison.
- ⁸⁷ “Timeline: The Battle for Aleppo,” *Reuters*, December 14, 2016, <https://www.reuters.com/article/us-mideast-crisis-syria-aleppo-timeline/timeline-the-battle-for-aleppo-idUSKBN1430PJ>.
- ⁸⁸ “Breaking Aleppo: Hospital Attacks.”
- ⁸⁹ “Breaking Aleppo: Hospital Attacks.”
- ⁹⁰ Adham Sahloul, “Obituary: A Hospital in Aleppo (2013-2016),” *Time*, December 14, 2016, <http://time.com/4599498/aleppo-hospital-obituary/>.
- ⁹¹ Nayanah Siva, “Healthcare Comes to Standstill in East Aleppo as Last Hospitals Are Destroyed - ProQuest,” accessed December 23, 2017, <https://search-proquest-com.ezproxy.library.tufts.edu/medline/docview/1842842181/fulltext/920C53E8EA1942A9PQ/7?accountid=14434>.
- ⁹² David Nott, “In Aleppo’s Destroyed Hospitals the Dead Lie with the Living,” *The Observer*, November 20, 2016, sec. World news, <http://www.theguardian.com/world/2016/nov/19/aleppo-hospitals-wiped-out-by-bombings>.
- ⁹³ J. Stephen Morrison, *The New Barbarianism*.
- ⁹⁴ Adham Sahloul, “Obituary.”
- ⁹⁵ Sparrow, Annie, “Hypocritic Oath,” *Foreign Policy*, accessed February 12, 2018, <https://foreignpolicy.com/2018/02/09/hypocritic-oath/>.
- ⁹⁶ Sparrow, Annie.
- ⁹⁷ Dr. Imad Al-Kabbani, Director of Health Damascus and Rural Damascus, “Dr. Tedros Adhanom Ghebreyesus, Director General, World Health Organization,” December 15, 2017, https://www.hrw.org/sites/default/files/supporting_resources/syria_eastern_ghouta_doctors.pdf.
- ⁹⁸ Annie Sparrow, “Hypocritic Oath,” *Foreign Policy* (blog), accessed February 12, 2018, <https://foreignpolicy.com/2018/02/09/hypocritic-oath/>.
- ⁹⁹ Fouad et al., “Health Workers and the Weaponisation of Health Care in Syria,” 2520.
- ¹⁰⁰ Fouad et al., 2520.
- ¹⁰¹ Heisler, Baker, and McKay, “Attacks on Health Care in Syria — Normalizing Violations of Medical Neutrality?”
- ¹⁰² Heisler, Baker, and McKay.
- ¹⁰³ The May 2017 Astana IV talks involved an agreement between Russia, Turkey and Iran to create “de-escalation zones” in opposition-controlled areas
- ¹⁰⁴ “De-Escalation Areas: Update on Implementation and Impact.”
- ¹⁰⁵ SCPR, “Developing Health Centers and Hospitals Indices for Syria; Based on HeRAMS Dataset 2014” (World Health Organization, September 2015), 7, <http://scpr-syria.org/publications/policy-reports/developing-health-centers-and-hospitals-indices-for-syria/>.

-
- ¹⁰⁶ SCPR, “Developing Health Centers and Hospitals Indices for Syria; Based on HeRAMS Dataset 2014” (World Health Organization, September 2015), Executive Summary, <http://scpr-syria.org/publications/policy-reports/developing-health-centers-and-hospitals-indices-for-syria/>.
- ¹⁰⁷ “Developing Health Centres and Hospitals Indices for Syria: Based on HeRAMS Dataset 2014,” 31.
- ¹⁰⁸ “HeRAMS Syria February 2018 Snapshot for Public Hospitals” (World Health Organization, February 2018), http://applications.emro.who.int/docs/SYR/COPub_SYR_feb_2018_EN_16910.pdf?ua=1.
- ¹⁰⁹ “HeRAMS Syria 4th Quarter 2017 Snapshot for Public Health Centres” (World Health Organization, Q4 2017), http://applications.emro.who.int/docs/COPub_SYR_pub_health_centres_4th_q_2017_EN_16790.pdf?ua=1.
- ¹¹⁰ “Confronting Fragmentation” (Syrian Center for Policy and Research), accessed February 25, 2018, <http://scpr-syria.org/publications/confronting-fragmentation/>.
- ¹¹¹ Omar Dewachi et al., “Changing Therapeutic Geographies of the Iraqi and Syrian Wars,” *The Lancet* 383, no. 9915 (2014): 449–457.
- ¹¹² Noura Hourani, Maher al-Hamdan, and Maria Nelson, “More Syrians Dying from Preventable Illnesses than Bombs,” *Middle East Eye*, accessed February 25, 2018, <http://www.middleeasteye.net/news/preventable-illnesses-outnumber-those-killed-bombardment-syria-1348397613>.
- ¹¹³ Noura Hourani, Maher al-Hamdan, and Maria Nelson.
- ¹¹⁴ Fouad et al., “Health Workers and the Weaponisation of Health Care in Syria,” 2521.
- ¹¹⁵ Fouad et al., 2520.
- ¹¹⁶ Justin Armstrong, “Changes in Medical Practice in Syria” (MSF, October 2016), https://arhp.msf.es/sites/default/files/Syria-Report-FINAL_0.pdf.
- ¹¹⁷ Peter Schwartzstein, “Civil War Turns Syria’s Doctors Into Masters of Improvisation,” *WIRED*, accessed March 12, 2018, <https://www.wired.com/2016/12/doctors-wartime-syria-innovate-amid-bombs-sieges/>.
- ¹¹⁸ Justin Armstrong, “Changes in Medical Practice in Syria” (MSF, October 2016), https://arhp.msf.es/sites/default/files/Syria-Report-FINAL_0.pdf.
- ¹¹⁹ Dr. Mahmoud Hariri, Interview, February 3, 2018.
- ¹²⁰ Dr. Chandani Patel, “Death After Surgery May Be More Common Than We Think,” September 21, 2012, <http://abcnews.go.com/Health/death-surgery-common/story?id=17285388>.
- ¹²¹ Dr. Mahmoud Hariri, Interview, February 3, 2018.
- ¹²² Colleen Walsh, “Hands of a Healer, Heart of a Syrian,” *Harvard Gazette* (blog), February 8, 2017, <https://news.harvard.edu/gazette/story/2017/02/hands-of-a-healer-heart-of-a-syrian/>.
- ¹²³ Maya Hautefeuille, “Meet the Doctors Keeping Aleppo Alive,” *Syria*, March 11, 2016, <https://www.newsdeeply.com/syria/articles/2016/03/11/meet-the-doctors-keeping-aleppo-alive>.
- ¹²⁴ Kinan Abo Their, Interview, March 13, 2018.
- ¹²⁵ Kinan Abo Their, Interview, March 13, 2018.
- ¹²⁶ Bethany Allen-Ebrahimian, “Hospitals Become the Front Line in the Syrian Civil War,” *Foreign Policy*, accessed March 3, 2018, <https://foreignpolicy.com/2017/05/31/syria-hospitals-assad-civil-war-russia-usaid/>.
- ¹²⁷ Dr. Khaled Almilaji, Interview, March 14, 2018.
- ¹²⁸ Bethany Allen-Ebrahimian, “Hospitals Become the Front Line in the Syrian Civil War,” May 31, 2017.
- ¹²⁹ Mr. Ahmad Al-Dbis, Interview, March 22, 2018AD.
- ¹³⁰ Dr. Mahmoud Hariri, Interview, February 3, 2018.
- ¹³¹ Dr. Khaled Almilaji, Interview, March 14, 2018.
- ¹³² Ellen Francis, “The War on Syria’s Doctors.”
- ¹³³ Bethany Allen-Ebrahimian, “Hospitals Become the Front Line in the Syrian Civil War.”
- ¹³⁴ Fallon, Kathleen, “Saving Lives Underground: The Case for Underground Hospitals in Syria.”

