CHILDHOOD UNDER ATTACK

A timeline of harm following an explosive blast
Following the withdrawal of Israeli troops from the Gaza Strip, residents returned to some of the areas which had become no-go zones during the attacks, such as Jabalia just outside Gaza City. 20th January, 2009. RafahKid Kid, Flickr Creative Commons.
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Early 2011 in the city of Daraa, southern Syria, 15 children were arrested for painting anti-government graffiti on the walls of a school. Their words read: “the people want to bring down the regime”. For such words they are beaten, their fingernails torn out, and they are tortured for weeks.

On the 6th of March, the residents of Daraa rose in protest, a date that will now be forever remembered in that country as the start of their Civil War. It is a tragic irony that this war, ignited in part to protect children from violence, proved to be more deadly for children than any other conflict in 21st century. According to AOAV data, there have been more child casualties from explosive violence in Syria than any other country in the last decade (see Figure 1).

It certainly has been a bleak ten years. Globally, between 2011 and 2020, at least 17,035 children were reported in English language media as having been killed and injured by explosive violence according to AOAV’s Explosive Violence Monitor (EVM). An additional 812 children were reported as casualties of unexploded ordinance (UXO).

This is but a fraction of the true number. Many child casualties from explosive violence are not reported in English language media and monitoring and observation groups do not always distinguish between adults and children. AOAV’s data thus represents the absolute minimum of child casualties, providing an impression of the extent of harm rather than an accurate measure.

This report is motivated by that impression of harm – one that seeks to outline the foreseeable patterns of harm suffered by children faced with explosive weapons, both in the short and the long-term. It seeks to articulate a chronology of harm; to trace the impact of explosive violence over the course of a child’s life: from the moment of the blast, and on to the minutes, hours, months, and years that follow.

It is a painful timeline that has two distinct but interrelated strands:

- the lingering effect of blast injuries – a review of how blast injury will impact a child throughout their life, well into adulthood.

Figure 1  Number of child casualties from explosive violence between 2011 and 2020 by country.  
Data extracted from AOAV’s EVM.
the reverberating effects of explosive violence—
even when a blast does not result in child casualties, it inevitably causes indirect child-specific harm. Typically, this is when explosive weapons are detonated in a child’s community and damage infrastructure integral to a child’s quality of life.

Our timeline is a construct, and the demarcation is arbitrary. We acknowledge that much of the harm faced by a child is often repeated. For instance, a child may suffer sexual violence one month after a blast, one year, or ten years. However, to avoid repetition, we will only detail here the specific effects of harm during one time frame.

It is a construct that also seeks to show how the initial blast, while horrific, only paints half a picture. Most child casualties are not the result of direct exposure to blasts; they are harmed by explosive weapons that destroy food, water sources, shelter, and healthcare. These indirect effects are all too often not accounted for in the data; they are frequently not adequately assessed in the literature; nor are they addressed sufficiently in the humanitarian response.

The graph below (Figure 2) offers a simple demonstration of this. It compares the number of children reported in our monitor as being killed or injured worldwide directly by explosive violence between 2011 and 2020, against the number of children who died with Severe Acute Malnutrition (SAM) between 2015 and 2018 in Yemen. Yemen’s man-made famine has long been attributed to the use of explosive weapons by the Saudi blockade, and the Saudi’s destruction of infrastructure vital to food supply chains through US and UK-supported air-strikes.

As you can see, in just three years, over four times as many children were killed indirectly by explosive violence in Yemen than a decade of direct child casualties from explosive violence globally. And Yemen is but one country.

**Figure 2** Comparison of number of child deaths and injuries from explosive violence worldwide with the number of deaths of children under-5 from SAM in Yemen between April 2015 and October 2018.

A school girl being rushed on a stretcher to a hospital after she was injured by an airstrike near her school in Saada, Yemen, April 9, 2018. REUTERS photo by Naif Rahma. Via Felton Davis on Flickr.
What this shows is that, while the reverberating effects of explosive weapons on civilians and civilian objects are predictable, they are difficult to measure. And for this reason, they command much less attention. As Dr Paul Wise, Professor of Child Health and Society at Stanford University, explained to AOAV in an interview: “indirect effects are less compelling because they are not morally clear.”

In the case of Yemen, at what point are the national authorities to be held accountable for famine? When is there a shift in responsibility from aggressor to government? And would effective intervention have ameliorated this harm? These political questions dilute outrage as cause and effect become opaque.

Another factor that inhibits media coverage and political debate is that the harm suffered by children from the direct and indirect effects of explosive violence is not a confined issue, one that is easy to analyse and simple to summarise. Rather, it is a global, systemic problem that is riven with complexity and nuance.

While this is a global report, it seeks to focus the reader’s mind by concentrating on those countries where children are most affected by explosive violence: Syria, Iraq, Yemen, Afghanistan, and Pakistan (see Figure 1). In these countries, explosive violence occurs within the ecology of war. Incidents of explosive violence in developed countries, largely due to terrorist activity, are anomalies and their effects on children – by being in resource-rich and research-capable nations – have been far more scrutinized. Though some reference will be made to longitudinal studies on incidents which took place in developed countries – such as the Boston Marathon Bombing in 2013 or the Manchester Bombing in 2017 – as these studies are some of the only long-term data that exist on child outcomes from major explosive incidents.

**BLAST INJURY RESEARCH**

Historically, blast injury research has been driven by military research. As such it has focussed on how an explosive weapon affects the body of fit, male adult combatants. Today, the justification for such focus wears increasingly little thin, especially given that over the last decade, explosive weapons have overwhelmingly killed and injured civilians, not combatants.

AOAV data shows that when explosive weapons were used in populated areas, over 90% of those killed and injured were civilians. Many of the dead and injured were older-men, women and children. The “huge knowledge gap” in paediatric blast injury and the lack of paediatric medical equipment has contributed to the higher in-hospital mortality rates of children in conflict.

The Paediatric Blast Injury Partnership (PBIP) has done much to fill this vacuum. In 2019, the Partnership’s Blast Injury Field Manual was published to provide medical staff in conflict settings with little or no previous experience or training, guidance on the treatment of severely injured children. However, gaps remain with regard to gender and the longitudinal outcomes of child blast patients.

Major General Michael von Bertele, former Director General of British Army Medical Services and a member of the PBIP, explained to AOAV that often “even if children receive rudimentary care, they will get no aftercare, they will probably drop out of education, they will never become economically active.”

Research on injuries from explosive violence needs to be wrestled from the military field hospital, and its focus expanded to reflect the nature of modern war. Namely that of civilians; boys and girls, women, and older adults. For these cohorts bear the disproportionate burden of harm.
State actors are responsible for 22% of adult casualties compared to 53% of child casualties of explosive violence in the last decade. Of all explosive weapons, airstrikes have been shown to cause the greatest number of child casualties.

When explosive weapons with wide-areas effects are used in populated areas, they almost always kill civilians and they frequently kill children, more so than any other conventional weapon.

Children, especially very young children, consistently have worse outcomes than adults after exposure to explosive violence for three reasons:

1. The inherent physiological vulnerabilities of a child.

2. Explosive violence is often targeted at age-specific infrastructure such as schools and universities.

3. The effects of explosive violence on children are often irreversible; the harm takes place during vital stages of physical, psychological, and educational development causing, amongst others, developmental disorders and stunting.

