

STUDY 2019

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& inclusion

## THE WAITING LIST

Addressing the immediate and long-term needs of victims of explosive weapons in Syria.



## Acknowledgement

Humanity & Inclusion (HI), also known as Handicap International, would like to thank the Ministry of Foreign Affairs of Luxembourg for their interest and support.

Our heartfelt thanks to all the patients, mine action experts, medical staff and humanitarian workers who shared their insights and powerful stories with us. We fervently hope that these messages will be heard and will result in definitive changes regarding the assistance to victims of explosive weapons.

## Foreword

An eight-year-long conflict with continuous use of explosive weapons in populated areas has destroyed many parts of Syria and incapacitated most services, leaving Syrian men, women and children in a limbo, trapped on a never-ending waiting list to access their basic human rights: to walk again, to eat and drink, to play, to go to school, to work. To safely go back to the rubble of what used to be their home and build the life one deserves in safe environment. Many of those responsible for ensuring comprehensive assistance to affected Syrians are also waiting for safe and permitted access to assist those vulnerable people in need.

Humanity & Inclusion, also known as Handicap International (HI), has been relentlessly documenting harm to Syrian civilians by the use of EWIPA.<sup>1</sup> Since 2014, HI, as a co-founder of the International Network on Explosive Weapons (INEW), has been active in the international process toward a political declaration on protecting civilians from the use of explosive weapons with wide area effect in populated areas. HI has been working with States, United Nations agencies and civil society organisations to ensure that the political declaration includes clear commitments to strengthen the protection of civilians from explosive weapons and strong provisions on victim assistance (VA), building on internationally-recognised victim assistance obligations.

This report looks at the challenges linked to the use of explosive weapons in the Syrian context for the provision of adequate immediate assistance and to plan for mid- to long-term assistance to the victims of explosive violence, to ensure their full recovery and inclusion into society. It is based on data and testimonies collected from humanitarian agencies, actors and patients across all areas of control in Syria. The testimony of Farah, a Syrian girl injured during the bombing of her school, and of her mother, is shared throughout the report to illustrate the challenges faced by victims.

The report highlights the pressing need for a robust political declaration calling on all parties to conflicts to end the use of explosive weapons with wide area effects in populated areas. As urban warfare becomes increasingly common, an international political declaration with strong provisions for VA must continue to resist any normalisation of the use of EWIPA as an unavoidable aspect of armed conflict.

1. Publications previously produced by HI on Syria:  
2019, Responding to the humanitarian needs of today – preparing for the Syrian response tomorrow (issue briefs),  
2017, Everywhere the bombing followed us (report).  
2016, Qasef: Escaping the bombing. The use of explosive weapons in populated areas and forced displacement: perspectives from Syrian refugees, (report).  
2016, Syria, a mutilated future: focus on persons injured by explosive weapons (factsheet).  
2015, The use of explosive weapons in Syria: A time bomb in the making (report).  
HI/ HelpAge, 2015, Hidden victims of the Syrian crisis: disabled, injured and older refugees (report).



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## Executive Summary

Since 2014, a core group of States, international organisations and civil society organisations have been involved in an international discussion to enhance the protection of civilians from the use of explosive weapons in populated areas (EWIPA), recognizing the distinctive patterns of harm witnessed in many conflicts around the globe. It has resulted in an increasing consensus on the need for a political declaration to further regulate the use of these weapons. In 2019, the process entered a pivotal period of negotiations, which should lead to a formal adoption of a political declaration in 2020.

In this key moment, States and other stakeholders cannot miss the opportunity to ensure that victims have access to adequate assistance. Acknowledging the tremendous impact of the use of explosive weapons on the lives of survivors, the families of those killed or injured and affected communities, the political declaration should include a clear commitment and provisions on victim assistance, built on the internationally recognised victim assistance standards. These standards, obligations included in existing disarmament treaties, have become a strong norm to ensure the full and equal realization of all human rights for victims of explosive weapons and persons impaired by other causes, in compliance with the UN Convention on the Rights of Persons with Disabilities.

### On humanitarian access and humanitarian mine action

Since the inception of the conflict in 2011, the use of EWIPA has been a constant pattern of violence in Syria, taking a heavy toll on civilians. Syria's fractured context - marked by a widespread use of EWIPA, heavy contamination by explosive remnants of war (ERW) and acute challenges for principled humanitarian access, including protection of humanitarian workers - demonstrates the urgency of addressing comprehensively the needs of victims of explosive weapons. Almost 12 million people throughout Syria need humanitarian assistance but constraints for humanitarian access have been a constant feature of the Syria emergency response, hindering continuity of services and impacting the provision of assistance to victims affected by explosive weapons.

The intensive use of explosive weapons has led to massive contamination by Explosive Remnants of War in the country; however, a competent response, comprising risk education (RE), survey and mapping of contamination, and clearance, has been hampered by lack of access. Across hundreds of affected towns, the presence of contamination entails an increased vulnerability for IDPs and refugees attempting to return home in unsafe areas. Due to the expertise and



familiarity with explosive weapons required to carry out mine action activities, it is a highly sensitive element of the humanitarian response.

With clearance likely to take decades, and persons who have received no risk education disproportionately impacted by explosive accidents in Syria, mine action must be prioritised as a key component of principled humanitarian response, both immediately and in the long-term, and access constraints must be addressed.

As long as humanitarian mine action actors face access barriers to carry out risk education and clearance, Syrians will remain unable to return home in safety and dignity.

#### **On access to health care, including medical care, rehabilitation and psychological and psychosocial support**

The decimated Syrian health system struggles to cope with the alarming number of EWIPA-related victims. During the two months it took to compile this report alone, 34 hospitals were bombed, and Syria has been called “the most dangerous place on earth for health-care providers.” The use of explosive weapons in Syria has devastated the national health system – previously the envy of the region – in three main ways:

- The targeting or damaging of health facilities by aerial bombardment has halved the number of operational health facilities, left patients afraid or unable to travel to seek medical care,

and contributed to a massive exodus of health professionals.

- The combined impact of a lack of health infrastructure and human resources has directly contributed to a rise in infectious and non-communicable diseases across Syria, including the reappearance of polio, which prior to the conflict had been eradicated.
- The use of EWIPA has overwhelmed medical facilities with civilian casualties who require resource and expertise intensive life-saving care, and long-term follow-up such as rehabilitation and mental health and psychosocial services (MHPSS).

This situation will affect the Syrian health system in the long term. The complex array of injuries created by this pattern of harm can lead to long term impairment, especially when the person injured cannot access adequate emergency health care and rehabilitation services. Unmet needs for rehabilitation services are bound to increase exponentially. It is also estimated that over half of all Syrians are in need of mental health and/or psychosocial support. The psychological and psychosocial impact of being exposed to this violence, especially for the most vulnerable such as children, cannot be underestimated and will put additional pressure on already-scarce mental health resources.

## On social and economic inclusion

In addition to endangering the lives of Syrians, the use of EWIPA is dramatically impacting their livelihoods. In Syria, 50% of basic infrastructure has been estimated to be destroyed or non-functional. This damage of essential infrastructure such as roads, electric installations, and water and sewage facilities, has a long-term impact on the whole system of services.

The use of EWIPA and the contamination by landmines and ERW have contributed to loss of livelihoods due to the destruction of employment, businesses, farms and other economic assets. They have also enhanced the vulnerability of the population due to the scarcity and/or inaccessibility of housing, and rising commodity prices. Seven in ten Syrians are now reported to live in extreme poverty, and half of all Syrians live at risk of explosive hazards. Ninety percent of surveyed survivors of explosive injuries stated that they were no longer working, with men of working age most affected.

In addition, 40% of Syria's educational infrastructure is currently damaged, destroyed, and/or contaminated with explosive weapons. Schools are no longer viewed as a safe environment, leading to appalling school dropout rates (almost 44% between 2011 and 2015).

This major socioeconomic crisis will hinder recovery for generations to come, and the impact of the educational loss will be felt by Syrian children, sometimes referred to as the "lost generation."

As evidenced by the high numbers of survivors sustaining lifelong impairments, any policy or framework for VA in Syria or other States must be based upon human rights, and in line with the CRPD, to which Syria is a signatory. A national action plan on victim assistance is needed to support access to basic services including health care and employment, and compensation for lost assets. From this perspective, victim assistance should be understood not as a parallel set of activities for humanitarian actors, but rather as a cross-cutting element for multiple sectors, including health, education, work and employment, social protection and disability inclusion.

Effective victim assistance in a context such as Syria, where the use of EWIPA has affected the majority of the population, whether directly or indirectly, will require a systems approach, establishing relevant baseline data and monitoring progress as a key to fair and equitable response to the rights and needs of victims.

The scope of devastation observed in Syria demonstrates that the use of EWIPA must not become acceptable and norms against its use must be upheld at international level. It shows the complexity of planning and implementing an effective response for survivors, the families of those killed or injured and affected communities in the context of EWIPA.

HI is calling on all States to support the development of a strong political declaration to end the harm caused by the use of explosive weapons with strong provisions for victim assistance.



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# Definitions

## Populated area

A populated area is one that is likely to contain concentrations of civilians and is based on Protocol III of the 1980 Convention on Certain Conventional Weapons (CCW). Protocol III of the CCW defines concentrations of civilians as: “any concentration of civilians, be it permanent or temporary, such as in inhabited parts of cities, or inhabited towns or villages, or as in camps or columns of refugees or evacuees, or groups of nomads.” This may include locations where civilians live their daily lives, such as bus stations, school playgrounds, bakeries, markets and places of worship.

## Explosive weapons

Explosive weapons are “weapons that share common characteristics causing deaths, injuries, and damage by projecting explosive blast, heat and often fragmentation around a point of detonation. These weapons include a variety of munitions such as air-dropped bombs, mortars, improvised explosive devices (IEDs) and artillery shells.”<sup>2</sup>

## Wide area effects

Wide area effects arise from three characteristics of explosive weapons, which may be present individually or in combination. The large blast or fragmentation effects are always present and will be increased by the use of greater explosive content. The area affected by the explosive is effectively widened by inaccurate delivery, such as with bombs dropped from a height, or the use of multiple firings or warheads – a tactic which itself is often employed to compensate for inaccuracy. These wide area effects increase the likelihood that, in addition to the military target (if one exists), civilians and vital infrastructure will also be impacted. The long-term implications that the destruction of infrastructure has on public health, economic development and social cohesion are known as “reverberating effects.”<sup>3,4</sup>

## Victim assistance

The term “victim” refers to all those who suffer, directly or indirectly, from the use of explosive weapons, including persons directly injured or killed by these weapons, their family members, those who have lost homes or businesses due to the use of explosive weapons, and affected communities, such as towns whose vital infrastructure has been damaged or destroyed.<sup>5</sup> The Convention on Cluster Munitions (CCM), also known as the Oslo Convention, defines victims as “all persons who have been killed or suffered physical or psychological injury, economic loss, social marginalization or substantial impairment of the realization of their rights caused by the use of [explosive weapons]. They include those persons directly impacted by [explosive weapons] as well as their affected families and communities.” This also includes people who have been displaced from their homes due to the use of explosive weapons. Allowing access to principled humanitarian assistance is a prerequisite to meeting the needs of an affected population.

Victim assistance (VA) comprises six pillars: emergency and continuing health care; physical rehabilitation (including for physical and sensory impairments); psychological and psychosocial support; socioeconomic inclusion (including education); data collection; and laws, regulations, and policies. The six pillars of VA arose based on the principles of human rights and in response to both the immediate and long-term needs of survivors and indirect victims, such as community and family members, and people injured by explosive violence. States must ensure the full and equal realization of all human rights for victims of explosive weapons. In 2016, an international workshop on victim assistance and EWIPA emphasised the need for States to ensure these rights with an emphasis on the principle of non-discrimination, and to build on the existing obligations of the CCM to include risk education and weapons clearance commitments, the rebuilding of infrastructure, cooperation, and

2. AOAV, 2018, Explosive Violence Monitor.

3. GICHD, 2018, Characterisation of explosive weapons, research project [Online]. Available at: <http://characterisationexplosiveweapons.org/>.

4. Article 36, 2018, Explosive Weapons. [Online]. Available from: <http://www.article36.org/wp-content/uploads/2018/07/WAE-Harm-Table-Final-Version.pdf> (Accessed July 19, 2019).

5. 2008, Convention on Cluster Munitions, article 2: Definition.



unimpeded, principled humanitarian access.<sup>6</sup>

A note on terminology: victim assistance was promoted prior to the advent of the UN Convention on the Rights of Persons with Disabilities (UN CRPD) and a shift to a human-rights-based framework and language. The UN CRPD provides a comprehensive framework to address the needs of all persons with disabilities, including the obligation to ensure the consultation and participation of persons with disabilities, including survivors, and their representative organisations in policy processes. Victim assistance efforts therefore should not discriminate between survivors and persons whose impairment arises from causes other than explosive weapons. Irrespective of the “victim” terminology, approaches to victim assistance must be empowering and non-discriminatory.<sup>7</sup>

## Methods and limitations

This report was compiled from June to August 2019 and relies on multiple sources, including review of both gray and academic literature, published and unpublished data from INGOs working in Syria response, firsthand interviews with patients and Syrian humanitarians working both inside Syria and from cross-border locations, and expatriate staff from INGOs and UN agencies.

Interviews were conducted at a distance during June and July 2019 with 12 individuals, among which:

- 2 patients,
- 3 mine action operators,
- 4 medical staff, and
- 3 humanitarian workers

Special efforts were made to ensure that patients and responders from the diverse intra-country contexts could contribute, and views and data from government, opposition and Kurdish-held areas are represented in this report. Due to the sensitivity of the information shared and the volatile operating environment Syria poses, all quotes are anonymous. In the context of a

protracted, multi-party conflict, collection and verification of accurate data will always be challenging. In many instances, humanitarian agencies collect data which they do not share publicly. In 2018, The Lancet noted challenges to data collection in Syria, specifically stating that “the prevalent reliance on aerial warfare and heavy ground shelling...make documentation of civilian deaths even more difficult.”<sup>8</sup> Given these challenges, and the rigorous verification standards adhered to by all referenced actors, the numbers in this report likely reflect underestimations.