-
- ¹³⁵ “Airstrike Destroys Syrian Cave Hospital Built under 18 Metres of Solid Rock,” CBC Radio, February 1, 2018, <http://www.cbc.ca/radio/asithappens/as-it-happens-thursday-edition-1.4514318/airstrike-destroys-syrian-cave-hospital-built-under-18-metres-of-solid-rock-1.4514847>.
- ¹³⁶ Dr. Mahmoud Hariri, Interview, February 3, 2018.
- ¹³⁷ Fallon, Kathleen, “Saving Lives Underground: The Case for Underground Hospitals in Syria.”
- ¹³⁸ Dr. Mahmoud Hariri, Interview, February 3, 2018.
- ¹³⁹ Mr. Ahmad Al-Dbis, Interview, March 22, 218AD.
- ¹⁴⁰ Dominique Soguel, “The Christian Science Monitor: How Webcams in Syria’s Bombarded Hospitals Offer a Lifeline for War Victims,” Syria, accessed March 4, 2018, <https://www.newsdeeply.com/syria/articles/2014/07/08/the-christian-science-monitor-how-webcams-in-syrias-bombarded-hospitals-offer-a-lifeline-for-war-victims>.
- ¹⁴¹ Dominique Soguel, “How Webcams in Syria’s Bombarded Hospitals Offer a Lifeline for War Victims,” Syria, July 8, 2014, <https://www.newsdeeply.com/syria/articles/2014/07/08/the-christian-science-monitor-how-webcams-in-syrias-bombarded-hospitals-offer-a-lifeline-for-war-victims>.
- ¹⁴² Dominique Soguel, “How Webcams in Syria’s Bombarded Hospitals Offer a Lifeline for War Victims,” Syria, July 8, 2014, <https://www.newsdeeply.com/syria/articles/2014/07/08/the-christian-science-monitor-how-webcams-in-syrias-bombarded-hospitals-offer-a-lifeline-for-war-victims>.
- ¹⁴³ Mohammad Arabi et al., “Practice of Teleradiology in Crisis Zones: The Unique Case of Syria,” *The Lancet Global Health* 5, no. 4 (April 2017): e399–400, [https://doi.org/10.1016/S2214-109X\(17\)30083-9](https://doi.org/10.1016/S2214-109X(17)30083-9).
- ¹⁴⁴ Dr. Khaled Almilaji, Interview, March 14, 2018.
- ¹⁴⁵ Dr. Khaled Almilaji, Interview, March 14, 2018.
- ¹⁴⁶ Fouad et al., “Health Workers and the Weaponisation of Health Care in Syria.”
- ¹⁴⁷ Dr. Khaled Almilaji, Interview, March 14, 2018.
- ¹⁴⁸ Ellen Francis, “The War on Syria’s Doctors.”
- ¹⁴⁹ Ellen Francis.
- ¹⁵⁰ Mr. Ahmad Al-Dbis, Interview, March 22, 218AD.
- ¹⁵¹ Mr. Ahmad Al-Dbis, Interview, March 22, 218AD.
- ¹⁵² Costanza Spocci, “Underground Clinics Help War Wounded to Fight On,” Syria, April 15, 2016, <https://www.newsdeeply.com/syria/articles/2016/04/15/underground-clinics-help-war-wounded-to-fight-on>.
- ¹⁵³ Dr. Khaled Almilaji, Interview, March 14, 2018.
- ¹⁵⁴ Dr. Mahmoud Hariri, Interview, February 3, 2018.
- ¹⁵⁵ “Being a Surgeon in Syria Mahmoud Hariri, MD Director, Aleppo City Medical Council, Aleppo, Syria | Center for Global Health, U.Va.,” accessed March 11, 2018, <https://globalhealth.virginia.edu/being-surgeon-syria-mahmoud-hariri-md-director-aleppo-city-medical-council-aleppo-syria>.
- ¹⁵⁶ Dr. Mahmoud Hariri, Interview, February 3, 2018.
- ¹⁵⁷ Dr. Mahmoud Hariri, Interview, February 3, 2018.
- ¹⁵⁸ Jennifer Kaylin, “In the Midst of War, Future Syrian Doctors Trained with Help From Yale Faculty, Students | Yale School of Public Health,” October 20, 2016, <http://publichealth.yale.edu/article.aspx?id=13702>.
- ¹⁵⁹ Dr. Mahmoud Hariri, Interview, February 3, 2018.
- ¹⁶⁰ Dr. Mahmoud Hariri, Interview, February 3, 2018.
- ¹⁶¹ Dr. Mahmoud Hariri, Interview, February 3, 2018.
- ¹⁶² Dr. Mahmoud Hariri, Interview, February 3, 2018.
- ¹⁶³ “After Strikes on Syrian Hospitals, Secretary-General Says ‘Even Slaughterhouse Is More Humane’, Urging Action as Security Council Debates Health Care in Conflict,” United Nations, September 28, 2016, <http://www.un.org/press/en/2016/sgsm18159.doc.htm>.
- ¹⁶⁴ Dr. Nidal, Interview, January 28, 2018.
- ¹⁶⁵ Dr. Nidal, Interview, January 28, 2018.
- ¹⁶⁶ Kinan Abo Their, Interview, March 13, 2018.

-
- ¹⁶⁷ Kinan Abo Their, Interview, March 13, 2018.
- ¹⁶⁸ Dr. Khaled Almilaji, Interview, March 14, 2018.
- ¹⁶⁹ Kinan Abo Their, Interview, March 13, 2018.
- ¹⁷⁰ Dr. Nidal, Interview, January 28, 2018.
- ¹⁷¹ Dr. Nidal, Interview, January 28, 2018.
- ¹⁷² Dr. Nidal, Interview, January 28, 2018.
- ¹⁷³ Kinan Abo Their, Interview, March 13, 2018.
- ¹⁷⁴ Dr. Khaled Almilaji, Interview, March 14, 2018.
- ¹⁷⁵ Fouad M Fouad et al., “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* 390, no. 10111 (December 2, 2017): 2516–26, [https://doi.org/10.1016/S0140-6736\(17\)30741-9](https://doi.org/10.1016/S0140-6736(17)30741-9).
- ¹⁷⁶ “Resolution 2286,” accessed March 21, 2018, <http://unscr.com/en/resolutions/doc/2286>.
- ¹⁷⁷ Adham Sahloul and Mohamad Katoub, “The Failure of UN Security Council Resolution 2286 in Preventing Attacks on Healthcare in Syria” (Syrian American Medical Society, January 2017), 8, <https://www.sams-usa.net/wp-content/uploads/2017/03/UN-fail-report-07-3.pdf>.
- ¹⁷⁸ Adham Sahloul and Mohamad Katoub, “The Failure of UN Security Council Resolution 2286 in Preventing Attacks on Healthcare in Syria” (Syrian American Medical Society, January 2017), 8, <https://www.sams-usa.net/wp-content/uploads/2017/03/UN-fail-report-07-3.pdf>.
- ¹⁷⁹ Peter Maurer, “Where Is the Urgency to Bring Attacks on Healthcare to an End?,” Statement, International Committee of the Red Cross, October 31, 2017, <https://www.icrc.org/en/document/where-urgency-bring-attacks-healthcare-end>.
- ¹⁸⁰ “ICRC and WHO Urge Concrete Steps to Better Protect Health Care in Conflict,” News release, International Committee of the Red Cross, September 25, 2014, <https://www.icrc.org/en/document/new-york-icrc-and-who-urge-concrete-steps-better-protect-health-care-conflict>.
- ¹⁸¹ “Agenda for Humanity | OCHA,” accessed March 22, 2018, <https://www.unocha.org/about-us/agenda-humanity>.
- ¹⁸² Heba Aly and Imogen Wall, “Humanitarian Reform: What’s on - and off - the Table,” *IRIN*, February 11, 2016, <http://www.irinnews.org/analysis/2016/02/11/humanitarian-reform-whats-and-table>.
- ¹⁸³ “Will New Forum Boost Compliance with the Rules of War?,” *IRIN*, December 4, 2015, <http://www.irinnews.org/report/102269/will-new-forum-boost-compliance-rules-war>.
- ¹⁸⁴ “No Deal to Strengthen Respect for Geneva Conventions,” *IRIN*, December 10, 2015, <http://www.irinnews.org/analysis/2015/12/10/no-deal-strengthen-respect-geneva-conventions>.
- ¹⁸⁵ “International Red Cross and Red Crescent Movement Message to the World Humanitarian Summit” (Geneva, Switzerland: International Federation of Red Cross and Red Crescent Societies and the ICRC, December 7, 2015), 3, http://rcrcconference.org/wp-content/uploads/sites/3/2015/03/CD15-R3-message-to-WHS_EN.pdf.
- ¹⁸⁶ *Ibid.*, 8.
- ¹⁸⁷ “ICRC’s Statement to the World Humanitarian Summit,” *International Committee of the Red Cross*, May 23, 2016, <https://www.icrc.org/en/document/icrcs-statement-world-humanitarian-summit>.
- ¹⁸⁸ “Uphold the Norms That Safeguard Humanity: High-Level Leaders’ Roundtable Sample Commitments,” World Humanitarian Summit (Istanbul: United Nations, May 2016), 2, <https://consultations.worldhumanitariansummit.org/bitcache/6d7fc75059cc747c31424198dd6a9facf8eb1f28?vid=575823&disposition=inline&op=view>.
- ¹⁸⁹ “Explore Commitments,” *Agenda for Humanity: 5 Core Responsibilities*, 2016, <http://www.agendaforhumanity.org/explore-commitments/indv-commitments>.
- ¹⁹⁰ “Commitments to Action,” 13.
- ¹⁹¹ “Siege Watch,” Third Quarterly Report on Besieged Areas in Syria May - July 2016 (The Syria Institute and PAX, 2016), <https://siegewatch.org/wp-content/uploads/2015/10/PAX-TSI-SiegeWatch3-report.pdf>.
- ¹⁹² “Statement by Mr. Peter Launsky, Director General for Development Cooperation and Humanitarian Assistance, Austrian Federal Ministry for Europe, Integration and Foreign Affairs,” Statement,

Roundtable 5: Uphold the Norms That Safeguard Humanity (Istanbul, May 2016), <https://consultations.worldhumanitariansummit.org/bitcache/c9641d79dcb2b22429b91d52749a6d4f5730c879?vid=581333&disposition=inline&op=view>.

¹⁹³ Daniel V. Speckhard, “World Humanitarian Summit: Laudable, but Short on Hard Political Commitments | Brookings Institution” (The Brookings Institution, June 1, 2016), <https://www.brookings.edu/blog/future-development/2016/06/01/world-humanitarian-summit-laudable-but-short-on-hard-political-commitments/>.

¹⁹⁴ “MSF Announces That It Will Not Attend the 2016 World Humanitarian Summit in Turkey,” *Doctors Without Borders Canada/Médecins Sans Frontières (MSF) Canada*, May 5, 2016, <http://www.msf.ca/en/article/msf-announces-that-it-will-not-attend-the-2016-world-humanitarian-summit-in-turkey>.

¹⁹⁵ Zuhour Mahmoud, “Syrian NGOs Lament ‘Dreadful Silence’ At World Humanitarian Summit,” *Huffington Post*, May 27, 2016, sec. WorldPost, http://www.huffingtonpost.com/entry/syrian-ngos-lament-dreadful-silence_us_5748855fe4b03ede4414b5f7.

¹⁹⁶ “80+ Syrian NGOs Respond to World Humanitarian Summit | Save Our Syria.” <http://saveoursyria.org/press/80-syrian-ngos-respond-to-world-humanitarian-summit/>.

¹⁹⁷ “Hospitals Attacked During Holiday Season, 11 Attacks in Wave Of Violence,” UOSSM International, January 3, 2018, http://www.uossm.org/breaking_hospitals_attacked_during_holiday_season_11_attacks_in_wave_of_violence.

¹⁹⁸ Kinan Abo Their, Interview, March 13, 2018.

¹⁹⁹ Kinan Abo Their.

²⁰⁰ George Russell, “Blood and War: How a UN Agency Cooperates with Assad,” Text.Article, Fox News, October 27, 2016, <http://www.foxnews.com/world/2016/10/27/blood-and-war-how-un-agency-cooperates-with-assad.html>.

²⁰¹ “Taking Sides: The United Nations’ Loss of Impartiality, Independence and Neutrality in Syria” (The Syria Campaign, 2016), 4, <http://takingsides.thesyriacampaign.org/wp-content/uploads/2016/06/taking-sides.pdf>.