The United Nations claims that “explosive weapons touch on four of the six grave violations against children and armed conflict, including killing or maiming”11. We argue that explosive weapons touch on all six (see Figure 3).

The indirect effects of explosive weapons harm significantly more children than those directly affected. Indirect effects are predictable, yet too often appropriate mitigation measures are not taken.

The long-term impacts of direct and indirect effects of explosive violence on children are underreported, underfunded, and poorly understood. Growing up with a disability, in particular, poses a unique growth challenge for child victims compared to adult victims.

There is a marked absence of gender disaggregated data on child casualties from explosive violence. Children are treated as genderless all too often.

Boys are disproportionately subjected to the direct effects of explosive violence (i.e., blast injury). When girls are victims of explosive violence, they are more likely to suffer from marginalisation and sexual violence.

Over the last decade, the number of children used to perpetrate acts of explosive violence has risen. Advances in explosive weapons technology have made explosive devices more deadly and easier for children to operate.
METHODOLOGY

AOAV only carried out desk-based research for this work, in part because of the limitations imposed on travel by the Covid-19 pandemic. However, 26 expert interviews were conducted with academics, NGO personnel, and clinicians.

The data on explosive weapons comes from the Explosive Weapons Monitor Project. For the Explosive Weapons Monitor Project methodology, please see our latest Explosive Violence report. Data gathering during 2020 has been impacted by the Covid-19 pandemic.

Figure 3  UN’s Six Grave Violations Against Children.

**Six Grave Violations Against Children**

1. **Killing and maiming of children**
2. **Recruitment or use of children as soldiers**
3. **Sexual violence against children**
4. **Abduction of children**
5. **Attacks against schools or hospitals**
6. **Denial of humanitarian access for children**

Children watch as an aid convoy of Syrian Arab Red Crescent drives through the besieged town of Douma, Eastern Ghouta, Damascus, Syria, March 5, 2018. REUTERS/Bassam Khabieh, Jordi Bernabeu Farrús on Flickr.
When explosive weapons are used in populated areas, their effects are indiscriminate. They are unlikely to distinguish between an armed group’s headquarters or the child’s playground next door. Because of their devastating wide-area impact, explosive weapons kill and injure more children in conflict than other types of conventional weapons, such as firearms.

Analysis carried out by Save the Children in 2019 found that, across five of the deadliest global conflicts for children (Afghanistan, Yemen, Syria, Nigeria, Iraq), an average of 72% of child casualties were caused by explosive weapons. Since 2000 the number of children living in conflict-affected areas has been steadily increasing, causing the number children to be incidentally killed and injured by explosive violence to rise.

A 2021 study estimated that the number of non-displaced children living within 50 km of armed conflict increased from 250 million (11·3% of children globally) in 2000, to 368 million (16·1%) in 2017 – an increase of almost 50% in under two decades.

EXPLOSIVE VIOLENCE AGAINST CHILDREN OCCURS IN URBAN RESIDENTIAL ENVIRONMENTS

Globally, children are more likely to suffer from explosive violence in their homes – the places they are meant to feel safest. AOAV’s EVM data shows that most children are killed and injured in urban, residential settings (see Figure 4). While the effects of a blast dissipate in open areas, in confined spaces the blast wave is reflected off the walls, amplifying the blast wave up to eight times – resulting in markedly more severe blast injuries for children.

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**Figure 4.** Child casualties from explosive violence between 2011 and 2020 by incident location. *Data extracted from AOAV’s EVM.*
AERSTRIKES CAUSE MORE CHILD CASUALTIES THAN ANY OTHER EXPLOSIVE WEAPON

Data extracted from AOAV’s EVM shows that between 2011 and 2019 airstrikes were, proportionally, the most harmful explosive weapon for children. Air-launched explosive weapons accounted for 35% of all global child casualties from explosive violence. This was followed by shelling (including rockets, missiles, mortar, and tank shells) which represented 28% of all child casualties (see Figure 5).

Figure 5 Percentage of child casualties by weapon type between 2011 and 2020. Data extracted from AOAV’s EVM. Ground-launched weapons includes shells, missiles, grenades, RPGs and rockets.

AOAV’s data is corroborated by other studies. A 2018 study led by Professor Guha-Sapir (the head of the Centre for Research on Epidemiology of Disasters (CRED) at the Louvain School of Public Health and interviewed for this report) on patterns of harm in the Syrian conflict found that air bombardments were responsible for as many as 53% of all child deaths. That airstrikes are the primary cause of child casualties is deeply concerning given almost all explosive weapons delivered from the air are by state actors.

CHILDREN ARE MORE LIKELY TO DIE FROM BLAST INJURIES THAN ADULTS

Children are seven times more likely to die from blast injuries than adults. This is in part due to a child’s inherent physiological vulnerability, but also the low quality and inhibitive cost of paediatric care provided in conflict zones. It must also be stressed that children are not a homogeneous cohort and, while blast injuries are more likely to kill younger children, older children display a similar injury patterns to adults.

The physiological vulnerabilities of children which account their high mortality rate are shown in Figure 6.
Children under 10 are more likely to suffer traumatic brain injury (TBI). Injuries to the face, neck, head, upper limb and trunk affect 31% of adult patients in comparison to 80% of child patients.

Children have less blood to lose than adults; they are often unable to compensate for extensive blood loss during the time it takes to get them to a hospital.

Blood loss from the scalp is more likely to cause shock in children than adults.

Children, being lighter than adults, are thrown further by the blast.

High probability of injuries to the face from IEDS, landmines, and ERW due to proximity of the head to the ground.

Loss of vision occurs in around 21% of children and 10% of adults.

Children under two have thinner skin than adults; it will break more easily and burn more severely.

Children are more likely to suffer injuries to multiple regions of the body in an explosion (in 65-70% cases).

AOAV’s report on the physical impact of explosive weapons on children can be found here.
CHILD HARM BY WEAPON TYPE

Child blast injuries vary according to weapon type. AOAV’s interviewees stressed how explosive weapons that may have been designed to maim adult male combatants, kill children. For instance, toe poppers and butterfly mines contain a small volume of explosive materials and are designed to slow down advancing forces. The mini explosions caused by these weapons may blow up a soldier’s foot or part of their foot, but they can kill a child.

We know that mines and explosive remnants of war (ERW) have a disproportionate effect on children, particularly boys. In Afghanistan, children comprise almost 8 out of every 10 civilian casualties from ERW. A child’s natural curiosity also means that they are likely to pick up and play with these sometimes colourful, toy-like devices. Globally, data from the Landmine Monitor reveals that in 2019 children accounted for 43% of all mine and ERW casualties.

Barrel bombs are unguided and cause immense harm – especially in populated areas. In AOAV’s interview with Guha-Sapir, she described how barrel bombs “perforate a child’s body in multiple places with shrapnel.” While an adult body may be able to withstand this, a body of a three- or four-year-old cannot. The proportion of children killed by barrel bombs in Syria was nearly twice that of civilian men.