We are grateful to have frequently been granted access to unpublished data sources, not to reproduce but to understand and verify a wider picture, and while data may be incomplete due to access restraints and confidentiality requirements, wherever data from inside Syria is included in this report it is because within the context of all accessible sources, we found it to be consistent with patterns and trends emerging from multiple data sources, including UN agencies, Syrian NGOs on the ground, INGOs and media reports. All those with a responsibility to ensure a comprehensive victim assistance framework for affected Syrians should reject assertions that the Syrian context is too complex or opaque to address. The needs of persons injured, survivors and their communities are clear.

All conclusions and recommendations are informed by the experience of HI’s 37 years as a leading actor in the field of mine action and victim assistance in complex settings, and specifically HI’s experience in responding to the Syrian crisis since its earliest days.

The report is the result of the joint work and expertise of Claire O’Reilly, consultant and lead author, and the members of the steering committee: Laura Giani and Louise Ricard, Program Analysts; Anne Héry, Director of Advocacy & Institutional Relations; Thomas Hugonnier, Geographic Director; Lise Salavert, Humanitarian Advocacy Manager; Alma Taslidžan Al-Osta, Disarmament & Protection of Civilians Advocacy Manager; Bahia Zrikem, Humanitarian Policy Coordinator. Aurélie Beaujolais, Information & Publications Advocacy Manager at HI, coordinated the writing of this document.

6. Humanity & Inclusion, 2016, Victim assistance in the context of the use of explosive weapons in populated areas

7. Humanity & Inclusion 2016, Victim Assistance in the context of the use of explosive weapons in populated areas (Report).

8. Mowafi, H., 2011, Conflict, displacement and health in the Middle East. *Global public health*, 6(5), pp. 472-487.



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## “ ” Farah's testimony (part 1)

Farah\* walked through the school gates calling happily to her best friend, Haneen, who lived on the far side of the river that split their neighbourhoods. The children hadn't seen each other over the weekend, as Farah had stayed home to help her mother prepare her little brother's birthday party. Farah's little brother could not remember a birthday before the war. Together with her four sisters, Farah had raised her voice singing "Happy Birthday," trying to drown out the distant rumble of the fighting. She had saved a chocolate bonbon from the party for Haneen, and was looking forward to seeing her friend's eyes widen at the rare treat.

\*Names have been changed to protect the identities of the story tellers.

# Introduction

Prior to the Syrian conflict, Syria had near universal enrolment in primary school, with child literacy rates over 90%.<sup>9</sup> While the use of explosive weapons in populated areas (EWIPA) is recognised as devastating to civilians, the conflict in Syria is also defined by the impact of explosive weapons on public infrastructure, including schools and hospitals. In areas where civilians are concentrated, the use of explosive weapons is of particular humanitarian concern, with a devastating impact on children.<sup>10</sup>

Explosive weapons are a broad but defined category of weaponry, as they are all characterised by their central mechanism of explosion, which projects a blast wave, fragmentation and intense heat out from a point of detonation. Explosive weapons carry an especially high risk of harm to civilians because of their wide area effects, meaning their devastation may extend beyond a legitimate military target, harming civilians or civilian infrastructure, or may miss the target entirely and strike civilians.<sup>11</sup>

The enduring problem with explosive weapons with wide area effects is that their harm to civilians lies in the “combination of technology and context,” as when explosive weapons are used in populated areas it is almost impossible to avoid or guarantee no “collateral damage” among civilians.<sup>12</sup> Up to 91% of all explosive-weapon casualties in populated areas are civilians.<sup>13,14</sup>

Wide area effects are amplified through the use of larger or higher-density explosives, and inaccurate delivery, such as being dropped from the air or employing multiple firings or warheads. Part of their lethality is due to this inaccuracy, which actors frequently offset through the use of multiple munitions over a wide area, thus greatly increasing civilian harm.<sup>15,16</sup> Explosive weapons can also become more deadly in populated areas due to the fragmentation potential of the environment around the target, such as glass windows or wooden door frames, which create a large amount of deadly debris.

In Syria, the first half of 2018 was marked by unprecedented violence, with WHO recording 67 verified attacks on health facilities in just the first two months of the year.<sup>17</sup> The reverberating effects of EWIPA mean that in addition to civilians killed and injured, physical infrastructure such as roads, and sewage, water and electricity plants are damaged or destroyed, limiting civilian access to basic services for survival.

The international process to develop a political declaration to prevent civilian harm caused by the use of EWIPA continues to progress; this report will use the almost decade-long Syrian conflict to illustrate the effects of explosive weapons on civilians, particularly in terms of health outcomes.<sup>18</sup> The report will outline existing legal frameworks governing the use of EWIPA and state obligations with regard to victim assistance (VA), and the consequences to date of the use of EWIPA in Syria. By exploring each of the six pillars of VA in turn, this report will demonstrate the catastrophic impact of EWIPA on civilians in Syria, and make recommendations toward specific commitments on VA in a future political declaration on EWIPA.

9. UNICEF: Syria Children Under Siege [Online]. Available from: <https://www.unicefusa.org/syria-infographic-under-siege> (Access July 6, 2019).

10. Kerry Smith, Save the Children UK, 2011, Devastating Impact: Explosive Weapons and Children

11. HI, 2015, The Use of Explosive Weapons in Syria: A time bomb in the making.

12. INEW, 2018, Explosive Weapons [Online]. Available from: [http://www.inew.org/wp-content/uploads/2018/09/Final-for-web-circulation-BBAR21-EXPLOSIVE-VIOLENCE\\_21.8.18.pdf](http://www.inew.org/wp-content/uploads/2018/09/Final-for-web-circulation-BBAR21-EXPLOSIVE-VIOLENCE_21.8.18.pdf) (Accessed July 2, 2019).

13. AOAV, 2013, Monitoring Explosive Events [Online]. Available from: <https://aoav.org.uk/wp-content/uploads/2014/05/AOAV-Explosive-Events-2013.pdf> <https://aoav.org.uk/wp-content/uploads/2014/05/AOAV-Explosive-Events-2013.pdf> (Accessed July 18 2019).

14. ICRC, 24-25 February 2015, Explosive Weapons in Populated Areas: Humanitarian, Legal, Technical and Military Aspects. Expert Meeting, Chavannes-de-Bogis.

15. Brian Rappert & Richard Moyes, 2010, Enhancing the protection of civilians from armed conflict: precautionary lessons, *Medicine, Conflict and Survival*, 26:1, 24-47, DOI: 10.1080/13623690903553228.

16. Richard Moyes, Landmine Action, 2009, Explosive Violence, the Problem of Explosive Weapons, pp. 22–25.

17. WHO, 2018, Seven years of Syria's health tragedy [Online]. Available from: <https://www.who.int/mediacentre/news/releases/2018/seven-years-syria/en/> (Accessed July 19, 2019).

18. Health outcome: “Change in the health of an individual, group of people or population which is attributable to an intervention or series of interventions.” Source: <https://www.hfma.org.uk/docs/default-source/our-networks/healthcare-costing-for-value-institute/institute-publications/introduction-to-health-outcomes> .



# 1.

## EWIPA & victim assistance - legal and political frameworks

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The 1949 Geneva Convention enshrined the idea that “even wars have limits” and that during armed conflict, parties to the conflict do not have free rein to choose their weapons. The use of EWIPA is not expressly regulated by international humanitarian law (IHL), but due to their devastating, broad effects, their use often contradicts IHL which does prohibit direct attacks on civilians, indiscriminate and disproportionate attacks, and requires attacking parties to take feasible precautions to prevent significant civilian harm. Under the principle of distinction, IHL prohibits the use of weapons that are “indiscriminate by nature” and cannot be reliably guided to a specific military target. This includes “area bombardment” with weapons such as cluster munitions, whose blast and fragmentation effects will affect a wide area.<sup>19</sup>

The right to assistance for victims was formalised in the first Geneva Convention. In 1997, the Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on Their Destruction, known informally as **the Ottawa Treaty or Mine Ban Treaty (MBT)**, prohibited the use of anti-personnel landmines, and **was the first multilateral**

**disarmament treaty containing a provision for victims.** However, victim assistance (VA) was not granted the same prominence as other obligations in the treaty. **The Convention on Cluster Munitions (CCM), adopted in 2010, includes a specific article on VA, and these obligations serve as the most important guidelines on VA and have the same legal weight as the other obligations of the convention.** These obligations were used as bases for the discussion in a workshop on possible VA recommendations in the future political declaration on EWIPA, held in 2016 by Humanity & Inclusion in Sarajevo. During the workshop, survivors, experts and humanitarian aid workers gathered to exchange views on victim assistance provisions in the future political declaration.<sup>20</sup>

The 2015-2020 Dubrovnik Action Plan is designed to guide States in practically implementing the CCM, turning policy into action. The VA standard of the CCM states that **VA should include specific provisions for people injured, survivors, the families of those killed or injured, and affected communities to meet their basic needs in a safe and timely manner. This encompasses services including health care,**

19. However, it should be noted that Syria has not ratified Protocol II of the Geneva Conventions, which relates to protections of civilians in non-international armed conflicts.

20. Their recommendations are compiled in the leaflet: Humanity & Inclusion, 2016, Victim assistance in the context of the use of explosive weapons in populated areas – Recommendations for a future political declaration.

**education and employment, social inclusion and social protection, and compensation for the loss of homes or livelihoods which should be delivered through multi-sector engagement including non-mine-action actors.** The United Nations Policy on Victim Assistance in Mine Action (2016) and the Maputo Action Plan (2014) also call for an inclusive approach,<sup>21</sup> which specifically recognises the needs of persons with disabilities, in line with the human-rights objectives of the Convention on the Rights of Persons with Disabilities (CRPD).

In recent years, despite ongoing use of EWIPA by certain States and non-state actors, political momentum to avoid the normalisation of EWIPA and provide a solid framework for restoring and realizing the rights of victims has been building. As horrifying uses of EWIPA continue in Syria, political will nevertheless continues to coalesce, and the UN Secretary General has repeatedly called on “parties to conflict to avoid the use of explosive weapons with wide area effects in populated areas and supported the development of a political declaration.” Sixty-five countries have called for or committed to action to address this harm and supported the call of the UN Secretary General.<sup>22</sup>

**At the 2016 World Humanitarian Summit**, States agreed to “promote and enhance the protection of civilians and civilian objects...for instance by working to prevent civilian harm resulting from the use of wide-area explosive weapons in populated areas...” **The Maputo Communiqué,<sup>23</sup> comprising 19 African nations, and the Santiago Communiqué,<sup>24</sup> including 22 Latin American & Caribbean States** jointly committed to “avoid the use of explosive weapons with wide area effects in populated areas and fully support the process that will lead to the negotiation and adoption of an international political declaration on the use of explosive weapons in populated areas.” Most recently, the unanimously adopted **UN Security Council resolution on the Protection of Persons with Disabilities in Conflict** provided additional recognition of the rights and needs of people who sustain impairments resulting from explosive injuries.<sup>25</sup>

21. 2014, Maputo Action Plan [Online]. Available from: [https://www.apminebanconvention.org/fileadmin/user\\_upload/Maputo\\_Action\\_Plan\\_on\\_Mine\\_Clearance.pdf](https://www.apminebanconvention.org/fileadmin/user_upload/Maputo_Action_Plan_on_Mine_Clearance.pdf) (Accessed August 10, 2019).

22. INEW, Acknowledging the harm, <http://www.inew.org/acknowledgements/>

23. See article: Maputo Regional Meeting on Explosive Weapons in Populated Areas, <http://blog.handicap-international.org/influenceandethics/resources/maputo-regional-meeting-explosive-weapons-populated-areas/> .

24. See article: Maputo Regional Meeting on Explosive Weapons in Populated Areas <http://blog.handicap-international.org/influenceandethics/resources/santiago-regional-meeting-on-explosive-weapons-in-populated-areas/>

25. 2019, UN Security Council Resolution 2475.



## 2.

## The use of EWIPA in Syria

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Of the ten worst incidents of explosive violence globally recorded by Action on Armed Violence (AOAV) in 2018, half of all incidents, including the three most deadly, were caused by explosive weapons in Syria.<sup>26</sup> The Syrian crisis started in 2011 and has been characterized by attacks using explosive weapons in populated areas (EWIPA) by all actors, with blatant disregard for the principles of IHL: proportionality, precaution and distinction.

### 2.1 Syria's fractured reality

From December 2018 to February 2019, there were an average 165 explosive incidents per day in Syria.<sup>27</sup> Throughout the conflict, weaponry continued to flow through state actors into the hands of multiple parties to the conflict, while non-state armed groups (NSAGs) such as Islamic State in Iraq and Syria (ISIS) developed capacity for industrial-scale production of improvised explosive devices (IEDs), using diverted components from the US, Saudi Arabia, China and Russia.<sup>28</sup>

As of now, Syria contains at least three distinct regions of power,<sup>29</sup> some where the use of EWIPA

is ongoing, and all of which contain unknown levels of contamination by explosive remnants of war (ERW). Indeed, excluding rural Eastern Ghouta, throughout the conflict the government of Syria has retained control of most of their central Damascus stronghold, and much of Rif Damascus. In 2018, following the longest running siege in modern history, marked by an extensive aerial bombing campaign, the government retook the Eastern Ghouta.<sup>30</sup>

26. AOAV, 2018, Explosive Violence Monitor [Online]. Available from: <https://aoav.org.uk/wp-content/uploads/2019/05/Explosive-Violence-Monitor-2018-v5.pdf> (Accessed July 17, 2019).