²⁰² “Taking Sides: The United Nations’ Loss of Impartiality, Independence and Neutrality in Syria” (The Syria Campaign, 2016), 7, <http://takingsides.thesyriacampaign.org/wp-content/uploads/2016/06/taking-sides.pdf>.

²⁰³ Nick Hopkins and Emma Beals, “UN Pays Tens of Millions to Assad Regime under Syria Aid Programme,” *The Guardian*, August 29, 2016, <http://www.theguardian.com/world/2016/aug/29/un-pays-tens-of-millions-to-assad-regime-syria-aid-programme-contracts>.

²⁰⁴ Nick Hopkins and Emma Beals, “Aid Groups Suspend Cooperation with UN in Syria Because of Assad ‘Influence,’” *The Guardian*, September 8, 2016, <http://www.theguardian.com/world/2016/sep/08/aid-groups-un-syria-concern-assad-united-nations>.

²⁰⁵ “America First: A Budget Blueprint to Make America Great Again” (Executive Office of the President of the United States: Office of Management and Budget, 2017), 33, https://www.whitehouse.gov/sites/whitehouse.gov/files/omb/budget/fy2018/2018_blueprint.pdf.

²⁰⁶ Bryant Harris, Robbie Gramer, and Emily Tamkin, “The End of Foreign Aid As We Know It,” *Foreign Policy*, April 24, 2017, <https://foreignpolicy.com/2017/04/24/u-s-agency-for-international-development-foreign-aid-state-department-trump-slash-foreign-funding/>.

²⁰⁷ “America First: A Budget Blueprint to Make America Great Again” (Executive Office of the President of the United States: Office of Management and Budget, 2017), 33, https://www.whitehouse.gov/sites/whitehouse.gov/files/omb/budget/fy2018/2018_blueprint.pdf.

²⁰⁸ Dan De Luce and Robbie Gramer, “State Department, USAID Face Drastic Budget Cut,” *Foreign Policy*, February 12, 2018, <https://foreignpolicy.com/2018/02/12/state-department-usaid-face-drastic-budget-cut-congress-military-generals-admirals-warn-against-slashing-diplomacy-budget/>.

-
- ²⁰⁹ Dan De Luce and Robbie Gramer, “State Department, USAID Face Drastic Budget Cut,” *Foreign Policy*, February 12, 2018, <https://foreignpolicy.com/2018/02/12/state-department-usaid-face-drastic-budget-cut-congress-military-generals-admirals-warn-against-slashing-diplomacy-budget/>.
- ²¹⁰ “Agency Financial Report: Fiscal Year 2017” (USAID, 2017), 136, <https://www.usaid.gov/sites/default/files/documents/1868/USAIDFY2017AFR.pdf>.
- ²¹¹ “USAID Top Management Challenges and OIG Initiatives” (Office of Inspector General, USAID, December 8, 2016), https://www.foreign.senate.gov/imo/media/doc/120816_Barr_Testimony.pdf.
- ²¹² “Agency Financial Report: Fiscal Year 2017” (USAID, 2017), <https://www.usaid.gov/sites/default/files/documents/1868/USAIDFY2017AFR.pdf>.
- ²¹³ “Syrian Arab Republic 2018 | Financial Tracking Service,” accessed April 13, 2018, <https://fts.unocha.org/countries/218/summary/2018>.
- ²¹⁴ “Syrian Arab Republic 2018 | Financial Tracking Service,” accessed April 13, 2018, <https://fts.unocha.org/countries/218/summary/2018>.
- ²¹⁵ Fallon, Kathleen, “Saving Lives Underground: The Case for Underground Hospitals in Syria” (The Syria Campaign, May 2017), <https://foundation.sams-usa.net/wp-content/uploads/2017/05/Saving-Lives-Underground-report.pdf>.
- ²¹⁶ Tom Esslemont, “EXCLUSIVE: Syrians Suffer as Anti-Terror Laws Squeeze Charities - Survey,” news.trust.org, February 24, 2016, <http://news.trust.org/item/20160224000357-rtjoh/>.
- ²¹⁷ Tom Esslemont, “EXCLUSIVE: Syrians Suffer as Anti-Terror Laws Squeeze Charities - Survey,” news.trust.org, February 24, 2016, <http://news.trust.org/item/20160224000357-rtjoh/>.
- ²¹⁸ Tom Esslemont, “EXCLUSIVE: Syrians Suffer as Anti-Terror Laws Squeeze Charities - Survey,” news.trust.org, February 24, 2016, <http://news.trust.org/item/20160224000357-rtjoh/>.
- ²¹⁹ “UN Humanitarian Chief Warns of Chilling Impact Created by Counterterror Measures in Syria,” *Charity & Security Network*, July 3, 4014, https://www.charityandsecurity.org/news/UN_Humanitarian_Chief_Warns_Chilling_Impact_Counterterror_Laws.
- ²²⁰ Justin Armstrong, “Changes in Medical Practice in Syria | Centre for Applied Reflection on Humanitarian Practice,” accessed April 10, 2018, <https://arhp.msf.es/attacks-against-medical-mission-operational-challenges/changes-medical-practice-syria>.
- ²²¹ Justin Armstrong, “Changes in Medical Practice in Syria | Centre for Applied Reflection on Humanitarian Practice,” accessed April 10, 2018, <https://arhp.msf.es/attacks-against-medical-mission-operational-challenges/changes-medical-practice-syria>.
- ²²² Justin Armstrong, “Changes in Medical Practice in Syria | Centre for Applied Reflection on Humanitarian Practice,” accessed April 10, 2018, <https://arhp.msf.es/attacks-against-medical-mission-operational-challenges/changes-medical-practice-syria>.
- ²²³ Justin Armstrong, “Changes in Medical Practice in Syria | Centre for Applied Reflection on Humanitarian Practice,” accessed April 10, 2018, <https://arhp.msf.es/attacks-against-medical-mission-operational-challenges/changes-medical-practice-syria>.
- ²²⁴ Justin Armstrong, “Changes in Medical Practice in Syria | Centre for Applied Reflection on Humanitarian Practice,” accessed April 10, 2018, <https://arhp.msf.es/attacks-against-medical-mission-operational-challenges/changes-medical-practice-syria>.
- ²²⁵ Nick Hopkins and Emma Beals, “UN Pays Tens of Millions to Assad Regime under Syria Aid Programme,” *The Guardian*, August 29, 2016, <http://www.theguardian.com/world/2016/aug/29/un-pays-tens-of-millions-to-assad-regime-syria-aid-programme-contracts>.
- ²²⁶ Michael Barnett, *Empire of Humanity: A History of Humanitarianism*. (Cornell Press, 2011), 733.
- ²²⁷ Fallon, Kathleen, “Saving Lives Underground: The Case for Underground Hospitals in Syria,” 44.
- ²²⁸ Daryl Grisgraber, “Aid Inside Syria: Time to Go Small in a Bigger Way,” *Refugees International*, March 15, 2017, <https://www.refugeesinternational.org/reports/2017/03/15/syria>.

Bibliography

- “A Doctor’s Duty Is Not Disrupted by War.” Syria. Accessed February 4, 2018.
<https://www.newsdeeply.com/syria/articles/2017/09/06/a-doctors-duty-is-not-disrupted-by-war-2>.
- “A Human Rights Approach to Health Care in Conflict - ProQuest.” Accessed December 24, 2017.
<https://search-proquest-com.ezproxy.library.tufts.edu/docview/1545321546/80F2CC1CFA394589PQ/30?accountid=14434>.
- Abu Sa‘Da, Caroline, Françoise Duroch, and Bertrand Taithe. “Attacks on Medical Missions: Overview of a Polymorphous Reality: The Case of Médecins Sans Frontières.” *International Review of the Red Cross* 95, no. 890 (June 2014): 309–30. <https://doi.org/10.1017/S1816383114000186>.
- Ackerman, Xanthe, and Unaldi, Aslihan. “This Is What the Syrian Brain Drain Looks Like.” *Time*, October 2, 2015. <http://time.com/4046618/syrian-migrants/>.
- Adham Sahloul. “Obituary: A Hospital in Aleppo (2013-2016).” *Time*, December 14, 2016.
<http://time.com/4599498/aleppo-hospital-obituary/>.
- Adham Sahloul, and Mohamad Katoub. “The Failure of UN Security Council Resolution 2286 in Preventing Attacks on Healthcare in Syria.” Syrian American Medical Society, January 2017. <https://www.sams-usa.net/wp-content/uploads/2017/03/UN-fail-report-07-3.pdf>.
- “After Strikes on Syrian Hospitals, Secretary-General Says ‘Even Slaughterhouse Is More Humane’, Urging Action as Security Council Debates Health Care in Conflict.” United Nations, September 28, 2016.
<http://www.un.org/press/en/2016/sgsm18159.doc.htm>.
- “Agency Financial Report: Fiscal Year 2017.” USAID, 2017.
<https://www.usaid.gov/sites/default/files/documents/1868/USAIDFY2017AFR.pdf>.
- “Agenda for Humanity | OCHA.” Accessed March 22, 2018. <https://www.unocha.org/about-us/agenda-humanity>.
- “Aid in Danger | Incident Database.” Accessed February 7, 2018.
<http://www.insecurityinsight.org/aidindanger/>.
- “Airstrike Destroys Syrian Cave Hospital Built under 18 Metres of Solid Rock.” CBC Radio, February 1, 2018.
<http://www.cbc.ca/radio/asithappens/as-it-happens-thursday-edition-1.4514318/airstrike-destroys-syrian-cave-hospital-built-under-18-metres-of-solid-rock-1.4514847>.
- Akbarzada, Sumaira, and Tim K. Mackey. “The Syrian Public Health and Humanitarian Crisis: A ‘displacement’ in Global Governance?” *Global Public Health*, 2017, 1–17.
<http://dx.doi.org.ezproxy.library.tufts.edu/10.1080/17441692.2017.1285338>.
- Albayrak, Ayla. “Medical Help Scarce in Besieged Syrian City; Hospitals Are Under Attack, Supplies and Doctors Running Low - ProQuest.” *Wall Street Journal*, October 16, 2014. <https://search-proquest-com.ezproxy.library.tufts.edu/docview/1612605070/80F2CC1CFA394589PQ/70?accountid=14434>.
- “Aleppo’s Reality: Daily Life under Barrel Bombs.” MSF USA, March 11, 2015.
<http://www.doctorswithoutborders.org/article/aleppos-reality-daily-life-under-barrel-bombs>.
- Alexander Breitegger. “The Legal Framework Applicable to Insecurity and Violence Affecting the Delivery of Health Care in Armed Conflicts and Other Emergencies.” Review article. International Committee of the