A 2017 study that profiled Improvised Explosive Devices (IED) and mine injuries in Afghanistan recorded that children suffered the severest injuries from IED incidents with disturbing frequency. 89% of children underwent multiple amputations, 33% lost three limbs. IEDs are also the most frequently used explosive weapon by child soldiers.

First used in the Vietnam War, cluster bombs create de facto landmines. They detonate at a high altitude and shower the targeted area with smaller bombs which often land unexploded. Between 2010–2019, at least 4,315 new cluster munition casualties were reported in 20 countries and other areas. More than 80% of global casualties were recorded in Syria, with children accounting for 40% of all casualties.

Mortar IED reportedly planted by forces affiliated to the Libya National Army (LNA) as it retreated from Tripoli in 2019.

With my cousins, I was grazing the animals in the desert when we found a piece of big metal. We thought that it was only a piece of metal and we brought it to the village and started playing with [it. Then it] exploded and injured me and my cousins. About six people were injured. I was the worst injured among all of us. My left hand and my thighs were seriously injured. The blood was coming from my hands and feet. I fainted and when I opened my eyes, I saw that I was in a hospital. Because of this incident, I lost my left hand and arm up to my elbow […] Now I am afraid of every kind of strange object.

In Afghanistan, boys were found to be six times more likely to suffer injuries from mines and ERW with Afghanistan’s Directorate of Mine Action Coordination (DMAC) recording 15,278 male child casualties compared to 2,404 females since 1979 (see Figures 7 and 8). The fatality rates are almost identical (30% and 31% respectively)\(^{26}\).

However, although girls comprise the minority of those directly impacted by explosive weapons, they are likely to be disproportionately disadvantaged and suffer gender-specific discrimination as survivors\(^{27}\) – a fact explored later in this report.

**COMPOUNDING HARM OF EXPLOSIVE VIOLENCE**

Children with pre-existing disabilities are more vulnerable to explosive violence. Anecdotal evidence suggests that children who have been deafened by airstrikes cannot hear bombs dropping and thus do not take evasive action. Children who have been blinded by landmines cannot see where they walk.

Human Rights Watch (HRW) identified that children with sensory impairments are at greater risk of additional harm in conflict zones and, at times of extreme panic, have even been known to be left behind by their families and carers\(^{28}\). Pre-existing disabilities of child casualties are rarely recorded, so the impact of explosive violence on children with ‘Special Educational Needs’ and other complex medical requirements is largely missing from the literature.
The first hour after an explosion can claim the lives of approximately half of the child victims. As many as 85% of children will die before they reach hospital.

The Golden Hour is the sixty minutes following a traumatic injury which will largely determine an injured person’s chances for survival. Timely emergency care is important for all patients, but especially for children, who are more likely to die following blast injuries than adults.

In conflict areas, emergency treatment within this vital Golden Hour is rarely achieved. A 2016 study of Syrian paediatric patients treated in Israel in 2013 found that less than 10% of the casualties arrived within one hour of injury. Almost one-third arrived 6 hours or more after the blast occurred. In contrast, paramedics arrived at the scene within 15 minutes after the explosion at the Manchester Arena in 2017.

The same explosive weapons that cause child blast injuries, damage, and destroy healthcare systems when they are needed most, preventing children from accessing treatment within the crucial Golden Hour.

In a week of deadly airstrikes and civilian deaths, Saudi Arabia adds school bus and 50 Yemeni children to the list, 2018. Flickr Creative Commons.

Attacks on hospitals and humanitarian workers in conflict was labelled the “new normal” by humanitarian specialist Michiel Hofman in 2016. The UN reported 4,400 incidents of denial of humanitarian access to children in 2019, a disturbing rise compared to the 795 incidents of this nature in 2018 (see Figure 9). These violations form part of military strategies of disruption, where healthcare becomes a specific target in and of itself.

GETTING TO HOSPITAL

Ambulances are often deliberately targeted. Between 2016 and 2017 ambulances were attacked with impunity in Syria: there were at least 204 (mainly explosive) strikes on 243 ambulances. Half (49%) of these were either heavily damaged or put out of service. The main perpetrator was the Syrian regime (60%), followed by the Russian armed forces (29%). Shelling, air-to-surface missiles, and cluster bombs accounted for the majority of attacks.
Ambulances are frequently impeded from reaching children in need by ERW and IEDs. A report from the ICRC notes that ‘roads are sometimes closed for hours on end during sweeping operations for explosive devices or following security incidents, with sometimes dire consequences’. The report recounts how ‘a girl injured by an explosion in Chahar Dara district, Kunduz province in Afghanistan, died soon after arriving at hospital, she had been carried on foot for an hour because the military had closed the road’.

Hospitals offer no guarantee of safety to children. Patients in eastern Aleppo in Syria generally stayed for as short a time as possible in hospitals, as they were “known as dangerous places to be”. If a child is considered to have a ‘less urgent’ medical problem, they are less likely to be taken to a hospital.

An administrative manager of a paediatric hospital in Aleppo recounted how parents “wait for the war-planes to leave, and when they reach the hospitals, the children are in a far worse condition”. When children were finally brought to hospital it was often “too late”. “Premature babies can need a long period in the intensive care unit before they are ready to leave, but as the time is not available, we are losing many of them,” AOAV was told.

Figure 10 Incidents of explosive violence on hospitals when casualties were reported (2011-2020). Data extracted from AOAV’s EVM.

ESCAPING THE BLAST
After a blast, many families will be forced to flee. In flight, their safety is further compromised. In 2018 in Yemen, 22 children and four women were reportedly killed when an airstrike hit their vehicle as they were trying to flee the fighting in Hudaydah governorate.
Emergency surgical procedures in field hospitals for child patients incur multiple costs. According to a 2019 review of paediatric blast care: “paediatric victims affected by blasts constitute a disproportionately large resource burden on operative workload, as well as intensive care and hospital beds.”44. Children with blast injuries often require multiple operations. One review found that blast injury patients aged between 9-14 years old needed an average of five procedures per patient45. Studies of US military medical treatment facilities in Afghanistan found that, while children comprised only 3%–6% of their total admissions, they required approximately double the total bed spaces (7%–11%). On average a child’s length of stay was three times that of coalition troops admitted46.

Because of this, paediatric care can be prohibitively expensive for families and life-saving procedures will be denied to children. In 2020, AOAV conducted interviews among the refugee population in Lebanon47. Parents told AOAV that they could not afford treatments and operations for their children, including severely disabled children unable to access care or assistance. AOAV met with one mother whose child had passed away four months before the researchers’ visit; she claimed that she could not afford the surgery her daughter needed. The operation, it was said, would have been curative.

BLAST INJURY EFFECTS

PAEDIATRIC BLAST INJURY CARE IS DISPROPORTIONATELY RESOURCE-INTENSIVE AND COSTLY

The three-fold rise in the number of attacks on children in conflict since 2010 has placed an immense strain on paediatric care in conflict areas43. Without access to specialised care, more children will die from their injuries.

For those who do receive treatment after injury, child-specific care is rarely received. One of AOAV’s interviewees commented that often surgeons in conflict zones have only “a rudimentary understanding of adult explosive violence and injury, and almost no understanding of what happens to children”.