27. 2019 Mine Action Sub Cluster Sit Rep.

28. Conflict Armament Research, 2017, Weapons of the Islamic State.

29. Al Jazeera, 2019, Syria's war: Who controls what? [Online]. Available from: <https://www.aljazeera.com/indepth/interactive/2015/05/syria-country-divided-150529144229467.html> (Accessed August 1, 2019).

30. Independent International Commission of Inquiry on the Syrian Arab Republic, 2018, Sieges as a Weapon of War (Report).

The south of the country, where in 2011 Arab Spring protests bloomed violently into the ongoing conflict, remained an opposition area with pockets of control by extremist groups until the summer of 2018, when the government also retook the southern governorates.

This southern offensive was completed much more quickly than expected, as the use of aerial

bombardment forced hundreds of thousands of Syrians to flee.<sup>31</sup> Many travelled to the last opposition stronghold of Idlib in the northwest, where at the time of writing over 3 million people are in need, and bombardments have reached almost daily frequency despite peace agreements.<sup>32</sup> The northeast of the country is held in part by the Kurds who, with the support of coalition airstrikes, defeated ISIS in Raqqa.



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## 2.2 Access to principled and inclusive humanitarian assistance

To understand the implications of EWIPA in the Syrian context, and to plan an effective response for survivors, the families of those killed or injured and affected communities, it is necessary to understand **the operational implications of Syria's current functioning as three separate geographic entities, rather than one unified state.** In the northeast, the Kurds grant physical access to INGOs looking to set up health centres, camps and other services, while in the northwest INGOs and Syrian organisations operate remotely under the UN Security Council resolution allowing cross border support from neighbouring Turkey. An increasing number of organisations are granted

permission by the government of Syria to register in Damascus and access areas under their control.

**In this fragmented space, the principles of humanity, neutrality, independence and impartiality are regularly challenged and there are ongoing barriers to the delivery of principled aid and health care.** This fractured landscape also impacts the ability to collect data, accurately assess needs and plan a systematic response. Actors operating in the shrinking humanitarian space afforded by cross-border operations work with a low profile, which hampers open information sharing and collaboration.

31. International Crisis Group, 2019, Lessons from the Syrian State's Return to the South (Report).

32. OCHA, 2019, Humanitarian Update Syrian Arab Republic [Online]. Available from: [https://reliefweb.int/sites/reliefweb.int/files/resources/FINAL%20Humanitarian%20Update%20No.%203%20\\_%2024%20%20May%202019\\_final.pdf](https://reliefweb.int/sites/reliefweb.int/files/resources/FINAL%20Humanitarian%20Update%20No.%203%20_%2024%20%20May%202019_final.pdf) (Accessed July 28, 2019).

In Syria, **the use of explosive weapons is having dire effects on access to principled and inclusive humanitarian assistance.** The provision of essential basic services is very much dependent on the ability of affected communities to have a continued access to humanitarian assistance and the ability of humanitarian workers to reach areas affected by the conflict. The 2019 Humanitarian Needs Overview estimates that 11.7 million people are in need of humanitarian assistance throughout the country,<sup>33</sup> and the use of explosive weapons is increasing the scope of the affected communities and exacerbating their vulnerability, by impeding access to humanitarian services such as health, food and clean water. Moreover, with 1.1 million people estimated to be living in hard-to-reach areas, restrictions and discontinuities in humanitarian access to affected communities are also an acute challenge in Syria.

**The dual dimension of humanitarian access (affected populations' access to assistance and humanitarian actors' access to affected**

**populations) continues to be impacted by the use of explosive weapons after the end of the hostilities.** Indeed, in addition to making pastoral land unusable, contamination by explosive remnants of war makes certain areas no-go for humanitarians. This prevents humanitarian workers from delivering services and maintaining a regular/permanent presence within affected areas and further isolates communities from needed assistance. Populations living in these contaminated areas are therefore left to risk their lives while trying to reach the health structure and/or food distribution.

**The only sustainable way to restore people's access to humanitarian aid is the immediate cessation of hostilities and, barring that, the respect for IHL. At the very least, urgent humanitarian access issues, such as the protection of civilians and humanitarian workers, have to be addressed to ensure continuity of services.**

## 2.3 Injury and death: data and patterns across Syria

*"At least 59 civilians were killed and over 100 women, children and men were injured, many of them critically, when a succession of deadly airstrikes hit multiple locations in southern Idlib today."*

*"The worst attack was on a popular public market... Some of the dead bodies were torn into pieces or burnt beyond recognition. Many of the victims were women and children, some of them suffering the most horrific injuries. Rescue workers have been working all day pulling people out from under the rubble. Many remain buried. The search for survivors was continuing as darkness fell."*

**Statement by the deputy regional humanitarian coordinator for Syria on July 22, 2019.** <sup>34</sup>

During World War I, civilians accounted for 15% of all fatalities, but in modern conflicts the burden of mortality and morbidity has shifted to civilians. In violation of international legal frameworks, including the Geneva Conventions, civilians increasingly find themselves targeted during

wartime. **In 2018, AOAV recorded 15,575 persons injured by explosive weapons, 82% of whom were civilians.**<sup>35</sup> Generally, in populated areas, **explosive weapons kill significantly more civilians than combatants,**<sup>36</sup> while globally the number of people wounded during war is estimated to be at

33. OCHA, 2019, Humanitarian Needs Overview, Syria.

34. UN OCHA [Online]. Available from: [https://reliefweb.int/sites/reliefweb.int/files/resources/FINAL%20DRHC%20statement\\_Market%20Attack\\_22%20July%20.pdf](https://reliefweb.int/sites/reliefweb.int/files/resources/FINAL%20DRHC%20statement_Market%20Attack_22%20July%20.pdf) (Accessed July 23, 2019).

35. AOAV, 2018, Explosive Violence Monitor [Online]. Available from: <https://aoav.org.uk/wp-content/uploads/2019/05/Explosive-Violence-Monitor-2018-v5.pdf> (Accessed July 17, 2019).

36. Landmine Action, 2009, Explosive Violence: The Problem of Explosive Weapons.





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least twice the number killed, and may be 13 times as high.<sup>37</sup>

Despite the challenges to any one actor gaining access to the multiple sub-contexts present in Syria, high-quality data collection is being undertaken in many locations. One such high-profile study published in *The Lancet* in 2018 analysed deaths occurring in non-government-controlled areas from 2011 to 2016.<sup>38</sup> Among the almost 150,000 deaths with complete information available, 70% were civilian, with over half of these caused by the use of EWIPA. The authors attributed this death toll to the increased use of wide-area explosives in urban areas, aerial bombing and shelling.

**Currently, 10.2 million people, roughly half the population of Syria, live in communities reporting explosive-weapons contamination.**<sup>39</sup> In addition to areas such as the northwest, which continues to endure shelling and bombing, the hazards of unexploded ordnance (UXO) pose a danger across broad swaths of the country, which will remain for generations.<sup>40</sup> Even if the country stabilises,

lessons from countries such as Sri Lanka suggest that the death and injury toll of UXOs will only increase as displaced Syrians attempt to return home.<sup>41</sup>

Contrast this deadly picture with Syria before the onset of violence in March 2011, when the most common causes of death were cardiovascular disease and cancer. Since 2011, however, the average life expectancy in Syria has decreased by 20 years,<sup>42</sup> and civilians face the ever-present risk of being killed or maimed in the seemingly unending violence. **The use of explosive weapons with wide area effects, such as “dumb bombs,” means a growing trend toward devastating, complex injuries, which require immediate and skilled trauma care and alter the life of survivors and indirect victims both visibly and invisibly.**<sup>43</sup>

Many sources have referred to the large number of deaths and lifelong injuries, such as amputations, that could have been avoided with earlier or better-resourced treatment. This impact on the health system will be felt for generations to come.<sup>44</sup>

37. Coupland, R.M. and Meddings, D.R., 1999, Mortality associated with use of weapons in armed conflicts, wartime atrocities, and civilian mass shootings: literature review. *Bmj*, 319(7207), pp. 407-410.

38. Guha-Sapir, D., Schlüter, B., Rodriguez-Llanes, J.M., Lillywhite, L. and Hicks, M.H.R., 2018, Patterns of civilian and child deaths due to war-related violence in Syria: a comparative analysis from the Violation Documentation Center dataset, 2011–16. *The Lancet Global Health*, 6(1), pp. e103-e110.

39. OCHA, 2019, Syria Humanitarian Needs Overview.

40. Humanity & Inclusion, 2015, Kobani, A city of rubble and unexploded devices.

41. MSF experience in Sri Lanka Meade, P. and Mirocha, J., 2000, Civilian landmine injuries in Sri Lanka. *Journal of Trauma and Acute Care Surgery*, 48(4), pp. 735-739.

42. UNDP, 2015, Alienation and violence, Impact of Syrian Crisis Report 2014.

43. Aboutanos, M.B. and Baker, S.P., 1997, Wartime civilian injuries: epidemiology and intervention strategies. *Journal of Trauma and Acute Care Surgery*, 43(4), pp. 719-726.

44. Avicenna Editorial: Syrians' alternative to a health care system: “field hospitals” Field hospitals provide care. Sankari, A., Atassi, B. and Sahloul, M.Z., 2013. Syrian field hospitals: A creative solution in urban military conflict combat in Syria. *Avicenna journal of medicine*, 3(3), p. 84.



# 3.

## Consequences of the use of EWIPA in Syria

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The use of EWIPA must continue to be met with global condemnation, and despite the actions of the worst offenders, the use of EWIPA must not become acceptable. Norms against their use must be upheld.<sup>45</sup> The following section of this report aims to demonstrate the broad and devastating impact the ongoing use of EWIPA has had in Syria.

### 3.1 Types of injuries and injury patterns arising from EWIPA

Human bodies and minds are completely vulnerable to the force of explosive weapons (see Annex 1), and IHL exists to limit the exposure of civilians to these weapons. Those people who survive an attack by explosive weapons are likely to experience a complex array of injury types, with the severity of the wounds usually dependent upon their proximity to the epicentre of the explosion. People closer to the centre of the blast are more likely to experience multiple types of injury and are least likely to survive. Those further away may suffer a combination of primary injuries caused by the blast wave, and penetrating trauma from explosive fragments or injuries from being thrown by the force of the blast. All people affected will carry the deep emotional impact of the attack, and their injuries, with them for the rest of their lives.

*“Sometimes surgeries were unfortunately unavailable. ... Sometimes there is a delay in providing aid to patients, which unfortunately results in permanent impairment or death.”*

**Surgeon operating in Syria, July 2019**

The odds of survival and the nature of the injuries depend upon the type of explosive weapon, the distance of the person from the detonation, and the body part which is impacted. **Due to the capacity of explosive weapons to cause mass casualties, hospitals can be overwhelmed by the sudden influx of severely injured patients. This can result in people with otherwise survivable injuries dying due to insufficient surgeons or blood supplies, and injuries which could have been treated conservatively in a peacetime setting are addressed with aggressive methods such as amputation,** as quickly saving the patient’s life can be the only consideration. Specifically in Syria, IEDs have been associated with complicated fractures accompanied by significant damage to the soft tissues such

45. Boer, R., Schuurman, B. and Struyk, M., 2011, Protecting civilians from explosive violence. Defining the Humanitarian Problem, p. 20.

as nerves.<sup>46</sup> Blast injuries can frequently result in traumatic amputations and extensive contamination of wounds – meaning dirt and ground matter are pushed deep into the wound by the force of the explosion. This contamination can result in infection and the need for repeated surgeries to adequately clean and debride the wound, making recovery longer and more traumatic for the patient. **The sheer range of injury types and severity associated with explosive weapons presents a serious challenge to health care providers, meaning that many people affected will continue to struggle with their injuries throughout their lifetime.** Historically, most research on the types and treatment of explosive weapons was gathered from military populations. Although the management and research of military injuries were previously considered a specialist area due to the unique exposure to violence experienced by members of the armed forces, this divide is no longer applicable in Syria.

In Syria, civilians suffer explosive violence at higher levels than soldiers, but without any of the protective equipment that members of the military are afforded, such as helmets and body armour. Doctors, surgeons and nurses, whether working in military or civilian facilities must expect, during wartime, to treat multiple, complex, and severe wounds from explosive weapons. **In Syria in 2019, family doctors have been forced, by necessity and gruesome practice, to become experts in the principles of combat trauma:** high-energy blast wounds, multiple injuries, a higher likelihood of severe penetrating injuries, hospitals regularly targeted by airstrikes, missing equipment and resources, and a lack of specialist referral facilities for unstable patients.<sup>47,48</sup>

*“As surgeons, we performed many emergency procedures outside of our specialty, such as opening the chest to stop bleeding and treating some vascular injuries. I, as an orthopaedic surgeon, have conducted emergency procedures such as abdominal surgeries and managing different cases. In other words, we were all emergency doctors.”*

**Orthopaedic surgeon working in Syria, August 2019**

## Injury pattern: children particularly impacted

Available data shows that **the increasing use of aerial bombardment has made the conflict progressively more deadly for civilian women and children.** The proportion of child deaths increased almost threefold; from 1 in 10 of all civilian deaths in 2011 to 1 in 4 by 2016.<sup>49</sup>

According to UNICEF, in 2018 alone, 1,106 children were killed in the fighting in Syria – the highest annual tally since the start of the war – with 262 recorded attacks against education and health facilities.<sup>50</sup> These are only the numbers which the UN has been able to verify, and true figures are likely much higher. The use of explosive weapons has been shown to correspond to an increase in injured women and children,<sup>51</sup> and tank fire, artillery, bombs from aircraft, missiles and mortars have been shown to result in higher proportions of female and child casualties than other types of explosive weapons.<sup>52</sup>

46. Guha-Sapir, D., et al., 2015, Civilian deaths from weapons used in the Syrian conflict. *Bmj*, 351, h4736.

47. Champion, H. R., et al., 2003, A profile of combat injury. *Journal of Trauma and Acute Care Surgery*, 54(5), S13-S19.