-
- Red Cross, March 31, 2013. <https://www.icrc.org/en/international-review/article/legal-framework-applicable-insecurity-and-violence-affecting-delivery>.
- Alexandra Bradford. “The Syrian Doctor Building an Underground Hospital for Women and Girls.” Syria. Accessed January 6, 2018. <https://www.newsdeeply.com/syria/articles/2018/01/03/the-syrian-doctor-building-an-underground-hospital-for-women-and-girls-2>.
- . “Women’s Healthcare in Critical Condition in Besieged Syria.” Syria, February 10, 2017. <https://www.newsdeeply.com/syria/articles/2017/02/10/womens-healthcare-in-critical-condition-in-besieged-syria>.
- Alexandra Sifferlin. “Violent Attacks on Health Care Facilities Increased in 2016, Report Finds.” Time. Accessed January 22, 2018. <http://time.com/4785998/violent-attacks-health-care-facilities/>.
- Aly, Heba. “The World Humanitarian Summit: Winners and Losers.” IRIN, May 26, 2016. <http://www.irinnews.org/analysis/2016/05/26/world-humanitarian-summit-winners-and-losers>.
- Aly, Heba, and Imogen Wall. “Humanitarian Reform: What’s on - and off - the Table.” IRIN, February 11, 2016. <http://www.irinnews.org/analysis/2016/02/11/humanitarian-reform-whats-and-table>.
- “America First: A Budget Blueprint to Make America Great Again.” Executive Office of the President of the United States: Office of Management and Budget, 2017. https://www.whitehouse.gov/sites/whitehouse.gov/files/omb/budget/fy2018/2018_blueprint.pdf.
- “Anatomy of a Crisis: A Map of Attacks on Health Care in Syria.” Physicians for Human Rights. Accessed April 16, 2018. https://s3.amazonaws.com/PHR_syria_map/web/index.html.
- “Anatomy of a Crisis: A Map of Attacks on Health Care in Syria, Findings as of October 2017.” Anatomy of a Crisis: A Map of Attacks on Health Care in Syria. Physicians for Human Rights, October 2017. https://s3.amazonaws.com/PHR_syria_map/findings.pdf.
- Annie Sparrow. “Hypocritic Oath.” *Foreign Policy* (blog). Accessed February 12, 2018. <https://foreignpolicy.com/2018/02/09/hypocritic-oath/>.
- Arabi, Mohammad, Ihsan Mamoun, Abdulrahman Masrani, Muhammad Alsayid, and Nada Haroun. “Practice of Teleradiology in Crisis Zones: The Unique Case of Syria.” *The Lancet Global Health* 5, no. 4 (April 2017): e399–400. [https://doi.org/10.1016/S2214-109X\(17\)30083-9](https://doi.org/10.1016/S2214-109X(17)30083-9).
- “At Least 25 Killed in Attack on MSF-Supported Hospital in Northern Syria (Updated).” MSF USA, February 15, 2016. <http://www.doctorswithoutborders.org/article/least-25-killed-attack-msf-supported-hospital-northern-syria-updated>.
- “Attacks on Health Care Dashboard: Reporting Period: 1 January to 31 December 2016.” World Health Organization, 2017. http://www.who.int/emergencies/attacks-on-health-care/attacks_dashboard_2016_updated-June2017.pdf?ua=1.
- “Attacks on Health Care: Prevent.Protect.Provide: Report on Attacks on Health Care in Emergencies.” World Health Organization, 2016. <http://www.who.int/hac/techguidance/attacksreport.pdf?ua=1>.
- “Attitudes Towards Implementation of Store-and-Forward Telemental Health in Humanitarian Settings: Survey of Syrian Healthcare Providers. - MEDLINE® - ProQuest.” Accessed December 23, 2017. <https://search-proquest-com.ezproxy.library.tufts.edu/medline/docview/1760868459/56B5382357214246PQ/8?accountid=14434>.

-
- Baker, Elise, and Heisler, Michele. "Aleppo Abandoned: A Case Study on Health Care in Syria." Case Study. Physicians for Human Rights, November 2015. https://s3.amazonaws.com/PHR_Reports/aleppo-abandoned.pdf.
- Barnett, Michael. *Empire of Humanity: A History of Humanitarianism*. Cornell Press, 2011.
- Beals, Emma. "Syrian Doctors Forced to Crowdfund Safer Underground Hospitals Due to Aid Rules." the Guardian, May 11, 2017. <http://www.theguardian.com/global-development/2017/may/11/doctors-syria-crowdfunding-maintain-underground-field-hospitals>.
- "Being a Surgeon in Syria Mahmoud Hariri, MD Director, Aleppo City Medical Council, Aleppo, Syria | Center for Global Health, U.Va." Accessed March 11, 2018. <https://globalhealth.virginia.edu/being-surgeon-syria-mahmoud-hariri-md-director-aleppo-city-medical-council-aleppo-syria>.
- Ben Taub. "Syria's War on Doctors." The New Yorker. Accessed January 5, 2018. <https://www.newyorker.com/magazine/2016/06/27/syrias-war-on-doctors>.
- Berlaer, Gerlant van, Abdallah Mohamed Elsafti, Mohammad Al Safadi, Saad Souhil Saeed, Ronald Buyl, Michel Debacker, Atef Redwan, and Ives Hubloue. "Diagnoses, Infections and Injuries in Northern Syrian Children during the Civil War: A Cross-Sectional Study." *PloS One* 12, no. 9 (2017): e0182770. <http://dx.doi.org.ezproxy.library.tufts.edu/10.1371/journal.pone.0182770>.
- Bethany Allen-Ebrahimian. "Hospitals Become the Front Line in the Syrian Civil War." Foreign Policy, May 31, 2017. <https://foreignpolicy.com/2017/05/31/syria-hospitals-assad-civil-war-russia-usaid/>.
- Black, Ian. "Report on Syria Conflict Finds 11.5% of Population Killed or Injured." *The Guardian*, February 11, 2016, sec. World news. <http://www.theguardian.com/world/2016/feb/11/report-on-syria-conflict-finds-115-of-population-killed-or-injured>.
- Boseley, Sarah. "Syria 'the Most Dangerous Place on Earth for Healthcare Providers' – Study." the Guardian, March 15, 2017. <http://www.theguardian.com/world/2017/mar/15/syria-conflict-study-condemns-weaponisation-of-healthcare>.
- Bradley, Matt. "'Islamic State Scrambles to Stem Exodus; Militants Aim To Woo Doctors, Teachers As Region's Most Skilled Workers Flee To Europe'", in Wall Street Journal, October 7, 2015. p. A11.," n.d.
- "Breaking Aleppo: Hospital Attacks." Breaking Aleppo. The Atlantic Council, February 2017. <http://www.publications.atlanticcouncil.org/breakingaleppo/>.
- "BREAKING: Cave Hospital, Built Under 60 Ft Of Rock, Wrecked By Powerful Blast." Change.org. Accessed March 3, 2018. <https://www.change.org/p/justin-trudeau-take-action-to-stop-the-targeting-of-hospitals-and-medical-staff-in-syria/u/22326783>.
- "BREAKING: Hospitals Attacked During Holiday Season, 11 Attacks in Wave Of Violence." UOSSM International, January 3, 2018. http://www.uossm.org/breaking_hospitals_attacked_during_holiday_season_11_attacks_in_wave_of_violence.
- "#BreakingAleppo: M2 Hospital - YouTube." Accessed January 7, 2018. <https://www.youtube.com/embed/3CJ-KKLzyBU?feature=oembed>.
- Brown, Widney. "Five Years of War in Syria: Health Care Under Attack." Testimony. Tom Lantos Human Rights Commission Briefing. Physicians for Human Rights, March 31, 2016. https://s3.amazonaws.com/PHR_other/remarks-five-years-of-war-in-syria-health-care-under-attack.pdf. 52

-
- Bryant Harris, Robbie Gramer, and Emily Tamkin. "The End of Foreign Aid As We Know It." *Foreign Policy*, April 24, 2017. <https://foreignpolicy.com/2017/04/24/u-s-agency-for-international-development-foreign-aid-state-department-trump-slash-foreign-funding/>.
- Burke, Jason. "Anti-Terrorism Laws Have 'Chilling Effect' on Vital Aid Deliveries to Somalia." *The Guardian*, April 26, 2017. <http://www.theguardian.com/global-development/2017/apr/26/anti-terrorism-laws-have-chilling-effect-on-vital-aid-deliveries-to-somalia>.
- "Center for Documentation of Violations in Syria - Counter-Terrorism Court in Syria: A Tool for War Crimes." Accessed February 24, 2018. <http://www.vdc-sy.info/index.php/en/reports/1430186775#.WpGmjmaZP-Y>.
- "Channel 4 | Syria Crisis Hospital Air Strikes Kill Dozens - YouTube." Accessed January 7, 2018. <https://www.youtube.com/embed/MA9c3UooGsY?feature=oembed>.
- "Chronicle of Care: Providing Health Services for Millions of Syrians." Syria. Accessed February 4, 2018. <https://www.newsdeeply.com/syria/articles/2017/09/21/chronicle-of-care-providing-health-services-for-millions-of-syrians>.
- Colleen Walsh. "Hands of a Healer, Heart of a Syrian." *Harvard Gazette* (blog), February 8, 2017. <https://news.harvard.edu/gazette/story/2017/02/hands-of-a-healer-heart-of-a-syrian/>.
- "Commitments to Action." World Humanitarian Summit. Istanbul: United Nations, August 16, 2016. <https://worldhumanitariansummit.org/sites/default/files/media/WHS%20Commitment%20to%20Action%208September2016.pdf>.
- "Confronting Fragmentation." Syrian Center for Policy and Research. Accessed February 25, 2018. <http://scpr-syria.org/publications/confronting-fragmentation/>.
- Costanza Spocci. "Underground Clinics Help War Wounded to Fight On." Syria, April 15, 2016. <https://www.newsdeeply.com/syria/articles/2016/04/15/underground-clinics-help-war-wounded-to-fight-on>.
- Cousins, Sophie. "Contaminated Vaccine Deaths a Serious Setback for Syria." *The Lancet* 384, no. 9949 (September 2014): 1172. [https://doi.org/10.1016/S0140-6736\(14\)61710-4](https://doi.org/10.1016/S0140-6736(14)61710-4).
- Dan De Luce, and Robbie Gramer. "State Department, USAID Face Drastic Budget Cut." *Foreign Policy*, February 12, 2018. <https://foreignpolicy.com/2018/02/12/state-department-usaid-face-drastic-budget-cut-congress-military-generals-admirals-warn-against-slashing-diplomacy-budget/>.
- Daniel V. Speckhard. "World Humanitarian Summit: Laudable, but Short on Hard Political Commitments | Brookings Institution." The Brookings Institution, June 1, 2016. <https://www.brookings.edu/blog/future-development/2016/06/01/world-humanitarian-summit-laudable-but-short-on-hard-political-commitments/>.
- Daryl Grisgraber. "Aid Inside Syria: Time to Go Small in a Bigger Way." Refugees International, March 15, 2017. <https://www.refugeesinternational.org/reports/2017/03/15/syria>.
- "Data Details Attacks on Health Care in Syria, in Hope of Change." Devex, June 16, 2017. <https://www.devex.com/news/sponsored/data-details-attacks-on-health-care-in-syria-in-hope-of-change-90466>.
- "De-Escalation Areas: Update on Implementation and Impact." Mercy Corps, September 2017. <https://drive.google.com/file/d/0B62V7QvuVuyAWkJYMkFtMkZfbFU/view>.