Once the immediate shock of a blast has subsided and the Golden Hour passes, the pain and the complications born from the violent incident are far from over. A month after a blast injury, a child victim may have undergone multiple medical procedures. For other children, their war injuries may have been left untreated. Pain management will be a challenge, many children will be suffering from psychological trauma from the effects of the blast and the loss of family members.

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PAIN MANAGEMENT

For children who have suffered blast injuries, pain management is an ever-present challenge in the month after injury. How children experience pain remains poorly understood. We know that for adults’ pain is present over the entire blast injury continuum, from point of injury to the fitting of prosthesis. But according to the Paediatric Blast Injury Partnership the management of pain in treatment has yet to be adapted to meet the specific needs of children.

Undertreated, unrecognised, or poorly managed pain in childhood can lead to complications and a poor quality of life that continues into adulthood, including continued chronic pain, disability, and distress.

Pain is invisible and so treatment of pain often relies on communication with the patient. This can mean that pain suffered by girls is not always addressed. In a 2017 study, girls were found to be more likely to report chronic pain than boys during adolescence, however, their chronic pain concerns were dismissed more often by physicians (35% of cases) compared with boys (17% of cases).

PSYCHOLOGICAL AND PSYCHOSOCIAL IMPACTS OF BLAST INJURY

Explosive violence primarily takes place in a conflict setting, making the psychological effects of a blast difficult to pinpoint as the effects are often compounded by poverty, displacement, and the insecurity of war.

Grief, anger, self-blame, disbelief, depression, and anxiety have all been well-documented in children who have experienced explosive violence. How a child responds to the explosive violence is dependent on the nature of the blast, the circumstances of the conflict, their age, the quality of social care and health provision, the direct and indirect impacts of the blast on the child or their caregivers, on family stability and income, and the state of their mental and physical health before the blast, to name but a few. Consensus on the consequences of conflict and explosive violence on children’s psychological health is far from settled.

Post-traumatic stress disorder (PTSD) is one of the most common mental health problems that may develop among individuals who have directly experienced or witnessed life-threatening events in violence and war. In conflict studies, research on PTSD has predominantly focused on veterans, and so knowledge of the disease has largely come from the military population. Despite PTSD being the most common mental health problem among refugee children, the disorder among the cohort has received scant attention.

Almost half of child refugees from Syria displayed symptoms of PTSD – ten times more prevalent than among children around the world. A study of families living in the Gaza strip found that children who had lost their homes due to bombardment suffered ‘severe’ to ‘very severe’ PTSD.

Children can be psychologically impacted by explosive violence even if they do not experience a blast first-hand. ‘Interpersonal exposure’ is when a child suffers trauma from the loss of a loved one or caregiver. In protracted conflicts such as Iraq, this is endemic. Field work conducted by Save the Children in 2017 revealed that 90% of displaced children from Mosul had lost love ones and were reported to be suffering from a host of symptoms, from nightmares to toxic stress.

The climate of insecurity and fear generated by explosive violence can engender a ‘second-hand trauma’. In the 2013 Boston Marathon Bombing, children who had watched more than three hours of media coverage of the bombings (and the subsequent manhunt) exhibited PTSD symptoms.

CHILDHCARE AND THE FAMILY UNIT

A child’s ability to adapt to the aftermath of a traumatic event is highly dependent on their level of social support, primarily from their family. Their quality of life is indelibly connected to the quality of life of their family and community.
The destruction of housing and critical infrastructure displaces children and the damage to the chains of food production may lead to malnourishment and increased risk to infection. A child’s education may be disrupted or halted all together.

INITIAL DISPLACEMENT

Explosive weapons are the primary drivers of conflict-driven displacement. In populated areas they destroy civilian infrastructure, leaving families without shelter, damaging essential services and resulting in socio-economic deprivation. They make urban and other populated areas immediately or ultimately uninhabitable.

When barrel bombs were introduced into the theatre of combat in Syria, the reported number of refugees increased from 250,000 to half a million (from September to December 2012), rising to four million by the end of 2014. A study of Syrian refugees revealed that of those surveyed, 80% stated they left Syria after 2013 when barrel bombs became widely used.

As of 2018, an estimated 31 million children were recorded as displaced by armed conflict, 17 million of which were internally displaced people (IDPs). In May 2019, the estimate of internally displaced children jumped to 19 million, with 3.8 million newly displaced.

INDIRECT EFFECTS

A month after the blast, the reverberating effects of explosive violence become more pronounced. The destruction of housing and critical infrastructure displaces children and the damage to the chains of food production may lead to malnourishment and increased risk to infection. A child’s education may be disrupted or halted all together.

Explosive violence attacks the very fabric of a family unit. It kills and injures parents and carers, rendering them unable to provide the nurture and protection children need. AOAV EVM data shows that, in 2019 alone, 27,466 adults were killed and injured by explosive weapons – many of whom will be parents, grandparents, and carers.

Men are disproportionately killed and injured by explosive violence. AOAV data shows that when the gender is known, men account for between 82% and 90% of adult civilian casualties. The loss of a father often creates difficulties for families due to the particular vulnerabilities associated with widowhood, especially in patriarchal societies. "If the breadwinner is either out of work or killed or disabled, that has a fairly pretty catastrophic effect on the family", Dr von Bertele, told AOAV.

Data on orphans in conflict is limited – a grim reflection of how those who are most vulnerable can be lost within the system of care.

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EXPLOSIVE VIOLENCE ATTACKS THE VERY FABRIC OF A FAMILY UNIT. IT KILLS AND INJURES PARENTS AND CARERS, RENDERING THEM UNABLE TO PROVIDE THE NURTURE AND PROTECTION CHILDREN NEED. AOAV EVM DATA SHOWS THAT, IN 2019 ALONE, 27,466 ADULTS WERE KILLED AND INJURED BY EXPLOSIVE WEAPONS – MANY OF WHOM WILL BE PARENTS, GRANDPARENTS, AND CARERS.

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that year. UNICEF estimates that children account for 42% of all IDPs displaced by conflict – despite making up less than a third of the general population – with nearly 1 in 3 children living outside their birth country being refugees.

The effect of displacement on children is multidimensional and drawn-out. In this report we will examine the effects of displacement after one year and ten years.

**NUTRITION AND INFECTION**

Explosive weapons damage food supply chains at the level of production, transport, and distribution-instigating man-made famines.

More than any other age group, children are harmed by the lingering effects of malnutrition: stunted growth, wasting and, in the most acute cases, death stalk the battlefield. It is the irreversibility of these effects on children that make war-fuelled malnutrition so pernicious.

In extreme cases, acute malnutrition results in child mortality. Around 45% of deaths among children under 5 are linked to undernutrition, making it the single biggest contributor to under-5 mortality. In October 2020, it was reported that 100,000 children under the age of five are at risk of dying in Yemen because of the hunger crisis. In Hudaydah and Taiz governorates, epicentres of the conflict in Yemen, up to a quarter of children were affected by acute malnutrition.

Children are uniquely placed to suffer from stunting. Globally, more than 1 in 4 children are affected by stunting and 80% of the world’s 144 million stunted children live in countries affected by conflict. A 2020 study on the nutritional status of Iraqi children found that a child’s cumulative exposure to violent incidents is negatively and significantly associated with child height. This was particularly the case for IED and direct fire incidents.