48. Champion, H. R., Holcomb, J. B., Lawnick, M. M., Kelliher, T., Spott, M. A., Galarneau, M. R., ... & Eastridge, B. J., 2010, Improved characterization of combat injury. *Journal of Trauma and Acute Care Surgery*, 68(5), 1139-1150.

49. Guha-Sapir, D., Schlüter, B., Rodriguez-Llanes, J.M., Lillywhite, L. and Hicks, M.H.R., 2018, Patterns of civilian and child deaths due to war-related violence in Syria: a comparative analysis from the Violation Documentation Center dataset, 2011–16. *The Lancet Global Health*, 6(1), pp. e103-e110.

50. UNICEF, 2019, Press Release [Online]. Available from: <https://www.unicef.org/press-releases/2018-deadliest-year-yet-children-syria-war-enters-9th-year> (Accessed July 18, 2019).

51. Systematic medical data collection of intentional injuries during armed conflicts: a pilot study conducted in West Bank, Palestine Karin Helweg-Larsen<sup>1</sup>, Ashraf Hasan Abdel-Jabbar Al-Qadi<sup>2</sup>, Jalal Al-Jabri<sup>2</sup> and Henrik Brønnum-Hansen<sup>1</sup> <sup>1</sup> National Institute of Public Health, Denmark, <sup>2</sup> Legal Medicine Institute, Al-Quds University, Palestine Authorities West Bank.

52. Madelyn Hsiao-Rei Hicks et al., 2009, The Weapons that Kill Civilians: Deaths of Children and Noncombatants in Iraq, 2003–2008, *The New England Journal of Medicine*, vol. 360, no. 16, pp. 1585–1588.

**Children are particularly vulnerable to blast injuries, and are disproportionately maimed and killed by landmines, IEDs and other explosive weapons.** Due to the physiological makeup of a child's body – thinner skin, more flexible bones, greater heat and fluid sensitivity, proportionately larger heads – they are less likely to survive blast injuries, and when they do, their injuries are frequently for life. In mid-2019, the WHO-led Syria health cluster circulated a training manual for health professionals specifically designed to support the treatment of children with blast injuries.<sup>53</sup> That children being injured by explosive weapons is now such a common occurrence that Syria-specific resources have been produced is itself damning.

Amputations are particularly gruelling injuries for children to endure; as they age, the amputated bone will continue to outgrow the surrounding tissue, meaning they may need to return to the hospital not only to resize their prosthesis, but for repeated surgical amputations to manage the bone length. **Children also have a higher**

**need for follow-up care, as they grow out of their wheelchairs, prostheses or other assistive products, and the emotional impact of explosive violence – which may also claim the lives of parents or siblings – cannot be overstated.**

**Clinicians inside Syria regularly request assistance in treating children who have started wetting the bed or gone mute as a result of what they have witnessed.** A protection assessment in northwest Syria as recently as May 2019 found that over half of households with children report unusual crying, screaming and bed-wetting, with one mother quoted as saying “My son is three-and-a-half years old. After the bombardments, he started having nightmares and began wetting his bed. He tells me that he is seeing dead bodies.”<sup>54</sup> In 2017, a study by Save the Children found that behaviour changes, including aggression, fearfulness and bed-wetting, were extremely common among Syrian children, with 84% of adults reporting that fear of shelling and bombing was the cause of their children's fear.<sup>55</sup>

53. Imperial College London, 2019, Paediatric Blast Injury Field Manual, [https://www.imperial.ac.uk/media/imperial-college/research-centres-and-groups/centre-for-blast-injury-studies/PBIP-BlastInjuryManual2019\\_I\\_web.pdf](https://www.imperial.ac.uk/media/imperial-college/research-centres-and-groups/centre-for-blast-injury-studies/PBIP-BlastInjuryManual2019_I_web.pdf)

54. Protection Monitoring Report North West Syria May/June 2019.

55. Save the Children 2017, Invisible Wounds.



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## 3.2 Massive contamination due to the use of EWIPA

*“Contamination is massive. And when we say it is massive, I think it is the worst country in the world in terms of people injured by explosive weapons. It’s huge.”*

**Mine action expert in Syria**

Just as the Constitution of the WHO states that “health is... not merely the absence of disease or infirmity,” so, due to the legacy of explosive remnants of war (ERW), will the cessation of hostilities alone not mean an end to the violent and reverberating effects of explosive weapons in Syria. With 10.2 million Syrians currently living in areas contaminated by ERW, the devastating impact of this deadly legacy is clear – in Syria, an average of 2 out of 3 survivors of explosive violence treated by health actors sustain a lifelong impairment, and one out of three require limb amputation.<sup>56</sup> With an estimated 150,000 persons injured by explosive accidents in Syria, this would mean 50,000 new amputees from explosive incidents alone.<sup>57</sup> **Overall, 1 in 10 people in Syria with an injury related to armed violence is estimated to be a victim of an explosive hazard accident.**<sup>58</sup>

The scale of the problem is undeniable, **but a competent response comprising risk education (RE), survey and mapping of contamination, and clearance has been hampered by lack of access.** Due to the expertise and familiarity with explosive weapons required to carry out mine action activities, it is a highly sensitive element of the humanitarian response.

The United Nations Mine Action Service (UNMAS) coordinates support for 27 mine action organisation across Syria, but was granted an

MOU with the Syrian government in Damascus only in 2018. The combination of resources and expertise required for humanitarian mine action, with the fact that the use of EWIPA continues – resulting in increasing contamination even as mine action activities are carried out – means that clearing UXOs has been slow and, in some areas, impossible. This sensitivity also means that actors who do collect data may be reluctant to share this publicly, for fear of further reducing their access and thus their ability to carry out lifesaving activities. The risks to survey, clearance and RE staff themselves in undertaking humanitarian mine action work should also be noted. In some areas, risk education cannot be carried out openly if armed groups are still present in the area.

While the long-term goal of clearance efforts should be the removal and neutralization of explosive remnants of war, that work is likely to take decades. **Clearance timeline is hard to estimate in Syria, but experts commonly suggest a period of at least 30 years. All experts consulted agreed that the variety of weapons, perpetrators and battle tactics resulted in an exceedingly complex contamination picture,** comprising everything from minefields to IEDs hidden in the structure of houses and unexploded bombs littering farm fields, meaning removal will be extremely difficult. They highlighted the need for high levels of expertise, given the variety of explosive weapon types.<sup>59</sup>

56. 2017 Unpublished health partner data.

57. UNICEF 2017 Children with disabilities at risk of exclusion [Online]. Available from: <https://www.unicef.org/press-releases/no-end-sight-seven-years-war-syria-children-disabilities-risk-exclusion> (Accessed July 9th 2019).

58. 2018 Unpublished health partner data.

59. Based on three interviews conducted in June 2019 with security or Mine Action experts based across the three main areas of political control in Syria.

## High risks due to lack of risk education (RE)

While the data for Syria may as yet paint an incomplete picture, the trends of harm and risk are clear, and lessons can be learned from similar contexts. A data analysis conducted in Syria in 2018 estimated that 1 in 10 persons injured by war were victims of explosive hazards, and showed:

- Half of all accidents took place in rural areas.
- 1 in 5 victims was a child, and almost half were playing at the time of the accident.
- 85% of victims were men or boys.
- 95% of surveyed survivors had not received risk education prior to the accident.<sup>60</sup>

Current RE actors in Syria do not have the capacity to target everyone at risk, and so groups are prioritised according to their risk profile and the accessibility of their community. Priority recipients include IDPs who have been displaced to an unfamiliar area, host communities in areas that have seen a lot of fighting, and children who, due to their age, are naturally inquisitive and particularly physically vulnerable. With clearance likely to take decades, and persons who have received no RE disproportionately making up victims of explosive accidents in Syria, mine action must be prioritised as a key component of principled humanitarian response both immediately and in the long term.

## Impact on returns

*“Their intention in using these weapons is to create fear and suffering. People are afraid if they see or hear of people being hurt or killed – they are afraid to go back.”*

**Mine action expert, Syria**

Across hundreds of affected towns and villages, the presence of contamination affects IDPs and refugees attempting to return home. In Afghanistan, almost 4 out of 5 people treated by the ICRC for mine injuries were returning refugees, with one-third of them injured within three months of returning home. This experience is being borne out in Syria, where a humanitarian actor estimated that in one area of the country 40% of those injured by explosive accidents had returned home within the preceding six months.<sup>61</sup>

A national action plan on VA is needed to support access to basic services including health care and employment, and compensation for lost assets, but access must also be granted to humanitarian mine actors to carry out risk education and clearance; otherwise, Syrians will remain unable to return home in safety and dignity.

60. UNMAS, 2018, Victims of explosive hazard accidents in Syria – Factsheet.

61. Humanity & Inclusion, 2018, Unpublished data.



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The need for long-term funding for survey and clearance activities is equalled by the need for affected communities to be granted unimpeded, needs-based access to humanitarian assistance including mine-action-related activities.

## Main recommendations on humanitarian access

Parties to the conflict, donors, States, UN agencies and other involved parties should:

- Ensure that affected communities be granted unimpeded, principled access to humanitarian assistance. The protection of humanitarian actors, including local staff, should be prioritized and reaffirmed as an essential component of humanitarian access, to ensure the continuity of the services they are delivering.

## Main recommendations on humanitarian mine action

Parties to the conflict should :

- Build sustainable community knowledge through awareness and education about the risks posed by the use of conventional weapons, including unexploded ordnance.

All stakeholders – donors, States, UN agencies and other involved parties – should

- Recognize that humanitarian mine action is a prerequisite to any immediate or long-term recovery, and continue to stress the humanitarian, neutral and impartial nature of mine action activities.
- Ensure that paragraph 11 of United Security Council Resolution 2401 (2018) which “calls for humanitarian mine action to be accelerated as a matter of urgency throughout Syria,” reiterated in paragraph 25 of S/RES/2449 (2018), is implemented immediately.
- Encourage the use of a comprehensive mine action approach which mainstreams a gender, age and disability perspective.

Donors must:

- Commit humanitarian funding to significantly scale up mine action activities, in line with International Mine Action Standards and humanitarian principles.

# 4.

## Responding to the needs of victims of EWIPA in Syria

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### “” Farah's testimony (part 2)

Kareem was relaxing at home, playing with his two young sons after a long day in the hospital. For the last three years, Kareem had volunteered as an informal ambulance driver in the city, and when explosions rocked the nearby neighbourhoods, he would sprint to the family car and drive toward the chaos, following the smoke spiralling above the rooftops. He would help those well enough to walk into the back of his car, then race them through the streets to the local hospital emergency room. The sight of Kareem's battered red Toyota came to signal the start of a busy shift for staff in the emergency department. That day, his afternoon was cut short when a number of shells hit Farah's school.

When he arrived at the scene of the bombed school, Kareem found a group of young girls, no older than 10 or 11, scattered on the ground. Farah was still breathing as he lifted her into the back seat of his car, alongside two other injured children and a teacher. With the help of another volunteer, he carefully lifted the lifeless bodies of Farah's classmates into the trunk of the car. Taking care not to catch Haneen's bloodstained uniform, he carefully closed the trunk before driving toward the hospital. If he drove fast enough, he thought, maybe the girl would survive.



The internationally recognised VA standards were set forth in the Convention on Cluster Munitions (CCM). **VA should be understood not as a parallel set of activities for humanitarian actors, but rather as a cross-cutting element for multiple sectors, including health, education, work and employment, social protection and disability inclusion.** VA consists of six pillars, each of which will be explored in terms of the Syrian context in the following section of this report, including concrete recommendations related to each pillar for a future political declaration on EWIPA.

## 4.1 Pillar 1: Emergency and continuing health care

### A devastating impact on health facilities and public infrastructure

The effect of this fractured reality, of the lack of humanitarian access to health services, and of the health system's inability to coordinate and respond has been catastrophic. Further compounding this situation, the health system itself has not avoided significant harm during almost a decade of conflict. Only half of Syria's hospitals are functional today.<sup>62</sup>

**The use of explosive weapons in Syria has devastated the national health system** – previously the envy of the region – in three main ways:

- The targeting or damaging of health facilities by aerial bombardment has halved the number of operational health facilities, left patients afraid or unable to travel to seek medical care, and contributed to a massive exodus of health professionals.
- The combined impact of a lack of health infrastructure and human resources has directly contributed to a rise in infectious and non-communicable diseases across Syria, including the reappearance of polio, which prior to the conflict had been eradicated.
- The use of EWIPA has overwhelmed medical facilities with civilian casualties who require resource- and expertise-intensive lifesaving care, and long-term follow-up such as rehabilitation and mental-health and psychosocial services (MHPSS).

Damage to health and public infrastructure has led to an overall deterioration in health across the country, **shaving 20 years off the average life expectancy** and leading to the re-emergence of previously eradicated diseases. In May 2016, one of the last paediatricians in Aleppo is believed to have been killed in an airstrike,<sup>63</sup> and the overall number of doctors remaining in Syria has halved compared to pre-crisis levels. In 2018, WHO recorded 142 attacks against health facilities in Syria, of which 123 were recorded as using heavy weapons such as missiles, bombs and mortars.<sup>64</sup> These attacks caused 291 deaths and injuries, 100 of which involved heavy weapons. While these targeted attacks have continued into the first half of 2019, Syrian health professionals have been forced to develop contingency plans. Numerous “cave hospitals” have been dug meters into the ground or the sides of mountains in an attempt to survive unrelenting aerial bombardment.<sup>65</sup>

By the time of the writing of this report, WHO's surveillance system had recorded 39 confirmed attacks in 2019 using heavy weaponry on health care in Syria, resulting in 19 deaths and 39 injuries.