-
- “Developing Health Centres and Hospitals Indices for Syria: Based on HeRAMS Dataset 2014.” World Health Organization, September 2015. <http://scpr-syria.org/publications/policy-reports/developing-health-centers-and-hospitals-indices-for-syria/>.
- Dewachi, Omar, Mac Skelton, Vinh-Kim Nguyen, Fouad M. Fouad, Ghassan Abu Sitta, Zeina Maasri, and Rita Giacaman. “Changing Therapeutic Geographies of the Iraqi and Syrian Wars.” *The Lancet* 383, no. 9915 (2014): 449–457.
- Dominique Soguel. “How Webcams in Syria’s Bombarded Hospitals Offer a Lifeline for War Victims.” Syria, July 8, 2014. <https://www.newsdeeply.com/syria/articles/2014/07/08/the-christian-science-monitor-how-webcams-in-syrias-bombarded-hospitals-offer-a-lifeline-for-war-victims>.
- Donna McKay. “Conversations: One Doctor’s Struggle for Justice.” Syria, June 2, 2016. <https://www.newsdeeply.com/syria/articles/2016/06/02/conversations-one-doctors-struggle-for-justice>.
- Dr. Abdulkarim Ekzayez. “Attacks on Healthcare in Syria Look Like a Bloody Strategy of Forced Displacement.” *Chatham House*, February 23, 2018. <https://www.chathamhouse.org/node/35001>.
- Dr. Chandani Patel. “Death After Surgery May Be More Common Than We Think,” September 21, 2012. <http://abcnews.go.com/Health/death-surgery-common/story?id=17285388>.
- Dr. Imad Al-Kabbani, Director of Health Damascus and Rural Damascus. “Dr. Tedros Adhanom Ghebreyesus, Director General, World Health Organization,” December 15, 2017. https://www.hrw.org/sites/default/files/supporting_resources/syria_eastern_ghouta_doctors.pdf.
- Dr. Khaled Almilaji. Interview, March 14, 2018.
- Dr. Mahmoud Hariri. Interview, February 3, 2018.
- Dr. Nidal. Interview, January 28, 2018.
- Durham, Helen, and Phoebe Wynn-Pope. “Protecting the ‘Helpers’: Humanitarians and Health Care Workers During Times of Armed Conflict.” In *Yearbook of International Humanitarian Law 2011 - Volume 14*, 327–46. Yearbook of International Humanitarian Law. T.M.C. Asser Press, The Hague, The Netherlands, 2012. https://doi.org/10.1007/978-90-6704-855-2_10.
- Elamein, Mohamed, Hilary Bower, Camilo Valderrama, Daher Zedan, Hazem Rihawi, Khaled Almilaji, Mohammed Abdelhafeez, et al. “Attacks against Health Care in Syria, 2015–16: Results from a Real-Time Reporting Tool.” *The Lancet* 390, no. 10109 (November 18, 2017): 2278–86. [https://doi.org/10.1016/S0140-6736\(17\)31328-4](https://doi.org/10.1016/S0140-6736(17)31328-4).
- Elise Baker, and Widney Brown. “Doctors in the Crosshairs: Four Years of Attacks on Health Care in Syria.” Physicians for Human Rights, March 2015. https://s3.amazonaws.com/PHR_Reports/doctors-in-the-crosshairs.pdf.
- Ellen Francis. “The War on Syria’s Doctors.” *Foreign Policy*, August 11, 2016. <https://foreignpolicy.com/2016/08/11/the-war-on-syrias-doctors-assad-medicine-underground/>.
- Ellen Francis, Mazin Sidahmed, Shannon Najmabadi, Chris Huffaker, Annie Hylton, and Nina Agrawal. “The Secret History of Syrian Rebel Medicine.” Columbia University Graduate School of Journalism, Spring 2016. <http://medicineunderground.org>.
- Emma Graham-Harrison, and Akhtar Mohammad. “Kabul: Bomb Hidden in Ambulance Kills Dozens | World News | The Guardian.” Accessed February 23, 2018.

<https://www.theguardian.com/world/2018/jan/27/scores-of-people-wounded-and-several-killed-in-kabul-blast>.

“Ensuring the Preparedness and Security of Health-Care Facilities in Armed Conflicts and Other Emergencies.” *Health Care in Danger*. Geneva, Switzerland: ICRC, July 2015. <https://shop.icrc.org/structures-medicales-plus-sures-et-mieux-preparees-aux-conflits-armes-et-autres-situations-d-urgence-2285.html>.

Esslemont, Tom. “EXCLUSIVE: Syrians Suffer as Anti-Terror Laws Squeeze Charities - Survey.” *news.trust.org*, February 24, 2016. <http://news.trust.org/item/20160224000357-rtjoh/>.

“Explore Commitments.” *Agenda for Humanity: 5 Core Responsibilities*, 2016. <http://www.agendaforhumanity.org/explore-commitments/indv-commitments>.

Fallon, Kathleen. “Saving Lives Underground: The Case for Underground Hospitals in Syria.” *The Syria Campaign*, May 2017. <https://foundation.sams-usa.net/wp-content/uploads/2017/05/Saving-Lives-Underground-report.pdf>.

Fallon, Kathleen. “Underground Hospitals: Investing in Protection.” *Atlantic Council*. Accessed December 4, 2017. <http://www.atlanticcouncil.org/blogs/syriasource/underground-hospitals-investing-in-protection>.

Forever, Syrian Freedom. *Resume of Amnesty’s Report: “Squeezing the Life out of Yarmouk War Crimes Against Besieged Civilians”*: Part 6: *Medical Workers, Medical Services And The Health Of The Besieged*. S.L.: *Syria Freedom Forever*, March 14, 2014., 2014.

Fouad, Fouad M, Annie Sparrow, Ahmad Tarakji, Mohamad Alameddine, Fadi El-Jardali, Adam P Coutts, Nour El Arnaout, et al. “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* 390, no. 10111 (December 2, 2017): 2516–26. [https://doi.org/10.1016/S0140-6736\(17\)30741-9](https://doi.org/10.1016/S0140-6736(17)30741-9).

Frontieres, Medecines Sans. *Press Release: Syria: Surgery Under Siege: Part 2*. Geneva, Switz.: *Medecines sans Frontieres (www.doctorswithoutborders.org)*, March 13, 2015., 2015.

Gossman, Patricia. “Deadly Attack on Afghan Hospital a War Crime.” *Human Rights Watch*, March 8, 2017. <https://www.hrw.org/news/2017/03/08/deadly-attack-afghan-hospital-war-crime>.

Group, British Medical Journal Publishing. “David Nott: Drawn to the Sound of Gunfire.” *BMJ* 348 (March 12, 2014): g2016. <https://doi.org/10.1136/bmj.g2016>.

“Health Care in Conflict: A Doctor’s Perspective.” *ReliefWeb*. Accessed December 8, 2017. <https://reliefweb.int/report/iraq/health-care-conflict-doctors-perspective>.

“Health Care in Danger: Deliberate Attacks on Health Care during Armed Conflict.” *PLoS Medicine* 11, no. 6 (June 24, 2014). <https://doi.org/10.1371/journal.pmed.1001668>.

Health Care in Danger: The Human Cost. *Health Care in Danger: It’s a Matter of Life & Death*, 2015. <http://healthcareindanger.org/the-issue/>.

“Health Workers and Facilities in 23 Conflict-Ridden Countries Attacked with Impunity in 2016 - ProQuest.” Accessed December 24, 2017. <https://search-proquest-com.ezproxy.library.tufts.edu/docview/1894228970/80F2CC1CFA394589PQ/20?accountid=14434>.