There is no cure for stunting. According to the WHO, stunting in the first 1,000 days of a child’s life has adverse functional consequences such as “poor cognition and educational performance, low adult wages, lost productivity and, when accompanied by excessive weight gain later in childhood, an increased risk of nutrition-related chronic diseases in adult life.” These are profound and life-long effects.

A malnourished child is at increased risk of infection. Outbreaks of cholera, meningitis and measles have all been well documented in areas in which explosive weapons have been used, due to the subsequent overcrowding, poor hygiene and insufficient healthcare services.

Saudi-led airstrikes in 2015–18 on water infrastructure in Yemen have probably contributed to one of the most serious cholera outbreaks on record, with more than 2.1 million cases noted.

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**Figure 11** Number of incidents of explosive violence on agricultural land when casualties have been reported (2011-2020). Data extracted from AOAV’s EVM.
**DISRUPTION TO EDUCATION**

Between 2011 and 2020, data collected by AOAV shows there have been at least 402 incidents of explosive weapons on schools and universities worldwide, resulting in over 5,961 civilian casualties – at least 27% of these were children.

UNICEF estimates that there are 27 million out-of-school children in conflict affected countries73. 20% of the world’s primary school age children live in conflict affected countries, but they account for around half of all out-of-school children74.

Even when schools are not directly at risk from explosive weapons, the reverberating effects of explosive violence obstruct a child’s access education. The UN Institute for Disarmament Research (UNIDIR) suggests that if transport services are destroyed children will not be able to travel to school, if an airstrike damages the electricity grid children will be unable prepare schoolwork and if the water supply has been compromised children will have reduced time for homework if they have to travel to fetch water. Toxic stress induced by psychological trauma from explosive violence may affect a child’s ability to learn effectively. The combined consequences are a loss of countless hours of acquiring essential skills.75

Syria is a concerning case. AOAV data shows that Syria has suffered more explosive violence attacks on schools than any other country (see Figure 2). Before the Syrian Civil War, the country reported universal enrolment in primary schools and near-universal enrolment in secondary schools76. By 2014, half of Syria’s children did not attend school – a figure reaching three-quarters in the worst hit areas77. Sensory injury at a critical stage in a child’s development makes them vulnerable to educational underachievement. 75% of early learning occurs through vision and hearing is essential to the early development of language, literacy, and social skills78. However, hearing aids are expensive and may not be considered priority for families living in poverty.

Girls are nearly 2.5 times more likely to be out of school in conflict-affected countries compared to girls in countries not affected by conflict79. In Pakistan, girls’ education has been systematically targeted by militant groups such as the Tehrik-e Taleban Pakistan (TPP). On a single day in August 2018 14 attacks on girls’ education took place in Gilgit-Baltistan, northern Pakistan80. Girls education is more likely to be affected than boys: figures from Yemen in 2019 found that 36% of girls were out of school compared to 24% of boys81.

![Figure 12](image.png)

**Figure 12** Child casualties from explosive violence on education 2011-2020.
*Data extracted from AOAV’s EVM.*
A year after blast injury a child may have undergone several changes of prosthesis and will require follow-up and rehabilitation. Much needed psychological support is unlikely to be available. For those that have been displaced by explosive violence they may find themselves in IDP and refugee camps with limited access to education and at a high risk of sexual violence.

**BLAST INJURY EFFECTS**

**REHABILITATION AND LONGER-TERM CARE**

In AOAV’s interview with Dr von Bertele, former Director General of the British Army Medical Services, he identified the long-term outcomes of survivors as the largest knowledge gap in the field of paediatric blast research. Follow up rarely exists. Where there is monitoring of the long-term effects, it is patchy. Geographical displacement, especially when driven by conflict, increases the likelihood of children not receiving follow-up care and rehabilitation.

A year after a blast injury a child may already have undergone a change to prosthesis, as within 6 months of the first prosthesis being fixed a second is required. Paediatric patients confront unique challenges in managing prosthesis. Unlike an adult, when a child undergoes an amputation the amputated bone will “continue to outgrow the surrounding tissue.” This not only means they will need repeated visits to the hospital to resize their prosthesis, but that they may also need “repeated surgical amputations” in order to manage the bone length. It is difficult to overstate the psychological impact of an amputation, let alone having to undergo the procedure multiple times.

The financial burden of rehabilitation and prosthesis on the children and health systems is considerable. The ICRC observes that even with simple technology, at approximately $100 – $250 per prosthesis, they can be unaffordable for countries where average per capita income may be $15 to $30 a month. Prosthesis services have been found to be severely underfunded in places affected by explosive violence, like Lebanon and Colombia, which only provided replacements after two and five years respectively—a time period not adapted to the needs of a growing child.

Such realities translated into intimate stories of horror. AOAV found the story of a seven-year-old girl who lost her leg from an airstrike in Idlib. She described the pain of her ill-fitting prosthesis, causing redness and severe skin damage, and she was struggling to walk. Both her parents were killed in the strike and her grandfather and guardian could not afford a more developed prosthesis. Such stories, while terrible, are not unusual in countries heavily impacted by bombs and blasts.

**LIMITED PSYCHIATRIC CAPACITY**

Psychological support after an explosion has been shown to be beneficial for children experiencing trauma. After the Manchester Suicide Bombing in 2017, a Resilience Hub was established to identify those in need of psychological support. This intervention was proven to be successful, with children that registered with the Hub earlier and thus received support faster, exhibiting fewer symptoms and improving more rapidly.

This level of psychological support seen after the Manchester bombing, however, simply does not exist in war-torn, low-and middle-income countries.

Child-specific mental health services are even more scarce. Iraq has just 3 child psychiatrists; Yemen has 2; Libya, Afghanistan and Syria do not have any (or at least none reported) according to the World Health Organisation’s (WHO) 2017 Mental Health Atlas (see Figure 13).

Out of 78 countries that responded to the WHO’s survey, only 46% stated they had a plan or strategy for child and adolescent mental health. Data extracted from the WHO’s survey displayed in Figure 13 demonstrates the paucity of child psychological provision in conflict affected countries. In this group, only 36% of states had a plan for child and adolescent mental health.
Not only are children often unable to access specialised paediatric psychiatric care, the wide-area effects of explosive weapons rob them of any kind of therapeutic environment, such as home, school or playground. According to Dr Paul Wise, Professor of Paediatrics and Health Policy at Stanford University, the absence of “normalizing environment… only exacerbates long-term mental health effects”\(^90\).

For those who have long-standing mental health disorders, treatment is interrupted by conflict. “There’s a whole population out there with pre-existing psychiatric issues that are totally ignored during conflict”, Dr von Bertele, told AOAV.

**INDIRECT EFFECTS**

**LONG-TERM DISPLACEMENT IN REFUGEE AND IDP CAMPS**

A year after a blast, a child displaced by explosive violence will be vulnerable to abuse, violence and exploitation, including trafficking and child labour\(^91\).

Child safety is far from guaranteed in refugee and IDP camps. Data from AOAV’s EVM shows that in 2019, at least 51 children were killed from explosive violence in refugee, IDP and nomad camps. The close ties between human smugglers, who facilitate travel for around 90% of the migrants, and criminal networks, puts displaced families and children at further risk\(^92\).