**As ambulances, hospitals and health facilities came under attack, field hospitals sprang up in an attempt to meet the health needs of the local population.**<sup>66</sup> However, attacks with explosive weapons in busy, populated areas cause mass

62. WHO, 2018, HeRAMS Annual Report Public Health Centres in the Syrian Arab Republic (Report).

63. Independent, 2016, [Online]. Available from: <https://www.independent.co.uk/news/world/middle-east/syria-conflict-footage-aleppo-paediatrician-al-quds-air-strike-a7008596.html> (Accessed July 18, 2019).

64. WHO Surveillance System for Attacks on Healthcare [Online]. Available from: <https://publicspace.who.int/sites/SSA/SitePages/PublicDashboard.aspx> (Accessed July 2, 2019).

65. Al Jazeera, 2017, Syria: Secret underground hospital established to treat injuries [Online]. Available from: <https://www.aljazeera.com/news/2017/11/syria-secret-underground-hospital-established-treat-injuries-171125123450897.html> (Accessed July 18, 2019).

66. Statement by Panos Mounmtzis [Online]. Available from: [https://www.humanitarianresponse.info/sites/www.humanitarianresponse.info/files/documents/files/rhc\\_statement\\_on\\_aid\\_worker\\_death\\_ambulance\\_21\\_june\\_2019.pdf](https://www.humanitarianresponse.info/sites/www.humanitarianresponse.info/files/documents/files/rhc_statement_on_aid_worker_death_ambulance_21_june_2019.pdf).

casualties with which field hospitals are unable to cope, and in still-functioning hospitals, the shortage of specialist health workers, from surgeons and emergency physicians to nurses and lab technicians, means that existing staff are easily overwhelmed by the sheer number of people who can be critically injured by an attack using explosive weapons. **More Syrians are estimated to have died from the breakdown of the health system than directly from the fighting.**<sup>67</sup>

**Damage to critical infrastructure such as water or electrical facilities and supply networks disrupt services which are essential for civilian survival and well-being.** These impacts affect both direct and indirect victims and are accentuated where there is widespread use of EWIPA over a prolonged period of time, as in Syria. **When the health system itself is “injured”** – through the destruction of ambulances and roads that transport patients, electrical grids that supply incubators and operating rooms – **deaths and disability increase.** One health actor working inside Syria found that among patients involved in an explosive accident, the destructive effects of explosive violence on the transportation network posed a barrier to lifesaving care, with almost one in three patients taking more than two hours to reach a medical facility.<sup>68</sup> In 2014, the head of the Syrian American Medical Society (SAMS) estimated that at least 200,000 people have died in Syria because they did not have access to routine medical care.<sup>69</sup> Damage to systems such as referral networks and pharmaceutical stocks is less visible but just as deadly and disabling as any explosion. The collapse of the domestic pharmaceutical industry in Syria has resulted in unregulated black-market medicines, just as disabling non-communicable diseases (NCDs) such as hypertension and diabetes are on the rise.<sup>70</sup>

**The use of explosive weapons has also altered health behaviours for all civilians, even those not directly injured by these weapons.** Women now routinely schedule caesarean sections rather than natural births as they are more predictable. They can plan the procedure during a time when bombing raids are less frequent, transport is available, and electricity and doctors should be available. Patients who have undergone major surgery discharge themselves within hours of waking from their anaesthesia, unwilling to risk remaining in the hospital, or away from their families, and missing out on vital follow-up care.<sup>71</sup> Explosive weapons should never be used in populated areas, not only because of the direct harm they inflict, but also due to their more insidious, reverberating effects, such as forcing the impossible decision upon the parent of a sick child as to whether it is riskier to travel to a hospital or do nothing.

In addition to difficulties finding specialist care, patients are often left without any definitive diagnosis and follow-up, even in the case of life-changing injuries such as Spinal Cord Injury (SCI). Aware of the potentially devastating psychological impact of receiving a diagnosis such as SCI, with possible lifelong complications (including incontinence, the inability to walk, and implications for fertility and family life), and of the lack access to the usual framework of supportive services (psychological care, bladder and catheter care, rehabilitation services and wheelchair fitting) doctors operating outside their usual area of expertise may be reluctant to discuss the long-term implications of injuries to patients. Without the safety net of psychological services and a functioning health system to support survivors' ability to function and participate in society, doctors and health professionals face stark ethical dilemmas when communicating with patients about a realistic prognosis in the unforgiving setting of a country still in conflict.

67. World Bank, 2017, The Toll of War: The Economic and Social Consequences of the Conflict of Syria.

68. Health actor, Syria, 2018, Unpublished data.

69. Time Magazine 2014, A. Baker, Syrian Doctors Flee the War, Leaving a Health Crisis in Their Wake.

70. C. Lynch, Foreign Policy 2014, Syria's War on Medicine.

71. Fouad, F.M., et al., 2017, Health workers and the weaponisation of health care in Syria: a preliminary inquiry for The Lancet–American University of Beirut Commission on Syria. The Lancet, 390(10111), pp. 2516–2526.

## “” Farah’s testimony (part 3)

*In the hospital, the surgeon removed the thin, sharp piece of shrapnel that had severed Farah’s spinal cord just above the level of the waistband where she had tucked Haneen’s bon bon. He wondered how to break the news to the family that, although their daughter had survived, she would likely never walk again.*

*“In the first days, Farah's physical and health situation was extremely difficult. I didn't have any idea that her injury was so severe or dangerous. I have faith and hope that God willing, someday she will walk again on her own two feet, and this is the only hope that encourages me.”*

**Farah’s mother, Fatima**



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## 4.2 Pillar 2: Physical rehabilitation

### Access to rehabilitation

There are an estimated 2.9 million people in Syria living with a disability,<sup>72</sup> and for survivors of explosive accidents, bombing and shelling, the physical injuries can be devastating. A review by the WHO-led South Syria Health Cluster reported that **45% of Syrians injured by war-related causes sustain a lifelong impairment,<sup>73</sup> and this percentage is even higher among those injured by explosive weapons, particularly children.** The impairment that can result from explosive injuries significantly influences the life course of a person, but **access to high-quality rehabilitative care can optimise functioning, allowing survivors to**

**resume their prior social and economic roles.** One survey conducted in 2018 found that four out of five Syrians with a disability had an unmet need for health or rehabilitation services.<sup>74</sup>

At various points in the war, neighboring countries including Jordan and Turkey have facilitated medical evacuation and care for gravely injured Syrians, and much reliable data exists on this cohort. In Turkey, the rate of blast injury among Syrians was over 1 in 3 among survivors, with over half (57.6%) of patients who died succumbing to blast injuries.<sup>75</sup> This mortality rate was higher than

72. Humanity & Inclusion, 2019, Issue Brief Health Care, Mental Health and a Comprehensive Approach to Physical Rehabilitation.

73. Health Services and Population Status Report: Southern Syria, 2018, [Online]. Available from: [https://www.humanitarianresponse.info/sites/www.humanitarianresponse.info/files/documents/files/2018\\_04\\_10\\_hss\\_report\\_-\\_vers\\_4.0\\_final.pdf](https://www.humanitarianresponse.info/sites/www.humanitarianresponse.info/files/documents/files/2018_04_10_hss_report_-_vers_4.0_final.pdf) (Accessed July 15, 2019).

74. PRDWG & REACH, 2018, Disability and Access to Healthcare: Idleb, Western Aleppo and Ar-Raqqa (Report - Private circulation).

75. Hakimoglu, S., et al., 2015, Assessment of the perioperative period in civilians injured in the Syrian Civil War. *Brazilian Journal of Anesthesiology (English Edition)*, 65(6), 445-449.

those seen during the Bosnia, Vietnam, Lebanon and Afghanistan wars, and the Turkish doctors stated they believed this was due to civilians being a target of explosive weapons during war. In Antakya, Turkey, just 60km from the Syrian border, an analysis of Syrian patients showed that the most common cause of injury (55%) was direct blast effect,<sup>76</sup> followed by building collapse or falling from heights due to explosions. Children were more likely to experience head injuries.

The Jordanian border with Syria has now closed, leaving people who were injured in the southern offensive in early 2018 often stranded without access to life- and limb-saving care. Among Syrian patients who were transferred to Jordanian hospitals earlier in the conflict, over half of a group treated in King Abdullah Hospital had been injured by explosive weapons, and almost one in five survivors suffered long-term musculoskeletal and neurological deficits.<sup>77</sup> Approximately 70% of the casualties from hostile action resulted from explosive weapons.<sup>78</sup> In Iraq, the increasing prevalence of blast injuries has been noted, with explosive weapons accounting for 78% of combat injuries,<sup>79</sup> the highest proportion seen in any large-scale conflict prior to Syria.

**Traumatic injuries which may result in disability are major contributors to morbidity and impaired function among Syrian civilians. A 2018 assessment on disability and access to health care among adults in western Aleppo, Idlib and Raqqa governorates found an average disability prevalence rate of 30%, double the global**

**average of 15%.<sup>80</sup>** Many of those surveyed who were living with a disability stated that explosive injury had been the cause of their impairment, and accessing rehabilitation services and products was a top unmet health need for them. A separate analysis of patient data showed in 2017-2018 that aerial bombardment and shelling were the most common cause of war-related injury, followed by landmines and booby traps.<sup>81</sup> **The reverberating effects of life-altering injury ripple out across the family and across communities, as spouses and children, particularly women and girls, are forced to take on caregiver roles, and the ability of heads of households to earn a living is destroyed.** According to assessments conducted in 2017, out of all persons seeking care in southern Syria for a war-related injury, 53% of those treated can expect a long-term impairment, such as amputation, spinal cord injury or brain injury.<sup>82</sup>

In addition to the destruction of health and rehabilitation facilities, many female survivors face an additional hurdle to accessing rehabilitation and health services, as in some documented areas of Syria only one in five full-time health care workers are female.<sup>83</sup> Particularly notable are the low numbers of women represented among subspecialties related to rehabilitation and mental health, such as physiotherapists and psychosocial workers, meaning women impacted by EWIPA may be unable to find acceptable assistance.

76. Er, E., Çorbacioğlu, et al, 2017, Analyses of demographical and injury characteristics of adult and pediatric patients injured in Syrian civil war. *The American Journal of Emergency Medicine*, 35(1), pp. 82-86.

77. Qasaimeh, G.R., et al, 2017, The pattern of the Syrian refugee's injuries managed in King Abdullah University Hospital (Jordan). *European Journal of Trauma and Emergency Surgery*, 43(5), pp. 587-594.

78. Penn-Barwell, JG, et al., 2015, Improved survival in the UK combat casualties from Iraq and Afghanistan: 2003–2012. *Journal of trauma and acute care surgery*, 78(5), 1014-1020.

79. Owens, B. D., et al., 2008, Combat wounds in operation Iraqi Freedom and Enduring Freedom. *Journal of Trauma and Acute Care Surgery*, 64(2), 295-299.

80. PRDWG & REACH, 2018, Disability and Access to Healthcare: Idlib, Western Aleppo and Ar-Raqqa (Report - Private circulation).

81. Health actor in Syria, 2017-2018, Unpublished data.

82. Health Services and Population Status Report: Southern Syria, 2018, [Online]. Available from: [https://www.humanitarianresponse.info/sites/www.humanitarianresponse.info/files/documents/files/2018\\_04\\_10\\_hss\\_report\\_-\\_vers\\_4.0\\_final.pdf](https://www.humanitarianresponse.info/sites/www.humanitarianresponse.info/files/documents/files/2018_04_10_hss_report_-_vers_4.0_final.pdf) (Accessed July 15, 2019).

83. Health Services and Population Status Report: Southern Syria, 2018, [Online]. Available from: [https://www.humanitarianresponse.info/sites/www.humanitarianresponse.info/files/documents/files/2018\\_04\\_10\\_hss\\_report\\_-\\_vers\\_4.0\\_final.pdf](https://www.humanitarianresponse.info/sites/www.humanitarianresponse.info/files/documents/files/2018_04_10_hss_report_-_vers_4.0_final.pdf) (Accessed July 15, 2019).



The pictures above are views of the same physical rehabilitation center, located in Syria. The center created an average of 20 prostheses per month and welcomed numerous patients for fitting and re-fitting, adjustments, and other prosthetics and orthotics needs. It was bombed in 2018, destroying most of the material. The equipment which was not destroyed was irrecoverable, due to the heavy bombing of the area. In addition to the loss of equipment, the destruction also resulted in loss of expertise, as most of the staff had to flee the area.



## Focus on prosthetics: a specific gap in health services

Despite the ongoing support of specialized rehabilitation actors, access to rehabilitation services in Syria is inadequate. In 2018 a survey of health professionals in Southern Syria listed prosthetics as one of top three missing health services across every governorate. Up to mid-2018, operating under the UN Security Council resolution allowing cross-border support, multiple INGOs were supporting rehabilitation and prosthetic services in southern Syria with technical assistance, materials and financial support. However, the government-led offensive to retake the south in 2018 led to the loss of all cross-border access for international actors, and caused health professionals and their families to flee. One prosthetic department, which already had a waiting list of over two years for patients receiving their first prosthesis, was repeatedly hit by bombardments, and the building was entirely destroyed.