“Health Workers, Patients Under Attack: Expand Monitoring, Strengthen Protections.” *Human Rights Watch*, May 16, 2014. <https://www.hrw.org/news/2014/05/16/health-workers-patients-under-attack>

-
- “Healthcare in Syria Is Close to Collapse as Drug Shortages Bite. - MEDLINE® - ProQuest.” Accessed December 23, 2017. <https://search-proquest-com.ezproxy.library.tufts.edu/medline/docview/1033155433/920C53E8EA1942A9PQ/3?accountid=14434>.
- Heisler, Michele, Elise Baker, and Donna McKay. “Attacks on Health Care in Syria — Normalizing Violations of Medical Neutrality?” *New England Journal of Medicine* 373, no. 26 (December 24, 2015): 2489–91. <https://doi.org/10.1056/NEJMp1513512>.
- “HeRAMS Syria 4th Quarter 2017 Snapshot for Public Health Centres.” World Health Organization, Q4 2017. http://applications.emro.who.int/docs/COPub_SYR_pub_health_centres_4th_q_2017_EN_16790.pdf?ua=1.
- “HeRAMS Syria February 2018 Snapshot for Public Hospitals.” World Health Organization, February 2018. http://applications.emro.who.int/docs/SYR/COPub_SYR_feb_2018_EN_16910.pdf?ua=1.
- Hopkins, Nick, and Emma Beals. “Aid Groups Suspend Cooperation with UN in Syria Because of Assad ‘Influence.’” *The Guardian*, September 8, 2016. <http://www.theguardian.com/world/2016/sep/08/aid-groups-un-syria-concern-assad-united-nations>.
- . “UN Pays Tens of Millions to Assad Regime under Syria Aid Programme.” *The Guardian*, August 29, 2016. <http://www.theguardian.com/world/2016/aug/29/un-pays-tens-of-millions-to-assad-regime-syria-aid-programme-contracts>.
- “Hospital Attacks - Breaking Aleppo – Atlantic Council.” Accessed January 7, 2018. <http://www.publications.atlanticcouncil.org/breakingaleppo/hospital-attacks/>.
- “Hospitals Attacked During Holiday Season, 11 Attacks in Wave Of Violence.” UOSSM International, January 3, 2018. http://www.uossm.org/breaking_hospitals_attacked_during_holiday_season_11_attacks_in_wave_of_violence.
- “Hospitals, Health Workers Under Attack.” Human Rights Watch, May 24, 2017. <https://www.hrw.org/news/2017/05/24/hospitals-health-workers-under-attack>.
- “Human Resources in Protracted Crises: Syrian Medical Workers - ProQuest.” Accessed December 22, 2017. <https://search-proquest-com.ezproxy.library.tufts.edu/medline/docview/1785758476/fulltextPDF/8A201C6347854AD2PQ/3?accountid=14434>.
- “Humanitarian Medical Response to the Syrian Arab Republic (April 7, 2013 to April 23, 2013). - MEDLINE® - ProQuest.” Accessed December 23, 2017. <https://search-proquest-com.ezproxy.library.tufts.edu/medline/docview/1762966223/56B5382357214246PQ/11?accountid=14434>.
- “ICRC and WHO Urge Concrete Steps to Better Protect Health Care in Conflict.” News release. International Committee of the Red Cross, September 25, 2014. <https://www.icrc.org/en/document/new-york-icrc-and-who-urge-concrete-steps-better-protect-health-care-conflict>.

-
- “ICRC’s Statement to the World Humanitarian Summit.” *International Committee of the Red Cross*, May 23, 2016. <https://www.icrc.org/en/document/icrcs-statement-world-humanitarian-summit>.
- “Impunity Must End: Attacks on Health in 23 Countries in Conflict in 2016.” ReliefWeb. Accessed December 8, 2017. <https://reliefweb.int/report/world/impunity-must-end-attacks-health-23-countries-conflict-2016>.
- “In Conflict Zones Worldwide, Medical Facilities and Personnel in 19 Countries Are Under Relentless Attack: New Report from Coalition of More than 30 NGOs Shows Global Pattern of Impunity, Calls for International Accountability for Strikes on Health Care Workers and Facilities - ProQuest.” Accessed December 24, 2017. <https://search-proquest-com.ezproxy.library.tufts.edu/docview/1790295629/80F2CC1CFA394589PQ/36?accountid=14434>.
- “Insecurity Insight.” Accessed February 7, 2018. <http://www.insecurityinsight.org/projectshumanitarian.html>.
- “International Red Cross and Red Crescent Movement Message to the World Humanitarian Summit.” Geneva, Switzerland: International Federation of Red Cross and Red Crescent Societies and the ICRC, December 7, 2015. http://rcrcconference.org/wp-content/uploads/sites/3/2015/03/CD15-R3-message-to-WHS_EN.pdf.
- “IntraHealth International; In Conflict Zones Worldwide, Medical Facilities and Personnel in 19 Countries Are Under Relentless Attack.” *Politics & Government Week; Atlanta*. June 9, 2016.
- J. Stephen Morrison. *The New Barbarianism*. Center for Strategic & International Studies, 2017. <https://www.csis.org/features/new-barbarianism>.
- Jabbour, Samer, Jennifer Leaning, Iman Nuwayhid, Richard Horton, and Pamela Das. “The Lancet –American University of Beirut Commission on Syria: A New Role for Global Health in Conflict and a Call for Papers.” *The Lancet* 388, no. 10063 (December 2016): 2967–68. [https://doi.org/10.1016/S0140-6736\(16\)32583-1](https://doi.org/10.1016/S0140-6736(16)32583-1).
- Jennifer Kaylin. “In the Midst of War, Future Syrian Doctors Trained with Help From Yale Faculty, Students | Yale School of Public Health,” October 20, 2016. <http://publichealth.yale.edu/article.aspx?id=13702>.
- Justin Armstrong. “Changes in Medical Practice in Syria.” MSF, October 2016. https://arhp.msf.es/sites/default/files/Syria-Report-FINAL_0.pdf.
- Kieny, Marie-Paule, Peter Salama, Erin Kenney, James Campbell, and Tana Wuliji. “One Attack on a Health Worker Is One Too Many.” *The Lancet*, March 2017. [https://doi.org/10.1016/S0140-6736\(17\)30740-7](https://doi.org/10.1016/S0140-6736(17)30740-7).
- Kinan Abo Their. Interview, March 13, 2018.
- Krisberg, Kim. “WHO: Emergency Health Workers, Facilities Intentionally Targeted.” *The Nation’s Health; Washington* 46, no. 6 (August 2016): 1,26.
- Lewis, Dustin Andrew, Naz Khatoon Modirzadeh, and Gabriella Blum. “Medical Care in Armed Conflict: International Humanitarian Law and State Responses to Terrorism,” 2015. <https://dash.harvard.edu/handle/1/22508590>.
- Li, Gina. “Hospital Bombings Destroy Syria’s Health System.” *Health and Human Rights Journal*, May 11, 2017. <https://www.hhrjournal.org/2017/05/hospital-bombings-destroy-syrias-health-system/>.
- Mahmoud Hariri. Interview, February 3, 2018.

-
- Manager, Meghan Prichard Digital Content. “Voices of Aleppo: Stories from Our Colleagues inside Syria.” Mercy Corps, March 10, 2017. <https://www.mercycorps.org/articles/syria/voices-aleppo-stories-our-colleagues-inside-syria>.
- Margarite Nathe. “Everyday Violence against Health Workers Takes a Toll—on Us All | Safeguarding Health in Conflict Coalition.” Accessed December 24, 2017. <https://www.safeguardinghealth.org/everyday-violence-against-health-workers-takes-toll%E2%80%94on-us-all>.
- Marica Tamanini. “Health Care in Danger: Violent Incidents Affecting the Delivery of Health Care January 2012 to December 2014.” Health Care in Danger. Geneva: ICRC, n.d. <https://reliefweb.int/sites/reliefweb.int/files/resources/icrc-002-4237.pdf>.
- Maya Hautefeuille. “Meet the Doctors Keeping Aleppo Alive.” Syria, March 11, 2016. <https://www.newsdeeply.com/syria/articles/2016/03/11/meet-the-doctors-keeping-aleppo-alive>.
- Médecins Sans Frontières/Doctors Without Borders (MSF). *SYRIA | Forensic Architecture Investigate the Bombings of Hospitals in Ma'arat Al Numan*. Accessed December 8, 2017. <https://www.youtube.com/watch?v=H9LvS53o-G0>.
- “Medics Under Fire: Latest Hospital Attack in Idlib, Syria Shows Lack of Urgency in Holding to Account Those Who Flout UN Resolution 2286 – Doctors Under Fire.” Accessed December 23, 2017. <http://medicsunderfire.com/2016/06/02/medics-under-fire-latest-hospital-attack-in-idlib-syria-shows-lack-of-urgency-in-holding-to-account-those-who-flout-un-resolution-2286/>.
- Michael Igoe. “Exclusive: USAID Chief Unveils Major Organizational Shakeup.” Devex, April 9, 2018. <https://www.devex.com/news/sponsored/exclusive-usaid-chief-unveils-major-organizational-shakeup-92493>.
- Mr. Ahmad Al-Dbis. Interview, March 22, 218AD.
- “MSF Announces That It Will Not Attend the 2016 World Humanitarian Summit in Turkey.” Doctors Without Borders Canada/Médecins Sans Frontières (MSF) Canada, May 5, 2016. <http://www.msf.ca/en/article/msf-announces-that-it-will-not-attend-the-2016-world-humanitarian-summit-in-turkey>.
- Nayanah Siva. “Healthcare Comes to Standstill in East Aleppo as Last Hospitals Are Destroyed - ProQuest.” Accessed December 23, 2017. <https://search-proquest-com.ezproxy.library.tufts.edu/medline/docview/1842842181/fulltext/920C53E8EA1942A9PQ/7?accountid=14434>.
- Neve Gordon, and Nicole Perugini. “Military Attacks on ‘Hospitals Shields’: The Law Itself Is Partly to Blame.” *Just Security* (blog), October 20, 2016. <https://www.justsecurity.org/33712/military-attacks-hospitals-shields-law-partly-blame/>.
- Nickerson, Jason W. “Ensuring the Security of Health Care in Conflict Settings: An Urgent Global Health Concern.” *CMAJ: Canadian Medical Association Journal* 187, no. 11 (August 11, 2015): E347–48. <https://doi.org/10.1503/cmaj.140410>.
- “No Deal to Strengthen Respect for Geneva Conventions.” IRIN, December 10, 2015. <http://www.irinnews.org/analysis/2015/12/10/no-deal-strengthen-respect-geneva-conventions>.