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*Figure 13  Child and adolescent mental health services. Data extracted from World Health Organisation’s (WHO) 2017 *Mental Health Atlas.*

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<tr>
<th>Country</th>
<th>Number of child psychiatrists</th>
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<tr>
<td>Yemen</td>
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</tbody>
</table>

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A child asylum seeker allegedly beaten by police and handcuffed to a chair for four days. Photos taken by Advocates Abroad, on Samos.
Unaccompanied children who have been displaced by explosive violence are one of the most vulnerable groups of refugees. As of 2017, an estimated 300,000 unaccompanied and separated children were in transit globally. Of the nearly 90,000 unaccompanied minors who applied for asylum in Europe in 2015, at least 10,000 have gone missing.

In a 2019 report, UNICEF observed that in countries with widespread displacement – both internal and as refugees – child marriage is a “negative coping strategy.” For example, in Iraq, the practice increased from 15% of girls in 1997 to 24% in 2016. The same phenomenon was seen in Yemen; before the war, child marriage stood at 32%, but by 2017 72.5% of women said they were married before the age of 18 and about 44.5% before the age of 15.

EDUCATION FOR DISPLACED CHILDREN

Educational outcomes of displaced children are profoundly reduced. Among refugees, 39% of primary school-age children and 77% of secondary school-age adolescents are not enrolled in education. In 2016, refugee children were found to be five times more likely to be out of school than non-refugee children. Out of the 7.4 million school refugee children under the UNHCR's mandate, 4 million are unable to attend school. Educational outcomes were found to be worse for internally displaced children.

SEXUAL VIOLENCE

Tragically, the risk of gender-based violence including rape, sexual assault, inter-partner violence and child marriage increases for adolescent girls in humanitarian settings. A 2020 study found that up to a third of girls living in a humanitarian setting report that their first sexual encounter was forced. Orphans, particularly those fleeing conflict, are at increased risk of sexual violence. A 2019 UN report stated that the risk of sexual violence against boys and girls is “compounded when children are unaccompanied during migration.” Nine in ten of these child victims will be girls. Save the Children found that in child-headed households, girls are more likely to have to engage in “transactional sex in order to gain essential items or contribute to household income.”

A group of children, displaced by fighting in the Yemeni city of Hodediah, participate in catch-up classes in the Rabat camp near the Yemeni city of Aden, 2019. Flickr Creative Commons.
ICRC if a child is injured at the age of 10, with a life expectancy of another 40 to 50 years, they will need 25 prostheses or appliances during their lifetime\textsuperscript{101}. These repeated surgeries and medical follow-up appointments, if they happen at all, are against the backdrop of a family life that has potentially broke down due to displacement and economic hardship caused by conflict.

Little is known about how the injured body ages as a child grows. "We know that having a lower limb prosthesis on one leg, exposes you to arthritis and the other", Dr Abu-Sittah told AOAV, "but we know that from veterans, we don't know if this is worse in children".

LONG-TERM EFFECTS OF BLAST INJURY

"For children, the war injury is a life-long process", Dr Abu-Sittah, Head of Plastic and Reconstructive Surgery at the American University of Beirut Medical Centre, explained to AOAV, "as the child grows, and as the body grows, there are new problems that cause physical limitation". Children injured by explosive weapons often require continuous follow-up and repeated surgical interventions. According to the ICRC if a child is injured at the age of 10, with a life expectancy of another 40 to 50 years, they will need 25 prostheses or appliances during their lifetime\textsuperscript{101}.

These repeated surgeries and medical follow-up appointments, if they happen at all, are against the backdrop of a family life that has potentially broke down due to displacement and economic hardship caused by conflict.

LONG-STANDING MENTAL HEALTH CONDITIONS

Without early intervention the psychological effects identified above can persist into adulthood – long after the conflict has ended\textsuperscript{102}.

A Red Cross doctor makes an adjustment to Qabila’s prosthetic leg, Kabul, Afghanistan, 31 October 2011. Flickr Creative Commons.
Experiencing trauma has a significant impact on a child’s cognitive development. When confronted with adversity, the toxic stress response is activated. Toxic stress disrupts development of the brain and other organs, increasing psychopathology as well as cognitive and emotional impairment. According to Dr Hilary Franke of the University of Arizona Department of Paediatrics, toxic stress in children causes “permanent changes to brain architecture”\textsuperscript{103}.

Mental health disorders diminish a child’s ability to engage in daily life, to focus at school, and build meaningful relationships with their peers – such disorder are often accompanied by social stigmatization and societal rejection\textsuperscript{104}.

For example, after the Gulf War, Kuwaiti boys with greater exposure to war trauma were found to be less likely to pursue further education and more likely to suffer from PTSD, poor sleep quality, high body mass index, and poor self-reported health in adulthood\textsuperscript{105}.

Untreated adults who suffered adverse childhood experiences can be up to 12 times more at risk from alcoholism, drug misuse, depression, and suicide attempts than those who have not had such experiences\textsuperscript{106}.

Not all, though, is gloom. The UN describes the ‘deep mental scars’ that are inflicted on children living in conflict\textsuperscript{107} – this is undeniable. But a growing number of medical journals also offer hope, suggesting that children are often resilient to the psychological stressors caused by a blast – perhaps even more so than adults\textsuperscript{108}. As Professor Renos Papadopoulos, Director of the Centre for Trauma, Asylum and Refugees, stressed in an interview with AOAV: “children are distorted by their experience, but they also grow from it”.

INDIRECT EFFECTS

PROTRACTED DISPLACEMENT AND REINTEGRATION

Displacement lasts 20 years on average for refugees and more than 10 years for 90\% of IDPs\textsuperscript{109}. In a 2018 UN report, the Special Representative of the Secretary-General for Children and Armed Conflict (SRSG/CAAC), observed how “temporary displacement to elude localized violence often becomes a permanent condition and immediate challenges to secure adequate shelter, food and health care become chronic\textsuperscript{110}.

The years that children spend moving from refuge to refuge, is a period that frequently leads to prolonged
and repeat trauma. Forced migration, resettling and potential deportation typically occur within a context of exploitation, stigma, discrimination, economic disadvantage.

Once resettled, the psychosocial impact on displaced children may not end. Children who have seen their communities destroyed can find it difficult to adapt to a new environment, especially since refugees and IDPs start to notice they are living alongside those with a higher quality of life, more opportunities, and legal rights. The logistics of migration can be difficult; often children are required to learn a new language or fit into a new culture, which, beyond limiting their access to support, can further hinder integration, and exacerbate feelings of isolation and other psychological stresses.

EDUCATIONAL, OCCUPATIONAL, AND SOCIAL POTENTIAL

After almost ten years of war in Syria, more than half of children continue to be deprived of education. One in three schools in Syria can no longer be used because they were either destroyed, damaged or are being used for military purposes. There are over 2.4 million children out of school in Syria, nearly 40% are girls.

If a child has been trapped in chronic displacement for 10 years, it is unlikely they will go to university. 99% of refugee youth do not attend university.