Prioritisation of patients for prosthetic services is ethically and logistically challenging, but must be done given the limited resources. While

Syrian combatants who lose a limb have access to specialised clinics run by the Department of Defence, civilians are reliant on humanitarian organisations or expensive private clinics of variable quality. One clinic reported that it has had to prioritise patients with war injuries who are the family breadwinner, along with children, leaving older people and those losing limbs to diabetes (an increasingly common occurrence in the absence of good medical services) without help. Even for patients who can access prosthetic services, the reverberating effects of their injury will continue to impact their lives. Children who are still growing require follow-up and potential refitting every six months; a 4-year-old child who loses a limb may need up to 30 to 40 prosthetic limbs throughout his or her lifetime. One physiotherapist working in a facility in a government-controlled area told us that amputee patients struggle to adjust to their new status as “disabled,” something which has traditionally been considered shameful or hidden in Syrian society.



## Farah's testimony (part 4)

*“Many things have changed and become different. Her brothers and sisters changed so many things like their going out, their way of dressing, and even [hide] their happiness so as not to hurt Farah's feelings... We were suffering and so tired so that we could put a smile on Farah's face. I mean, as for me personally, my entire life was turned upside-down, just for being the legs for my daughter.”*

**Farah's mother, Fatima**

*After multiple surgeries and weeks of Farah's mother sitting by her bedside while trying to make sure her other four children were taken care of at home, the hospital physiotherapist came to fit Farah for her wheelchair. The physiotherapist knew the story of the explosion at the school, and spoke in a gentle voice as he explained how to fold and unfold the chair, how to work its brakes and complete a tight turn.*

*At first, Farah's mother found it hard to accept the chair and clung to her hope that Farah would walk again, just like before the accident.*

*Tears welled in Farah's mother's eyes as she watched the physiotherapist teaching Farah how to adjust to her new life. There were many complicated routines to master – regularly using her arms to shift her weight so that potentially deadly pressure sores would not develop, ensuring the tubes of the catheter did not tangle in the spokes of the wheel, learning how to safely help Farah off the ground if she were to fall from the chair. Farah noticed her mother's face crumple as she watched her, and fixed her own face in a determined smile as she completed her therapy sessions, even as her arms trembled from lifting her weight in ways she was not used to.*

*“At first, the situation was so difficult for me that in every single word Farah was saying or every single move she was doing, I was crying. A child daughter in the early stages of her life becomes disabled? I know how much Farah loves life, and I had hoped for her to live her life with all it has to be experienced.”*

**Farah's mother, Fatima**

## 4.3 Pillar 3: Psychological and psychosocial support

*"I remembered the bombing of the houses of innocent people, including my house. ... I remembered the suffering and fear, and lack of guarantee over our lives in the midst of this crisis ... and my constant fear over my children's unknown future."*

**Syrian woman speaking about her experience of living through the conflict**

### Mental-health needs

The psychological trauma of surviving an explosion can result in suffering and the development of clinical conditions, limiting functioning and participation. **It has been estimated that over half of all Syrians are in need of and psychosocial services (MHPSS).**<sup>84</sup> The lack of trained mental-health professionals severely curtails the ability to offer treatment, and impedes accurate assessment of the scope of the problem. A large survey of 25,000 Syrians treated by a health NGO in Syria showed that just over half of those treated had been injured by explosive weapons, and four out of five of these survivors expressed high signs of psychological distress.<sup>85</sup>

In the already-scarce Syrian mental health care landscape, need has increased exponentially,<sup>86</sup> as mental health professionals have fled the country or been injured or killed in the conflict.<sup>87</sup> The use of explosive weapons has forced many people in Syria from their homes, with millions of people now internally displaced within the country, further eroding their social support network and emotional resilience. In a study conducted across Idlib, Raqqa and Aleppo in 2018, feelings of anxiety and depression were much more common among IDPs than residents or returnees.<sup>88</sup>

### Mental health gaps

Prior to the onset of the conflict, Syria had just 70 psychiatrists for a population of 22 million, and mental-health services were available in only two cities.<sup>89</sup> An assessment of the community and health care professionals in southern Syria showed that services for PTSD and other mental-health disorders were perceived as core health needs.<sup>90</sup> Yet, in 2018, data collected in southern Syria showed that just 13 facilities provided specialized care for people with injury and disability and just 29 facilities provided specialized MHPSS care. All of these facilities have now lost cross-border INGO support, and many health professionals have fled. This massive displacement of people, many of whom travelled to the northwest where bombardment is still ongoing, can have only compounded the population's distress and added to their tremendous, unmet need for mental health care.<sup>91</sup>

84. WHO, 2017, [Online]. Available from: <http://www.emro.who.int/syr/syria-news/who-expands-mental-health-care-services-across-syria.html> (Accessed August 3, 2019).

85. Humanity & Inclusion, 2016, Syria, a mutilated future (Factsheet).

86. WHO, 2017, [Online]. Available from: <http://www.emro.who.int/syr/syria-news/who-expands-mental-health-care-services-across-syria.html> (Accessed July 10, 2019).

87. Washington Post, 2015, [Online]. Available from [https://www.washingtonpost.com/news/morning-mix/wp/2015/03/13/conflict-has-ravaged-syrias-health-system-just-when-its-most-needed/?noredirect=on&utm\\_term=.41ffc9787836](https://www.washingtonpost.com/news/morning-mix/wp/2015/03/13/conflict-has-ravaged-syrias-health-system-just-when-its-most-needed/?noredirect=on&utm_term=.41ffc9787836) (Accessed July 11, 2019).

88. REACH – WoS PRDWG, 2018, Disability and Access to Healthcare in Syria.

89. WHO, 2017, Addressing the silent impact of war: WHO expands mental health care services across Syria [Online]. Available from <http://www.emro.who.int/syr/syria-news/who-expands-mental-health-care-services-across-syria.html> (Accessed July 12, 2019).

90. Health Services and Population Status Report: Southern Syria, 2018, [Online]. Available from: [https://www.humanitarianresponse.info/sites/www.humanitarianresponse.info/files/documents/files/2018\\_04\\_10\\_hss\\_report\\_-\\_vers\\_4.0\\_final.pdf](https://www.humanitarianresponse.info/sites/www.humanitarianresponse.info/files/documents/files/2018_04_10_hss_report_-_vers_4.0_final.pdf) (Accessed July 15, 2019).

91. ACAPS, 2018, Rapid Displacement in Southern Syria [Online]. Available from: [https://www.acaps.org/sites/acaps/files/products/files/20180702\\_acaps\\_start\\_syria\\_displacement\\_in\\_the\\_south\\_0.pdf](https://www.acaps.org/sites/acaps/files/products/files/20180702_acaps_start_syria_displacement_in_the_south_0.pdf) (Accessed July 15, 2019).



“We do not wish for anyone on earth to live [under] these conditions – the fear, the panic, and the many psychological illnesses that have affected people here. The situation is not enviable. Many people have died of heart attacks as a result of fear, and children are suffering psychologically as a result of fear and panic, including bed-wetting.”

**Syrian doctor speaking about the mental health of Syrians living under bombardment in the northwest**



## Recommendations on access to health care

### Parties to the conflict must:

- Immediately abide by international humanitarian law and UN Security Council Resolution 2286 (2016), which specifically refers to the bombing of hospitals and health facilities.

### All stakeholders: donors, States, UN agencies and other involved parties should:

- Loudly and publicly condemn the indiscriminate use of EWIPA, in addition to the targeting of schools and hospitals where civilians are especially likely to be injured and killed.
- Recognise the long-term health impacts for victims of explosive weapons and civilian population in general.
- Acknowledge that improved access to and continuity of health care is a priority in Syria, and prioritise funding for the health sector, including rehabilitation services and assistive devices and technologies, as well as mental health and psychosocial support.
- Ensure multi-year project funding to prevent gaps or breaks in services for persons injured and persons with disabilities.
- Support the integration of physical rehabilitation as part of a key package of primary health care services; update curricula and training packages for physiotherapists in order to meet population needs; and facilitate bringing paraprofessionals into a more formalised structure to ensure patient safety.
- Encourage data collection initiatives covering all geographical areas of Syria and analysing barriers and solutions to accessing services, beyond only health care, for persons with injuries and disabilities; disaggregate data by disability, age and gender status; and facilitate secure and confidential data collection to track people with long-term health needs.
- Ensure that projects demonstrate disability-inclusive design, including participatory needs assessments, disability-disaggregated data and indicators to measure specific inclusion-related achievements.



## Farah's testimony (part 5)

Six months after the accident, Farah was finally able to return to school, her classroom relocated to a ground-floor room on the opposite side of the building from where the mortar had blown out the windows. The pain of her therapy sessions, and the worry in her parents' voices as they murmured over her hospital bed, soon receded as her friends excitedly took turns wheeling her along the corridors at break time. However, the wheelchair that the family could afford was not well suited to the needs of an active young girl, and one wheel soon broke, leaving Farah once again stranded at home until funds could be found to repair the chair.

*Farah's mother reflected on the financial pressures and emotional burden of trying to meet the needs resulting from her daughter's impairment:*

*"I am suffering a lot and very tired from daily life and all its requirements, including [Farah's] education and other needs. A huge part of it is because of Farah's injury. My family is composed of 5 girls and a boy. The youngest boy is only 10 years old, and the only financial resources we have are the father's salary, which is not enough. The daily life requirements are a lot – too much and increasing, especially since all of them are attending school. Frankly speaking, there are many things I deny myself and the kids in order to be able to provide Farah with the minimum items she requires, whether she's in need of medicine, or diapers."*

*Despite the challenges, Farah had this to say about returning to school after the accident that killed her friend Haneen, her classmates, and her teacher:*

*"I would love to carry on with my education, and I don't want to leave my school. But because of the difficulties of taking me to the school I might leave it and not continue my education. I hope to remain in my school and with my schoolmates. ... I wish and I wish to find a solution."*



## 4.4 Pillar 4: Socioeconomic inclusion

### Destruction of infrastructure

**The reverberating effects of explosive weapons radiate outwards in “space and time,” impacting infrastructure and physical assets in ways that worsen long-term outcomes for survivors, the families of those killed or injured, and communities affected by explosive weapons.**<sup>92</sup> In addition to damaging or destroying both the health care facilities which offer life- and limb-saving care and mental-health follow-up, explosive weapons with wide area effects damage or destroy roads and supportive infrastructure such as water pumps and electricity grids. They increase civilian suffering by damaging vital infrastructure, rendering drinking water unclean/unsafe and making arable land unusable, thus removing the means of self-sufficiency for Syria’s affected rural, agricultural populations.<sup>93</sup> The Security Council has expressed concern at “the deliberate interruptions of water supply” witnessed in Syria.<sup>94</sup> As early in the conflict as 2013, the pumping of clean water was reported

to be reduced by as much as 90% in areas of Deir ez-Zor.<sup>95</sup> The situation is likely to have only deteriorated since, as the area fell under the control of ISIS and suffered heavy aerial bombardment during coalition-led air-strikes. **Fifty percent of basic infrastructure in Syria has been estimated to be destroyed or non-functional.**<sup>96</sup>

**Landmines and other ERW have been referred to as a “global socioeconomic crisis”<sup>97</sup>** and the socio economically destabilising effects of EWIPA’s impact on infrastructure is being felt across Syria, contributing to the spread of disease and despair. Increasing numbers of people view **negative coping mechanisms such as selling family assets, child work and child marriage** as the only viable way to meet their basic needs and provide for their families.

92. Wille, C. and Borrie, J., 2016, Understanding the Reverberating Effects of Explosive Weapons: A Way Forward. (UNIDIR).

93. The Atlantic Council, 2017, [Online]. Available from <https://www.atlanticcouncil.org/blogs/syriasource/raqqa-s-water-war> (Accessed July 16, 2019).

94. UN Security Council, 2015, Resolution 2258.

95. The New Humanitarian, 2013, Diseases spreading in Syria as WASH systems collapse [Online]. Available from: <http://www.thenewhumanitarian.org/analysis/2013/02/21/diseases-spreading-syria-wash-systems-collapse> (Accessed July 20, 2019).

96. AOAV, 2019, The reverberating effects of explosive weapon use in Syria (Report).

97. Williams, J., 1995, Landmines: A global socioeconomic crisis. *Social Justice*, 22(4 (62)), pp. 97-113.



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## Reverberating effects in Aleppo

By February 2017, following the prolonged siege and bombardment of Aleppo city in 2012, 44% of the road network in the city was damaged or destroyed, most commonly due to aerial bombardment.<sup>98</sup> The use of “dumb bombs” has been documented in Aleppo as early as July 2012,<sup>99</sup> and the inability to accurately guide these bombs to an intended target is often compensated for by dropping multiple bombs at once, creating wide area effects and increasing the risk of damage to infrastructure such as the transportation network. Water supplies have also been affected: In 2019, seven years after the siege of the city, 39% of Aleppo’s residents still report relying on expensive water trucks, or other means to access safe water.<sup>100</sup> Contrast this with Lattakia, an area of the country that has seen little aerial bombardment throughout the crisis, and where all residents obtain their drinking water from the main network.

Damage to water, sanitation and hygiene (WASH) infrastructure in Aleppo has had a devastating

impact. Multiple water plants, including the Al-Khafsá Water Treatment Plant in Aleppo and the Bab al-Nayrab plant on the city’s outskirts were damaged by airstrikes, forcing them to halve the pumping of water.<sup>101</sup> Reliance on private water trucks is significantly more expensive than accessing the public network, with an average cost of around \$12USD per cubic meter, creating a huge economic strain on families. In 2017, Syrian households were reported to be spending around 20% of household income just on drinking water. The situation is worse for those living in informal settlements, where households can spend 50% of their income on water.<sup>102</sup> Demonstrating the reverberating economic impact of basic infrastructure destruction, the risk of waterborne diseases increases in the absence of a reliable public water supply, increasing health care costs for families.<sup>103</sup>

98. The World Bank, 2017, *The Toll of War: The Economic and Social Consequences of the Conflict in Syria*.

99. Humanity & Inclusion, 2016, Qasef, *Escaping the Bombing*.

100. WASH Situational Overview: Whole of Syria, January 2019, [Online]. Available from [http://www.reachresourcecentre.info/system/files/resource-documents/reach\\_syr\\_factsheet\\_wash\\_situational\\_overview\\_whole\\_of\\_syria\\_january\\_2019\\_0.pdf](http://www.reachresourcecentre.info/system/files/resource-documents/reach_syr_factsheet_wash_situational_overview_whole_of_syria_january_2019_0.pdf) (Accessed July 18, 2019).