-
- Nott, David. "In Aleppo's Destroyed Hospitals the Dead Lie with the Living." *The Observer*, November 20, 2016, sec. World news. <http://www.theguardian.com/world/2016/nov/19/aleppo-hospitals-wiped-out-by-bombings>.
- Noura Hourani, Maher al-Hamdan, and Maria Nelson. "More Syrians Dying from Preventable Illnesses than Bombs." Middle East Eye. Accessed February 25, 2018. <http://www.middleeasteye.net/news/preventable-illnesses-outnumber-those-killed-bombardment-syria-1348397613>.
- OCHA, United Nations. "Health Workers under Attack: Four Personal Accounts of Working in a War Zone." *Medium* (blog), August 15, 2017. <https://medium.com/humanitarian-dispatches/four-health-worker-accounts-of-working-in-a-war-zone-337b4b878801>.
- "Oxford Guidance on the Law Relating to Humanitarian Relief Operations in Situations of Armed Conflict. Commissioned by the United Nations Office for the Coordination of Humanitarian Affairs." UNOCHA, October 2016. <https://www.unocha.org/sites/unocha/files/Oxford%20Guidance%20pdf.pdf>.
- Peter Maurer. "Where Is the Urgency to Bring Attacks on Healthcare to an End?" Statement. International Committee of the Red Cross, October 31, 2017. <https://www.icrc.org/en/document/where-urgency-bring-attacks-healthcare-end>.
- Peter Schwartzstein. "Civil War Turns Syria's Doctors Into Masters of Improvisation." WIRED. Accessed March 12, 2018. <https://www.wired.com/2016/12/doctors-wartime-syria-innovate-amid-bombs-sieges/>.
- Philip Gourevitch. "Alms Dealers." *The New Yorker*, October 11, 2010. <https://www.newyorker.com/magazine/2010/10/11/alms-dealers>.
- "Photo Story – Humanitarian Personnel and Facilities Are #NotATarget," December 8, 2017. <http://www.euro.who.int/en/health-topics/emergencies/health-response-to-the-humanitarian-crisis-in-ukraine/multimedia/photo-story-humanitarian-personnel-and-facilities-are-notatarget>.
- "Preventing Violent Conflict: A Revised Mandate for the Public Health Professional? - ProQuest." Accessed December 24, 2017. <https://search-proquest-com.ezproxy.library.tufts.edu/docview/1287286145/80F2CC1CFA394589PQ/44?accountid=14434>.
- "Protecting the Delivery of Health Care: Steps in the Right Direction." *International Committee of the Red Cross*, December 23, 2015. <https://www.icrc.org/en/document/protecting-delivery-health-care-steps-right-direction>.
- "Protecting the 'Helpers': Humanitarians and Health Care Workers During Times of Armed Conflict - ProQuest." Accessed December 24, 2017. <https://search-proquest-com.ezproxy.library.tufts.edu/docview/1032681483/80F2CC1CFA394589PQ/39?accountid=14434>.
- "Protection of Health Care in Armed Conflict : What's In Blue." Accessed February 10, 2018. <http://www.whatsinblue.org/2016/09/protection-of-health-care-in-armed-conflict.php>.
- "Protocol Additional to the Geneva Conventions of 12 August 1949 and Relating to the Protection of Victims of International Armed Conflicts (Protocol I), 8 June, 1977." ICRC, n.d. <https://ihl-databases.icrc.org/applic/ihl/ihl.nsf/ART/470-750022?OpenDocument>.
- "Quick Facts: What You Need to Know about the Syria Crisis." Mercy Corps, March 9, 2017. <https://www.mercycorps.org/articles/iraq-jordan-lebanon-syria-turkey/quick-facts-what-you-need-know-about-syria-crisis>.

-
- Rami Aboud. "Aleppo's Healthcare in Critical Condition." Syria, August 4, 2016. <https://www.newsdeeply.com/syria/articles/2016/08/04/aleppos-healthcare-in-critical-condition>.
- "Resolution 2286." Accessed March 21, 2018. <http://unscr.com/en/resolutions/doc/2286>.
- "Risking Lives to Save Lives: The Ordeal of Medical Personnel in Syria." Washington, D.C.: Syrian American Medical Society, June 2013. <https://www.sams-usa.net/wp-content/uploads/2016/09/Risking-Lives-to-Save-Lives.pdf>.
- Robin Coupland, and Christina Wille. "Health Care in Danger: A Sixteen-Country Study." International Committee of the Red Cross, July 2011. <https://www.icrc.org/eng/assets/files/reports/4073-002-16-country-study.pdf>.
- Russell, George. "Blood and War: How a UN Agency Cooperates with Assad." Text.Article. Fox News, October 27, 2016. <http://www.foxnews.com/world/2016/10/27/blood-and-war-how-un-agency-cooperates-with-assad.html>.
- Safeguarding Health in Conflict Coalition. "No Protection, No Respect: Health Workers and Health Facilities Under Attack 2016 and Early 2016," May 2016. <https://www.safeguardinghealth.org/sites/shcc/files/SHCC2016final.pdf>.
- "Safeguarding the Provision of Health Care: Operational Practices and Relevant International Humanitarian Law Concerning Armed Groups." Health Care in Danger: It's a Matter of Life & Death. ICRC, June 2015. <https://shop.icrc.org/les-groupes-armes-et-la-protection-des-soins-de-sante-2115.html>.
- Sam Bernstein. "Medicine under Attack: The Global Wave of Violence against Hospitals." Accessed December 8, 2017. <https://www.advisory.com/daily-briefing/2016/07/05/hospital-bombings-worldwide>.
- SCPR. "Developing Health Centers and Hospitals Indices for Syria; Based on HeRAMS Dataset 2014." World Health Organization, September 2015. <http://scpr-syria.org/publications/policy-reports/developing-health-centers-and-hospitals-indices-for-syria/>.
- . "SCPR Alienation and Violence Report 2014." *Syrian Center for Policy Research SCPR* (blog). Accessed February 25, 2018. <http://scpr-syria.org/publications/policy-reports/scpr-alienation-and-violence-report-2014-2/>.
- Section, United Nations News Service. "UN News - Attacks on Hospitals and Medical Staff 'Symptoms of Grave Disregard' for International Law – UN Chief." UN News Service Section, May 25, 2017. <https://www.un.org/apps/news/story.asp?NewsID=56842#.WILmTiOZP-Y>.
- "Security Incident Data | The Aid Worker Security Database." Accessed February 6, 2018. <https://aidworkersecurity.org/incidents/search?start=1997&detail=1>.
- Shaheen, Kareem, and Ian Black. "Airstrike on MSF-Backed Aleppo Hospital Kills Patients and Doctors." the Guardian, April 28, 2016. <http://www.theguardian.com/world/2016/apr/28/deadly-airstrike-on-hospital-aleppo-syria-reports-say>.
- "Siege Watch." Third Quarterly Report on Besieged Areas in Syria May - July 2016. The Syria Institute and PAX, 2016. <https://siegewatch.org/wp-content/uploads/2015/10/PAX-TSI-SiegeWatch3-report.pdf>.
- "Southern Syria: 'We Are Talking About a War Where the Civilian Population Itself Is Targeted.'" MSF USA, April 11, 2017. <http://www.doctorswithoutborders.org/article/southern-syria-we-are-talking-about-war-where-civilian-population-itself-targeted>.

-
- Sparrow, Annie. "Hypocritic Oath." *Foreign Policy*. Accessed February 12, 2018.
<https://foreignpolicy.com/2018/02/09/hypocritic-oath/>.
- "Special Report on Counter-Terrorism Law No. 19 and the Counter-Terrorism Court in Syria: Counter-Terrorism Court: A Tool for War Crimes." Violations Documentation Center in Syria - VDC, April 2015.
<http://www.vdc-sy.info/pdf/reports/1430186775-English.pdf>.
- "Statement by Mr. Peter Launsky, Director General for Development Cooperation and Humanitarian Assistance, Austrian Federal Ministry for Europe, Integration and Foreign Affairs." Statement. Roundtable 5: Uphold the Norms That Safeguard Humanity. Istanbul, May 2016.
<https://consultations.worldhumanitariansummit.org/bitcache/c9641d79dcb2b22429b91d52749a6d4f5730c879?vid=581333&disposition=inline&op=view>.
- Surya, Mary, Dilshad Jaff, Barbara Stilwell, and Johanna Schubert. "The Importance of Mental Well-Being for Health Professionals During Complex Emergencies: It Is Time We Take It Seriously." *Global Health: Science and Practice* 5, no. 2 (2017): 188–196.
- "Syria: A Healthcare System on the Brink of Collapse - ProQuest." Accessed December 23, 2017.
<https://search-proquest-com.ezproxy.library.tufts.edu/medline/docview/1946235759/fulltext/920C53E8EA1942A9PQ/2?accountid=14434>.
- "Syria: An Unacceptable Humanitarian Failure." MSF USA, March 11, 2015.
<http://www.doctorswithoutborders.org/article/syria-unacceptable-humanitarian-failure>.
- "Syria Hospitals 'Targeted by Attacks.'" BBC News. Accessed January 7, 2018.
<http://www.bbc.com/news/world-middle-east-42591334>.
- "Syria: Medical Aid Paralyzed by Four Years of Conflict." MSF USA, March 11, 2015.
<http://www.doctorswithoutborders.org/article/syria-medical-aid-paralyzed-four-years-conflict>.
- "Syria: Medical Data Reveals an Outrageous, Relentless Mass-Casualty Disaster in East Ghouta." Accessed March 11, 2018. <https://prezly.msf.org.uk/syria-medical-data-reveals-an-outrageous-relentless-mass-casualty-disaster-in-east-ghouta>.
- "Syria: Secret Underground Hospital Established to Treat Injuries." Accessed March 3, 2018.
<https://www.aljazeera.com/news/2017/11/syria-secret-underground-hospital-established-treat-injuries-171125123450897.html>.
- "Syria: Supporting Doctors in Besieged Areas." MSF USA, March 13, 2015.
<http://www.doctorswithoutborders.org/article/syria-supporting-doctors-besieged-areas>.
- "Syria: Surgery Under Siege." MSF USA, March 13, 2015.
<http://www.doctorswithoutborders.org/article/syria-surgery-under-siege>.
- "Syria: Tens of Thousands of Children Left Unvaccinated." MSF USA, March 7, 2017.
<http://www.doctorswithoutborders.org/article/syria-tens-thousands-children-left-unvaccinated>.
- "Syria: 'The Stories Are Many, and They Are All Heartbreaking.'" MSF USA, March 13, 2015.
<http://www.doctorswithoutborders.org/article/syria-stories-are-many-and-they-are-all-heartbreaking>.
- "Syria: Who Controls What?" Accessed February 10, 2018.
<http://www.aljazeera.com/indepth/interactive/2015/05/syria-country-divided-150529144229467.html>.