Little or no education will hamper a child’s occupational chances long-term. In an historical analysis of the outcomes of the loss in years of education experienced by children in Germany during WWII, Akbulut-Yuksel found that exposed children exposed to Allied Air Forces bombing earned 9% less throughout their lives than similar individuals not affected by the bombings.

An educational deficit does not only affect the child, but the local community and the contribution that community can make to society. Economists estimate that each additional year of schooling increases annual GDP by 1%. We know that girls who do not complete their education are at a higher risk of child marriage and pregnancy, and this will have societal economic effects that can reverberate down generations.

The destruction of industry, markets and infrastructure by explosive weapons may be so widespread that job opportunities for skilled labour become scarce. Mined land, or fear of mined land, will mean fields will not be used for agriculture. There will be also be a reduction in occupational opportunities which invariably affects living standards.

The long-term social implications for children with blast injuries are both country and gender dependent. If a boy loses a hand from picking up an ERW, his occupational capacity will be substantially reduced. Girls, on the other hand, are likely to suffer gender-specific discrimination as survivors – especially in marriage and education. Human Rights Watch reported in 2020 that in Afghanistan, “women with disabilities are generally seen as unfit for marriage and a burden on their families.” The report details how “girls with disabilities often lose out entirely on education” – as many as 80% of disabled Afghan girls do not go to school.

CHILD SOLDIERS

After some time, [the violence] became part of me.

- An unnamed child soldier who fought with the rebel Revolutionary United Front in Sierra Leone.

Explosive violence creates the conditions for children to be recruited by armed groups, especially those who have been displaced in refugee and IDP camps. In the absence of protection mechanisms or familial support, armed groups can fill the ‘childcare’ vacuum.

Child soldiers are more likely to be killed or injured than adult soldiers, as they are often deployed on the frontline and used for more dangerous tasks including laying or clearing mines.

Over the last decade, the number of children used to perpetrate acts explosive violence has risen. Advances in explosive weapons technology have made explosive devices more deadly and easier for children to operate. Disturbingly, between 2012 and 2019, 14% of all suicide bombings – one in seven – have
been by children\textsuperscript{121} (though it must be stressed that these ‘bombers’ are, in themselves, coerced or brain-washed victims, manipulated into bombings by adults). UNICEF estimates that 20\% of the total suicide bombers in Nigeria are children and 75\% of those are girls\textsuperscript{122}.

Violence begets violence and if children have been involved in conflict, they are likely to be willing to resort again to violence, in turn increasing the likelihood of conflict recurrence\textsuperscript{123}. Without intervention, child soldiers can easily grow up to be adult soldiers, just as orphans of adults killed in conflict might also seek to grow to avenge their parent’s death.

**CONTINUOUS INJURY**

Contamination by unexploded ordnance means that long after the fighting has stopped children are still injured by explosive weapons. Landmines and ERW have a long legacy; children are 50\% more likely to be victims of blast injury after conflicts are over than during conflicts\textsuperscript{124}. In November 2020, Mine Action Review estimated that almost 2,000 square kilometres of land remains to be cleared\textsuperscript{125}. This does not consider new mines which continue to be laid. From mid-2019 through October 2020, the Landmine Monitor confirmed new use of antipersonnel mines by the government forces of one country—Myanmar, and by non-state armed groups in 6 countries with unconfirmed use in a further 13 countries\textsuperscript{126}.

**Figure 14** Child Casualties by Weapon Type in Afghanistan (1979-2020). Data provided by Afghanistan’s Directorate of Mine Action Coordination (DMAC).

A Syrian child plays with a cardboard gun in the rebel-held town of Harasta, in the Eastern Ghouta region on the outskirts of Damascus on January 25, 2018. Photo by Abdulmonam Eassa / AFP.
STATE ACTORS ARE THE PRIMARY PERPETRATORS OF EXPLOSIVE VIOLENCE AGAINST CHILDREN

Data from AOAV’s EVM revealed that state actors were responsible for 53% of child casualties (Figure 16) in contrast to 22% of adult casualties (Figure 15). While child casualties represent a minority of the total civilian casualties documented by AOAV, this is nonetheless a damning indictment of the lack of military planning, or even intent, of state actors.

There are several, albeit untested, possible explanations for this. State actors, unlike almost all non-state actors, deploy air-launched weapons, which are invariably wholly indiscriminate when used in populated areas and thus result in a greater number of child casualties. Non-state actors, in particular Salafi Jihadists, are on the whole, more likely to attack adult civilian targets such as markets and places of worship, than nurseries and schools.

Figure 15  Percentage of adult civilian casualties from explosive violence by perpetrator status (2011-2020). Data extracts from AOAV’s EVM.

Figure 16  Percentage of child civilian casualties from explosive violence by perpetrator status (2011-2020). Data extracts from AOAV’s EVM.

ACCOUNTABILITY

As one of AOAV’s interviewees explained, children are rightly the most protected age group with the UN’s Convention on the Rights of the Child’s (UNCRC) 54 articles safeguarding the civil, political, economic, social, and cultural rights of every child.

There is a framework in which violations against children are recorded – the so-called Six Grave Violations. These violations are documented by the Monitoring and Reporting Mechanism (MRM), established in 2005 under Security Council Resolution 1612. MRM reports are sent from country task forces to the SRSG/CAAC and are used in the annual reports.

The MRM’s accountability mechanism lacks the leverage required to hold violators responsible. Too many violations are undetected and unpunished.

UNDETECTED VIOLATIONS

Data collected by the MRM provides only partial understanding of child harm. While the MRM is verified to a very high standard, interviews conducted by Oxford Research Group (ORG) emphasised that “no claim is made to document deaths of children systematically and comprehensively”127. Rather, the MRM undertakes an “emblematic” approach in which comprehensive detail is provided to represent a situation for advocacy purposes. This is especially the case in the monitoring of the first violation, the killing and maiming of children. One of the interviews conducted by ORG revealed that “other violations considered within the MRM are privileged, being easier to document in many cases than killing and maiming due to the difficulty of accessing or verifying information”.

As a research tool, the UN CAAC reports have limited use. For example, some years the number of attacks on schools and hospitals are disaggregated, other years they are not.

UNPUNISHED VIOLATIONS

Despite the high-level buy-in from states, violations against children continue largely unpunished with few cases prosecuted in an international court.
Unlike age or prior disability, establishing the biological gender of a child is relatively easy and should be standard practice in child casualty reporting.

Quantifying indirect effects

Measuring child casualties, while challenging, does not compare to the difficulties associated with measuring indirect effects. While these effects are predictable, there is no single approach for their systematic documentation.

First, there is the question of attribution. If a rocket lands on a water sanitation facility in Yemen and escalates the cholera epidemic, to what extent can we attribute the harm suffered by a child with cholera back to the explosive weapon? If four years later the epidemic is still ongoing, at what point are the responsible authorities, be this a new government or the international community, held accountable for the spread of the disease? Time is not a perfect proxy for attribution, but as we move further away from the blast in this report’s timeline, the moral and legal responsibility of harm becomes harder and harder to discern.

Studies that attempt to quantify indirect effects often rely on counterfactual comparisons with the level of death and disease in the absence of conflict. The Geneva Declaration Secretariat once estimated that for every direct death in conflict there are four indirect deaths. Since then, we have witnessed the increased urbanization of war and the wholesale destruction of civilian infrastructure from explosive weapons – the real number of indirect deaths is likely to be much higher.