101. The World Bank, 2017, *The Toll of War: The Economic and Social Consequences of the Conflict in Syria*.

102. OCHA, 2019, *Humanitarian Needs Overview, Syria*.

103. Sikder, M., et al., 2018, *Water, sanitation, and hygiene access in south Syria: analysis of survey data and recommendations for response*. *Conflict and health*, 12(1), p. 17.

## Focus on labor and employment

**In 2015, 83% of the Syrian population was estimated to live below the poverty line, a situation that is believed to have since deteriorated.** <sup>104</sup> Due to a combination of impairing injury, death and displacement, Syria's workforce is estimated to stand at about half its pre-crisis levels, with shortfalls of up to 80% in certain specialisations.<sup>105</sup> **The situation is particularly dire for survivors, the families of those killed or injured and communities affected by explosive weapons.** The continuous and cumulative damage to critical public infrastructure due to the use of EWIPA causes families to flee, leaving behind businesses, farms and other economic assets.

By 2015 in Syria, over 500,000 jobs were being destroyed annually and unemployment among young people reached 78%. <sup>106</sup> Compounding this harsh economic reality, some commodities have reached more than 10 times their pre-conflict prices, while the Syrian pound has depreciated 400% <sup>107</sup> and subsidies for basic necessities are reduced or unavailable to people living in areas outside of government control.<sup>108</sup> **With 27% of housing stock in Syria estimated as either destroyed or damaged, IDPs find rent unfeasibly high and may be forced into informal settlements, unfinished buildings, or sleeping outdoors, exposing women and girls in particular to additional risks such as abuse and gender-based violence.** When some families do return, tensions and disputes flare in communities when they find their homes destroyed, booby-trapped or occupied by IDPs from elsewhere in the country. These economic pressures drive desperate behaviors, and negative coping mechanisms are increasing as many Syrians have little remaining economic

resilience after eight years of conflict. **When economic independence is lost along with employment or livelihoods, people and families are forced to rely on precarious external support where possible, creating additional vulnerability and marginalisation.**

One INGO operating in the northeast of the country reported 566 direct victims injured or killed by explosive accidents in 2018, of whom 6 out of 10 were farmers or shepherds. Eight out of ten survivors reported they had not known it was a dangerous area, with a risk of contamination.<sup>109</sup> These figures demonstrate the risk that explosive-weapons contamination poses to young agricultural workers or people trying to resurrect businesses from the rubble, in addition to the difficulties in accessing work for people with disabilities and people injured by explosive weapons. Different areas across Syria pose differing explosive hazards. The use of IEDs, including booby-trapped houses and public spaces, prevent the resumption of urban income-generating activities, while in rural areas where ERWs litter the landscape, previously productive agricultural land cannot be safely farmed. In addition to EWIPA making the land itself dangerous, agricultural infrastructure such as irrigation systems has been damaged by bombing, making large-scale agricultural output challenging without infrastructure rehabilitation.

A survey by Hand In Hand for Syria and AAR Japan demonstrates the long-term economic impact of explosive weapons on the economic survival of individuals and families. **Ninety percent of surveyed survivors of explosive injuries stated that they were no longer working, with men of working age most**

104. OCHA, 2019, Humanitarian Needs Overview, Syria.

105. OCHA, 2019, Humanitarian Needs Overview, Syria.

106. The World Bank, 2017, The Toll of War: The Economic and Social Consequences of the Conflict in Syria.

107. AOAV, 2019, The reverberating effects of explosive weapon use in Syria (Report).

108. Syria Centre for Policy and Research, 2019, Food security and conflict in Syria.

109. Mine action actor in Syria, 2018, Unpublished data.

**affected.** As a result, families resorted to negative coping mechanisms, including having to choose between meeting the family's daily subsistence requirements and obtaining medical care. Only 1 in 10 of those injured had received any financial aid or "in kind" assistance.<sup>110</sup>

Where jobs outside of agricultural work are available, they are frequently not accessible to people with disabilities, including persons whose impairments were caused by explosive weapons. **The combination of environmental factors such as limited public transport and damaged roads and sidewalks make getting to and from a place of work extremely challenging for those with mobility or sensory injuries, as rubble becomes difficult to navigate or to see.** For those who are physically capable of working, stigma surrounding disability may mean they are passed over for jobs in favour of those without any visible impairments. Even when the main breadwinner is not the individual injured by EWIPA, they may be unable to continue full-time work if other family members with injuries or disabilities require intensive care.

**Lost access to dignified work and agricultural land reinforces poverty, destabilises communities and hinders recovery.** Areas in Syria traditionally reliant on agriculture, such as the northeast, will need increased access to risk education, survey and clearance activities, while direct victims who have been injured by explosive weapons and people with disabilities will need support for inclusive livelihood options to provide dignified work. Families who have lost their main breadwinner must be supported through the economic empowerment of other family members, such as women. The need for

substantial donor support is self-evident, with the World Bank estimating that from 2011 until the end of 2016, lost GDP in Syria is equivalent to \$226 billion, four times the country's GDP in 2010.<sup>111</sup>

**The tragic long-term implications of EWIPA mean that contamination will continue to take an economic toll even post-conflict, shrinking the economy and decreasing survivors' ability to reclaim their lives.**

## Focus on education

The impact of explosive weapons on schools are not isolated incidents, and as evidenced by Farah's experience, can have horrific effect.<sup>112</sup> In numerous Security Council meetings since the onset of the Syrian crisis, there have been calls for an end to bombing in populated areas which can result in the destruction of schools. Projects including UNICEF's Monitoring and Reporting Mechanism track verified attacks on schools inside Syria, including by use of heavy and explosive weaponry. Other organisations such as Open Syria attempt to document the destruction and damage to schools from bombardment and aerial bombing.

While data on schools and other public infrastructure are difficult to obtain and verify, the damage is undeniable. **Currently, 40% of educational infrastructure, including school buildings, across Syria is now damaged or destroyed.**<sup>113</sup> **Where schools remain standing, children are understandably reluctant to attend, as schools can no longer be viewed as a safe environment.** Between 2011 and 2015 the

110. AAR Japan, 2017, Vulnerability Multiplied in Syria.

111. The World Bank, 2017, The Toll of War: The Economic and Social Consequences of the Conflict in Syria.

112. Human Rights Watch, 2018, Syria: Deadly School Attack Was Unlawful [Online]. Available from <https://www.hrw.org/news/2019/01/11/syria-deadly-school-attack-was-unlawful> (Accessed July 16, 2019).

113. OCHA, 2019, Humanitarian Needs Overview, Syria.



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school dropout rate reached almost half of all students (44%), compared to gross enrollment rates in Syria of 91% in 1996.<sup>114</sup> The impact of this “lost generation” will be felt in Syria for decades to come.

In the short term, the disruption to schooling means that children are left without a safe place to spend the day, and mine action actors in Syria report an increase in explosive incidents where children are harmed or killed during warm, sunny weather, when children move outside to play. In northeast Syria, partner data shows that 80% of child victims were not enrolled in school when an

incident occurred.<sup>115</sup> **Contamination of school buildings means that long-term support for clearance and risk education will be needed alongside training and supply of teachers and education professionals, helping children who have grown up with almost a decade of war to return to a normal education.**

114. Humanitarian Response Plan; January- December 2016. (2016). Syrian Arab Republic..

115. UNICEF, 2019, Statement by UNICEF Executive Director Henrietta Fore [Online]. Available from: <https://www.unicef.org/press-releases/2018-deadliest-year-yet-children-syria-war-enters-9th-year> (Accessed July 17, 2019).





## Recommendations on socioeconomic inclusion:

### All stakeholders – donors, international actors (including UN agencies) and involved parties – should:

- Acknowledge that the loss of homes and livelihoods due to explosive weapons creates vulnerability and poverty and is an important causal factor of displacement.
- Ensure that livelihood programmes are inclusive and gender-sensitive, specifically identifying, targeting and including men and women with disabilities equally in their activities, and disaggregating data by sex, age and disability.
- Ensure that educational programmes are inclusive and gender-sensitive and meet the needs of girls and boys with disabilities, without discrimination as to the cause of disability or impairment, and wherever possible relying on mainstream education rather than segregated disability services.

### Donors should:

- Prioritise funding for inclusive humanitarian programmes by: reserving a set percentage of livelihood funding for inclusive livelihood activities; making explicit long-term commitments; supporting the formation of alliances with specialised actors in programmes; including indicators to measure the inclusiveness of programmes they fund.

### Humanitarian actors should:

- Identify persons with disabilities in the communities in which they work in order to ensure they are consulted and included in every stage of the project cycle.
- Adopt participatory, integrated approaches across different sectors of intervention such as health, livelihoods, mine risk education and civil society strengthening to improve socioeconomic impacts on households and communities.
- Make livelihoods services more inclusive by decentralising service sites, providing individualised support to enhance participation and engagement through case management, and giving flexible options for participation in various activities.
- Improve coordination with other specialised actors within target areas to increase the scale and impact of programming for beneficiary households. For instance, seek specialist support to improve the integration of persons with disabilities into existing livelihood programmes, and increase referrals across sectors to address specific needs such as prosthetics and orthotics, physical rehabilitation and protection.



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## 4.5 Pillar 5: Data collection

The Secretary General has repeatedly called for “more systematic data collection and analysis of the human costs” of the use of explosive weapons.<sup>116</sup>

**Accurate data, disaggregated by disability, sex and age, are needed to mobilise resources and implement effective victim assistance.**

Information should be collected and shared regarding mapping of the location and extent of public infrastructure damaged or destroyed, and clinical information on survivors who may have predictable long-term health needs, such as spinal cord injuries or amputations, and the cause of those injuries, in addition to indirect victims who may require psychosocial or mental-health support, or compensation for lost livelihoods. Until now, a mapping of available services for direct and indirect victims has been challenging to compile, due to the multiple fears and logistical challenges to collecting and disseminating information regarding locations of health and other services.

**Reliable data collection in the midst of conflict is undoubtedly challenging, and in the case of health data where information is especially sensitive and patients are experiencing repeated displacement, comprehensive records may be impossible to safely establish and maintain.**

As parties to the conflict have actively restricted and denied humanitarian actors to implement

activities, including data collection, it is not acceptable to allow insufficient data to be used as justification for anything less than provision of a comprehensive continuum of services. Data collected across accessible areas of Syria can be used to draw logical patterns, triangulated with robust data from analogous conflict contexts. Until broad-scale data collection can be carried out by all those with the technical capacity to do so, we must work creatively within the existing confines to understand the scale and needs of people injured and indirect victims.

**Governments, donors and INGOs must accept that neglecting to respond in the absence of exact numbers is an abdication of duty.** Over eight years of conflict, established patterns have more than demonstrated the scope of the need for immediate measures to protect civilians, and longer-term to provide needed services. Disability is widely expected to be one of “major post-conflict issues,” as indeed it already is.<sup>117</sup> Effective victim assistance in a context such as Syria, where use of EWIPA has affected the majority of the population, whether directly or indirectly, will require a systems approach, and establishing and monitoring relevant baseline data and progress will be key to fair and equitable response to the rights and needs of victims.

116. Security Council, November 11, 2010, Report of the Secretary-General on the Protection of Civilians in Armed Conflict, UN document S/2010/579, paras. 50–51.

117. Cousins, S., 2015, Syrian crisis: health experts say more can be done. *The Lancet*, 385(9972), pp. 931-934.



## Recommendations on data collection:

### Parties to the conflict and international responders (INGOs, UN agencies) should:

- Collect information on direct and indirect victims (disaggregated by sex, age and disability as per IASC guidelines) and make this data available for VA planning.
- Establish a database of victims of explosive weapons in Syria, and their health needs, monitored and controlled by a neutral third party.
- Ensure that male and female victims of explosive weapons, including persons with disabilities and older persons are identified and consulted during the design and delivery of humanitarian programming.

### Donors should:

- Encourage all actors to use the UN-approved Washington Group questions when collecting data on persons with disabilities, to facilitate inclusive action toward identified persons with specific difficulties in functioning.
- Establish and support a minimum requirement for disaggregation of data by disability, using the internationally recognised Washington Group Questions, as well as sex and age, with an added marker on explosive weapons, disaggregating where possible by person killed, survivor or indirect victim.

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## 4.6 Pillar 6: Laws, regulations, and policies

### Ending the use of explosive weapons with wide area effects and adherence to existing prohibitions

While the use of EWIPA by actors from state to NSAGs<sup>118</sup> broadly contravenes IHL, the regulation of explosive weapons under international law and policy includes several legal and policy texts employing differing terms and definitions.<sup>119</sup> Certain explosive weapons, such as mines, are clearly illegal under international treaties and indeed since the introduction of the Mine Ban Treaty, their use has significantly decreased, though the risks from undetonated mines continue to reverberate through affected communities.