-
- “Syrian Arab Republic 2018 | Financial Tracking Service.” Accessed April 13, 2018. <https://fts.unocha.org/countries/218/summary/2018>.
- “Syrian Arab Republic 2018 | Financial Tracking Service.” Accessed April 13, 2018. <https://fts.unocha.org/countries/218/summary/2018>.
- “Syria’s Economic Outlook- Fall 2016.” Text/HTML. World Bank. Accessed February 10, 2018. <http://www.worldbank.org/en/country/syria/publication/economic-outlook-fall-2016>.
- “Taking Sides: The United Nations’ Loss of Impartiality, Independence and Neutrality in Syria.” The Syria Campaign, 2016. <http://takingsides.thesyriacampaign.org/wp-content/uploads/2016/06/taking-sides.pdf>.
- “The Difficulty of Studying Medicine in Times of War.” Syria. Accessed February 4, 2018. <https://www.newsdeeply.com/syria/articles/2017/10/30/the-difficulty-of-studying-medicine-in-times-of-war>.
- “The Geneva Conventions of 1949 and Their Additional Protocols - ICRC.” Accessed February 22, 2018. <https://www.icrc.org/eng/war-and-law/treaties-customary-law/geneva-conventions/overview-geneva-conventions.htm>.
- “The Issue.” ICRC Health Care In Danger, August 26, 2015. <http://healthcareindanger.org/the-issue/>.
- The Lancet. “Syria Suffers as the World Watches.” *The Lancet* 389, no. 10074 (March 2017): 1075. [https://doi.org/10.1016/S0140-6736\(17\)30758-4](https://doi.org/10.1016/S0140-6736(17)30758-4).
- . “Torture in Syria’s Hospitals.” *The Lancet* 378, no. 9803 (November 2011): 1606. [https://doi.org/10.1016/S0140-6736\(11\)61682-6](https://doi.org/10.1016/S0140-6736(11)61682-6).
- The PLOS Medicine Editors. “Health Care in Danger: Deliberate Attacks on Health Care during Armed Conflict.” *PLoS Medicine* 11, no. 6 (June 24, 2014): e1001668. <https://doi.org/10.1371/journal.pmed.1001668>.
- “The Syrian Conflict and Infectious Diseases. - MEDLINE® - ProQuest.” Accessed December 23, 2017. <https://search-proquest-com.ezproxy.library.tufts.edu/medline/docview/1792371473/920C53E8EA1942A9PQ/12?accountid=14434>.
- “Timeline: The Battle for Aleppo.” *Reuters*, December 14, 2016. <https://www.reuters.com/article/us-mideast-crisis-syria-aleppo-timeline/timeline-the-battle-for-aleppo-idUSKBN1430PJ>.
- “Treaties, State Parties and Commentaries - Convention for the Amelioration of the Condition of the Wounded in the Field. Geneva, 22 August 1864.” ICRC, n.d. <https://ihl-databases.icrc.org/ihl/INTRO/120?OpenDocument>.
- “Treaties, States Parties, and Commentaries - Geneva Convention (I) for the Amelioration of the Condition of the Wounded and Sick in Armed Forces in the Field. Geneva, 12 August 1949.” ICRC. Accessed February 22, 2018. <https://ihl-databases.icrc.org/applic/ihl/ihl.nsf/7c4d08d9b287a42141256739003e636b/fe20c3d903ce27e3c125641e004a92f3>.
- “Treaties, States Parties, and Commentaries - Geneva Convention (IV) Relative to the Protection of Civilian Persons in Time of War. Geneva, 12 August 1949.” ICRC. Accessed February 22, 2018. <https://ihl-databases.icrc.org/ihl/385ec082b509e76c41256739003e636d/6756482d86146898c125641e004aa3c5>.

-
- “Treaties, States Parties and Commentaries - Protocol Additional to the Geneva Conventions of 12 August, 1949, and Relating to the Protection of Victims of Non-International Armed Conflicts (Protocol II), 8 June 1977.” ICRC, n.d. <https://ihl-databases.icrc.org/applic/ihl/ihl.nsf/Article.xsp?action=openDocument&documentId=D321BEBD8192C5E0C12563CD0051E85A>.
- “UN Humanitarian Chief Warns of Chilling Impact Created by Counterterrorism Measures in Syria.” Charity & Security Network, July 3, 2014. https://www.charityandsecurity.org/news/UN_Humanitarian_Chief_Warns_Chilling_Impact_Counterterrorism_Laws.
- “UN Pays Tens of Millions to Assad Regime under Syria Aid Programme | World News | The Guardian.” Accessed March 11, 2018. <https://www.theguardian.com/world/2016/aug/29/un-pays-tens-of-millions-to-assad-regime-syria-aid-programme-contracts>.
- “UN: Act to End Attacks on Health Workers: Expert’s Report Urges Expanding Monitoring, Ending Impunity.” Human Rights Watch, October 24, 2013. <https://www.safeguardinghealth.org/un-act-end-attacks-health-workers-experts-report-urges-expanding-monitoring-ending-impunity>
- “Under Attack: Violence Against Health Workers, Patients and Facilities.” Safeguarding Health in Conflict, Human Rights Watch, May 2014. <https://reliefweb.int/sites/reliefweb.int/files/resources/Under%20Attack.pdf>.
- “United Nations/Syria: UN: Stop Deliberate Targeting of Civilians, Aid Workers Around Globe - ProQuest.” Accessed December 24, 2017. <https://search-proquest-com.ezproxy.library.tufts.edu/docview/1930254190/80F2CC1CFA394589PQ/23?accountid=14434>.
- “Uphold the Norms That Safeguard Humanity: High-Level Leaders’ Roundtable.” World Humanitarian Summit. Istanbul: United Nations, May 2016. <https://consultations.worldhumanitariansummit.org/bitcache/5ecfea77f1ae20834595de17b4df128ab84e526c?vid=571406&disposition=inline&op=view>.
- “Uphold the Norms That Safeguard Humanity: High-Level Leaders’ Roundtable Sample Commitments.” World Humanitarian Summit. Istanbul: United Nations, May 2016. <https://consultations.worldhumanitariansummit.org/bitcache/6d7fc75059cc747c31424198dd6a9facf8eb1f28?vid=575823&disposition=inline&op=view>.
- “USAID Top Management Challenges and OIG Initiatives.” Office of Inspector General, USAID, December 8, 2016. https://www.foreign.senate.gov/imo/media/doc/120816_Barr_Testimony.pdf.
- Webster, Paul Christopher. “The Deadly Effects of Violence against Medical Workers in War Zones.” *CMAJ: Canadian Medical Association Journal* 183, no. 13 (September 20, 2011): E981. <https://doi.org/10.1503/cmaj.109-3964>.
- “What Can Be Done.” ICRC Health Care In Danger, August 26, 2015. <http://healthcareindanger.org/what-can-be-done/>.
- “What Is International Humanitarian Law?” International Committee of the Red Cross, July 2004. https://www.icrc.org/eng/assets/files/other/what_is_ihl.pdf.
- “When Hospitals Become Targets.” CBS News, November 26, 2017. <https://www.cbsnews.com/news/when-hospitals-become-targets/>.

-
- “WHO | Attack on Vaccines Sets Back Immunization Efforts in Eastern Syrian Arab Republic.” WHO. Accessed December 8, 2017. <http://www.who.int/mediacentre/news/releases/2017/syria-vaccines-attack/en/>.
- “WHO | Attacks on Health Care Questions and Answers.” WHO. Accessed January 22, 2018. http://www.who.int/hac/techguidance/attacks_on_health_care_q_a/en/.
- “WHO | Eastern Aleppo without Any Hospitals for More than 250,000 Residents.” WHO. Accessed December 8, 2017. <http://www.who.int/mediacentre/news/statements/2016/aleppo-without-hospitals-syria/en/>.
- “WHO | Safe Hospitals and Health Facilities.” WHO. Accessed January 29, 2018. <http://www.who.int/hac/techguidance/safehospitals/en/>.
- “WHO | WHO Condemns Massive Attacks on Five Hospitals in Syria.” WHO. Accessed November 17, 2016. <http://www.who.int/mediacentre/news/statements/2016/attacks-hospitals-syria/en/>.
- “WHO | WHO Steps up Response in Aleppo and Demands That Health Personnel Be Protected.” WHO. Accessed December 8, 2017. <http://www.who.int/mediacentre/news/statements/2016/aleppo-response-syria/en/>.
- “WHO: Emergency Health Workers, Facilities Intentionally Targeted - ProQuest.” Accessed December 24, 2017. <https://search-proquest-com.ezproxy.library.tufts.edu/docview/1813500591/80F2CC1CFA394589PQ/13?accountid=14434>.
- “Will New Forum Boost Compliance with the Rules of War?” IRIN, December 4, 2015. <http://www.irinnews.org/report/102269/will-new-forum-boost-compliance-rules-war>.
- “World: Hospitals, Health Workers Under Attack - ProQuest.” Accessed December 24, 2017. <https://search-proquest-com.ezproxy.library.tufts.edu/docview/1902097141/80F2CC1CFA394589PQ/15?accountid=14434>.
- “Yemen Humanitarian Situation Report.” UNICEF, November 2017. <https://reliefweb.int/sites/reliefweb.int/files/resources/UNICEF%20Yemen%20Humanitarian%20Sitrep%20November%202017.pdf>.
- Younna al-Dimashqi, Florence Massena. “For Many Syrian Women, Healthcare Is a Matter of Geography.” Syria, August 16, 2017. <https://www.newsdeeply.com/syria/articles/2017/08/16/for-many-syrian-women-healthcare-is-a-matter-of-geography>.
- Zuhour Mahmoud. “Syrian NGOs Lament ‘Dreadful Silence’ At World Humanitarian Summit.” *Huffington Post*, May 27, 2016, sec. WorldPost. http://www.huffingtonpost.com/entry/syrian-ngos-lament-dreadful-silence_us_5748855fe4b03ede4414b5f7.