CHILD DATA

Accountability for violations against international law requires verified data. Data on children is particularly unspecific. Media reports will mention that among the casualties “children were included” rather than detailing the number of child casualties or their gender. The Small Arms Survey’s report Gender Counts observed a “general practice of treating children as genderless.” The lack of gender-disaggregated child data is a barrier to those researching paediatric blast injury and has prevented a deeper understanding of gender-specific outcomes. This is reflected in AOAV’s own EVM dataset in which the gender is only known for 18% of child casualties.

One of AOAV’s interviewees pointed out that identifying the gender of child casualties is “a low hanging fruit.”

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International Humanitarian Law (IHL) prohibits the direct targeting of civilians (and, by default, children), yet this is frequently disregarded.

In the Annex of the annual reports of the Secretary General on Children and Armed Conflict, the Secretary General lists parties who commit violations against children – the heavily politicised ‘list of shame’. Every year, the vast majority of parties are mentioned are non-state actors. However, we know from AOAV data that when looking at casualties from explosive violence, it is state actors that must take greater accountability.

In an open letter to the SRSG/CAAC in June 2020, HRW condemned “disparities between the evidence presented in the report and the parties listed in its annexes” referencing the de-listing of the Saudi-led coalition for killing and maiming children in Yemen, and the Tatmadaw for recruiting and using children in Myanmar.

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AOAV’s timeline of a Childhood Under Attack demonstrates how explosive violence initiates a cycle of reverberating effects that ripple throughout a life. It presents worst-case scenarios. Effective intervention and victim assistance could ameliorate much of this harm, but so long as explosive weapons with wide-area effects continue to be used in populated areas, the harm in the timeline will only become reality for more and more children.

The Paediatric Blast Injuries Partnership has made progress in advancing professional and public understanding of child blast injuries and how to provide effective treatment for children caught up in the violence of war. However, the long-term outcomes for children, especially girls, who suffer blast injuries remains largely unknown and their experiences are all too often untold. The absence of this long-term data was consistently raised in AOAV’s interviews as a barrier to understanding the child-specific effects of explosive violence.

Children are a special case. They are physically more vulnerable to the effects of blast injury, they suffer irreversible harm to their development, and child-specific infrastructure is frequently targeted. But the social claim of the child cannot be separated from that of the mother and the family unit. As Dr Wise noted – “You can elevate a child’s claims by diminishing the claims of others, in the end that is not usually that useful”.

Or, as another of AOAV’s interviewees surmised: “If the adults do not have clean drinking water and get cholera, so do the children. If the children can’t eat it’s usually because the parents can’t eat as well”.

### CONCLUSION & RECOMMENDATIONS

### RECOMMENDATIONS

- States should recognise how the indirect effects of explosive weapons use in populated areas (EWIPA) will cause child-specific harm. Future planning should calculate the totality of unintended events of military operations and implement mitigation strategies.

- States, NGOs, and monitoring organisations should endeavour to collect gender disaggregated data on child casualties in armed conflict. Children with pre-existing disabilities should be flagged by monitors and casualty counters.

- UN organisations should strive to standardize its approach to data collection, especially regarding the Monitoring and Reporting Mechanism (MRM).

- States must only authorise arms exports to countries that demonstrably adhere to standards and norms relating to children in armed conflict.

- States should endorse and implement the Safe Schools Declaration to express political support for the protection of students, teachers, and schools during times of armed conflict. At present, only half (55%) of all nation states, including only two of the five permanent members of the United Nations Security Council have endorsed the declaration.

- Increased research and funding are needed to understand the longer-term effects of blast injury on a child’s body.

- Given that children are increasingly being injured by explosive violence, more funding is required for paediatric surgeons operating in conflict zones in order to adopt a child-centred approach across the continuum of care.

- States should become signatories to the proposed political declaration that seeks to address the humanitarian harm arising from the use of explosive weapons in populated areas.
AOAV endorses the Republic of Ireland’s ‘Political Declaration on Strengthening the Protection of Civilians from Humanitarian Harm arising from the use of Explosive Weapons in Populated Areas’ AOAV commends the inclusion of the reverberating effects of explosive weapons in the draft document:

“Ensure that our armed forces make every effort in the planning of military operations and the execution of attacks in populated areas to consider direct, indirect and reverberating effects on civilians and civilian objects which can reasonably be foreseen and take appropriate mitigation measures to limit the risk of harm to civilians and civilian objects”.

BLAST INJURY AND DEATH

- Death or injury of a family member
- Child marriage
- Malnutrition and disease
- Threats to safety and abduction
- Damage to healthcare and vaccination programmes
- Gender-based violence
- Reduced economic and occupational opportunity
- Psychological and psychosocial impact
- Marginalisation and seclusion
- Displacement
- Disruption to education
- Recruitment to armed groups

AOAV underlines the importance of considering these effects in order to safeguard the well-being of civilians and ensure a safer environment for all.
As a member of the International Network on Explosive Weapons (INEW), AOAV and its colleagues urge states and all users of explosive weapons to:

- Acknowledge that the use of explosive weapons in populated areas causes severe harm to individuals and communities and furthers suffering by damaging vital infrastructure;
- Strive to avoid such harm and suffering in any situation, review and strengthen national policies and practices on the use of explosive weapons and gather and make available relevant data;
- Work for the full realisation of the rights of victims and survivors;
- Develop stronger international standards, including certain prohibitions and restrictions on the use of explosive weapons in populated areas.

In developing these standards, states, and other actors should make a commitment that explosive weapons with wide-area effects will not be used in populated areas.

DEFINITIONS

**Blast injuries**
Injuries caused by the multiple effects of explosive weapons with the capability of resulting in multisystem, life-threatening harm.

**Children**
The 1989 Convention on the Rights of the Child, defines children as “individuals under the age of eighteen years”.

**Child soldiers**
According to the Paris Principles any person below 18 years of age who is or has been recruited or used by an armed force or armed group in any capacity, including but not limited to children, boys and girls, used as fighters, cooks, porters, messengers, spies or for sexual purposes. It does not only refer to a child who is taking or has taken a direct part in hostilities.

**Explosive violence**
Aerial bombs, mortars, artillery, rockets, grenades, missiles, landmines, IEDs, ERWs, UXOs.

**Reverberating effects**
The long-term impacts of the damage caused by explosive weapons on human living conditions; including food security, water, sanitation, health care, environmental and infrastructure damage, and the displacement that results from the destruction. UNIDIR extends the concept to cover “the impacts of explosive weapons on human behaviour, interaction, social capital and community resilience”.

ACRONYMS

**ERW**
Explosive remnants of ear

**EVM**
AOAV’s Explosive Violence Monitor database

**IED**
Improvised explosive devices

**IHL**
International humanitarian law

**SRSG/CAAC**
Special Representative of the Secretary-General for Children and Armed Conflict

**UXO**
Unexploded ordinance

**UN CAAC**
United Nations Office Special Representative for Children and Armed Conflict

**UNIDIR**
United Nations Institute for Disarmament Research

**UNHCR**
United Nations High Commissioner for Refugees

**WHO**
World Health Organisation
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