As warfare becomes increasingly urban and protracted, the risk of civilians and public infrastructure becoming “collateral damage” when explosive weapons are used in populated areas increases. However, when explosive weapons with wide area effects are used in populated areas,

death and harm cannot be considered “collateral damage” but a logical outcome, which has to be avoided by **taking concrete steps. International treaties, laws and national strategies of conflict engagement need to better address the use of explosive weapons, especially those with wide area effects, in populated areas.** While the use of explosive weapons in the Syrian conflict illustrates that the worst offenders cannot be relied upon to validate legal convention, **the creation of strong political frameworks has a normative impact which serves to better protect civilians over time. A political declaration on EWIPA must protect civilians and provide for comprehensive VA services.**

### Legislation in line with CRPD and human-rights approach

As evidenced by the high numbers of survivors sustaining lifelong impairments, any **policy or framework for VA in Syria or other States must be based upon human rights, and in line with the CRPD, to which Syria is a signatory.** Syria will need to be supported technically and financially to meet the requirements of the CRPD, but the social, economic and cultural inclusion of persons with disabilities is necessary to ensure all citizens can contribute to the future of Syria in a dignified and meaningful way. Efforts to update Syrian disability law and policy should be participatory and accessible, to ensure that the views of persons with disabilities are included.



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118. Borrie, J. and Brehm, M., 2011, Enhancing civilian protection from use of explosive weapons in populated areas: building a policy and research agenda. *International Review of the Red Cross*, 93(883), pp. 809-836.

119. Brehm, M., 2012, *Protecting Civilians from the Effects of Explosive Weapons: An Analysis of International Legal and Policy Standards*. United Nations Institute for Disarmament Research, United Nations, New York and Geneva.

## Recommendations on laws, regulations, and policies

### Parties to the conflict must abide by international humanitarian law, and:

- Immediately end the use of explosive weapons with wide area effects in populated areas.
- Ensure and be accountable for effective precautionary measures in the conduct of hostilities, in order to avoid further damage to civilians.

### All States should:

- Support the development of a strong political declaration to prevent the harm caused by the use of explosive weapons.
- Set political constraints and clear guidelines regarding the use of explosive weapons in populated areas during conflict, with a clear presumption against the use of explosive weapons with wide area effects in populated areas.
- Work toward the full implementation of human rights frameworks, including the UN CRPD.
- The government of Syria should elaborate a national action plan on victim assistance to support access to basic services including health care and employment, and compensation for lost assets. In this perspective, victim assistance should be understood not as a parallel set of activities for humanitarian actors, but rather as a cross-cutting element for multiple sectors, including health, education, work and employment, social protection and disability inclusion.



# Annex:

## Glossary

**CCW** – Convention on Certain Conventional Weapons

**CRPD** – Convention on the Rights of Persons with Disabilities

**EWIPA** – Explosive Weapons in Populated Areas

**HI** – Humanity & Inclusion (also known as Handicap International)

**HRW** – Human Rights Watch

**ICRC** – International Committee of the Red Cross

**IDP** – Internally Displaced Person

**IED** – Improvised Explosive Device

**IHL** – International Humanitarian Law

**INGO** – International non-Governmental Organisation

**MBT** – Mine Ban Treaty

**NSAG** – Non-State Armed Group

**PTSD** – Post-Traumatic Stress Disorder

**RE** – Risk Education

**SAMS** – Syrian American Medical Society

**UN** – United Nations

**UNICEF** - United Nations Children’s Fund

**UNMAS** – United Nations Mine Action Service

**VA** – Victim Assistance

**WHO** – World Health Organization



©Benoit Almeras/ HI - Lebanon, 2017 - Amira and her younger son live in the outskirts of Tripoli. Her oldest son was killed during a bombing in Syria. Traumatized by the war, she suffers from depression: "When I hear planes now, I am gripped with fear."

## Types of injuries caused by explosive weapons

There are four basic mechanisms by which an explosive weapon causes harm to the human body: Primary Blast Injury (caused by the shock wave, the force of the pressure impacting the human body), Secondary Blast Injury (caused by flying fragments or debris), Tertiary Blast Injury (caused by the supersonic wind which can pick up and throw anyone close enough to the explosion to feel its effects), and Quaternary (covering all remaining injuries indirectly caused by the explosion, such as burns, crush injuries and choking caused by asphyxiating dust).<sup>120</sup> Not captured in this classification, however, is the psychological impact for survivors, the families of those killed or injured, and affected communities.

See reference notes on page 50.

## Neurological injuries

In emergency conflict and disaster settings, the majority of patients with severe or extensive traumatic brain injuries die, as they do not receive medical care in time, or the available medical resources are insufficient for lifesaving measures. In Syria, multiple anecdotal reports suggest this situation has been worsened by delays in reaching care, including checkpoints and the amount of time it takes to extract people from collapsed buildings. Beyond survival rates, data from military populations returned home show that even those with mild head injuries have significant long-term clinical effects. Long-term behavioral issues, psychiatric symptoms, sleep impairment and other significant impairments are common.<sup>128</sup>

## Thoracic injuries

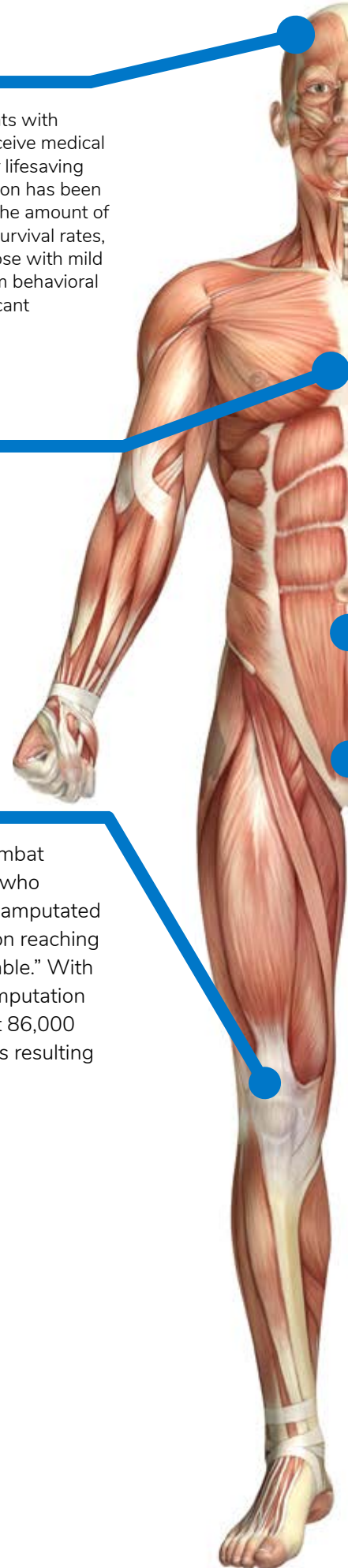
Thoracic injuries refer to any injury to the chest, including the ribs, heart, lungs or diaphragm. One combat hospital which also accepted civilian patients recorded blast mechanism as the most common mechanism of thoracic injury. Fifty percent of all casualties treated were civilians, each of whom required an average of 2.5 thoracic surgeries.<sup>127</sup> Thoracic surgery carries major risk, and requires high specialisation and specialist equipment and follow-up care. In Syria, where civilians cannot easily access the combat hospitals set up by belligerent actors, and crossing contested territory to access national or field hospitals can be impossible, it is highly likely that civilians experiencing similar patterns of chest trauma die before reaching medical care.

## Amputation

An increase in the use of explosive weapons in modern combat corresponds with an increase in amputations.<sup>122</sup> For those who survive the associated blood loss, if the blast itself has not amputated the limb from the body, amputation may be carried out upon reaching the hospital if the injury has rendered the limb “unsalvageable.” With up to 30,000 people being injured every month in Syria, amputation is a tragically common outcome,<sup>123</sup> and as of 2017, at least 86,000 people in Syria were estimated to have experienced injuries resulting in amputation.<sup>124</sup>

## Psychological conditions & psychosocial consequences

In military populations, post-traumatic stress disorder (PTSD) has been linked to explosion-related injuries, with a higher proportion of persons injured by IEDs showing PTSD compared to those injured by other weapon types.<sup>130</sup> In 2018, over 60% of health professionals working in south Syria stated that PTSD was a moderate or serious problem among their patients.<sup>131</sup> In Jordan, 80% of Syrian refugees injured by explosive weapons expressed signs of high psychological distress, with two out of three unable to carry out essential daily activities due to their emotional state, while two out of three were also so upset that they tried to avoid places, people, or activities that reminded them of the traumatic event.<sup>132</sup>







## The eye

Although the eyeball is tiny relative to the size of the body, injuries to the eye as a result of explosions are common and debilitating, and around 10% of people who survive explosive injuries will suffer trauma to their eyes.<sup>125</sup> The lack of specialist care in Syria for such injuries means the long-term impact in terms of physical suffering and the social and economic impact of decreased or absent sight are significant.

## Soft tissue injuries and wound infection

Blast wounds result in contamination of wounds with debris, shrapnel and dirt, which may require multiple surgeries to excise. Complicated, infected wounds prolong and endanger healing and recovery and put patients at risk of antibiotic resistance.<sup>129</sup> Health partners in Syria have been forced to draft new antibiotic protocols to manage these complex risks.

## Genital injuries

Even within well-staffed and resourced combat hospitals, groin and pelvic explosive injuries frequently result in death. IED victims are twice as likely to sustain genital/ buttocks injuries compared to persons injured by landmines, and pelvic fractures are also more common as a result of IED injury.<sup>126</sup> The practical, psychosocial and inter-personal implications of surviving explosive injuries affecting the groin and genitals are complex, yet statistics for survival and long-term outcomes are rarely collected in Syria.

## Fracture

Long bones such as the femur are particularly vulnerable to fracture due to the energy of the blast. Data from multiple health partners working across Syria show that fractures are the most common type of injury, with around half of all patients experiencing fractures, often as part of complex multi-trauma.<sup>121</sup> Fractures from explosive weapons are often challenging, may be accompanied by nerve damage which, coupled to limited repair and follow up options, can result in lifelong impairment and disability. In conflict settings, complex fractures are more likely to lead to amputation, due to lack of specialist care and high risks of infection.

120. Explosions and Blast Injuries. A primer for clinicians [Online]. Available from: <https://www.cdc.gov/masstrauma/preparedness/primer.pdf> (Accessed July 4, 2019).
121. Health Services and Population Status Report: Southern Syria, 2018, [Online]. Available from: [https://www.humanitarianresponse.info/sites/www.humanitarianresponse.info/files/documents/files/2018\\_04\\_10\\_hss\\_report\\_-\\_vers\\_4.0\\_final.pdf](https://www.humanitarianresponse.info/sites/www.humanitarianresponse.info/files/documents/files/2018_04_10_hss_report_-_vers_4.0_final.pdf) (Accessed July 15, 2019).
122. Brown, K.V. and Clasper, J.C., 2013. The changing pattern of amputations. *Journal of the Royal Army Medical Corps*, 159(4), pp. 300-303.
123. WHO n.d. WHO supplies prosthetic devices for Syrians injured by conflict [Online]. Available from <https://www.who.int/hac/crises/syr/who-splies-prosthetic-devices/en/> (Accessed July 20, 2019).
124. HI & WHO, 2017, Project Update [Online]. Available from: [https://www.hi-us.org/news\\_a\\_the\\_who\\_and\\_hi\\_draw\\_attention\\_to\\_the\\_needs\\_of\\_people\\_inside\\_syria\\_living\\_with\\_injuries\\_and\\_disabilities](https://www.hi-us.org/news_a_the_who_and_hi_draw_attention_to_the_needs_of_people_inside_syria_living_with_injuries_and_disabilities) (Accessed August 1, 2019).
125. Horrocks, C.L., 2001, Blast injuries: biophysics, pathophysiology and management principles. *Journal of the Royal Army Medical Corps*, 147(1), pp. 28-40.
126. Durrant JJ, et al., Pelvic fracture-related urethral and bladder injury, *Journal of the Royal Army Medical Corps* 2013;159:i32-i39.
127. Propper, B.W. et al. , 2010, Wartime thoracic injury: perspectives in modern warfare. *The Annals of thoracic surgery*, 89(4), pp. 1032-1036.
128. Mac Donald, C.L.,et al. , 2017, Early clinical predictors of 5-year outcome after concussive blast traumatic brain injury. *JAMA neurology*, 74(7), pp. 821-829.
129. Bhandari, P.S., et al., 2012, Reconstructive challenges in war wounds. *Indian journal of plastic surgery: official publication of the Association of Plastic Surgeons of India*, 45(2), p. 332.
130. Mora, A. G., et al. , 2009, Posttraumatic stress disorder in combat casualties with burns sustaining primary blast and concussive injuries. *Journal of Trauma and Acute Care Surgery*, 66(4), S178-S185.
131. Health Services and Population Status Report: Southern Syria, 2018, [Online]. Available from: [https://www.humanitarianresponse.info/sites/www.humanitarianresponse.info/files/documents/files/2018\\_04\\_10\\_hss\\_report\\_-\\_vers\\_4.0\\_final.pdf](https://www.humanitarianresponse.info/sites/www.humanitarianresponse.info/files/documents/files/2018_04_10_hss_report_-_vers_4.0_final.pdf) (Accessed July 15, 2019).
132. HI, 2016, Syria A Mutilated Future.

Humanity & Inclusion's activity in response to the needs of the most vulnerable Syrian refugees.

Since 2012, Humanity & Inclusion, also known as Handicap International, has been working alongside the victims of the Syrian conflict, in particular victims of explosive weapons. The organisation currently has 500 professionals working in the region to assist the most vulnerable Syrians, including persons with injuries and disabilities, and the elderly or isolated. Its team also intervenes to help refugees living in camps or hosted in local communities.

HI provides rehabilitation services and assistive devices and technologies, offers psychosocial support, ensures that the most vulnerable have access to humanitarian aid, raises awareness of explosive remnants of war, and distributes emergency kits.

Published by Humanity & Inclusion, also known as Handicap International

Website: <http://www.hi.org>

Blog: <http://blog.hi.org/influenceandethics>



*The implementation of this study was financially supported by the Ministry of Foreign affairs of Luxembourg. The views and opinions contained in this document should not be seen as reflecting the views of the Government of Luxembourg.*



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