Global report on assistive technology[1]

Section 5
Preparing for assistive technology in humanitarian crises

Key messages

In most humanitarian crises the need for assistive technology grows, as do the barriers to its access. People with pre- existing functional difficulties may not have or be able to use their assistive product during a crisis, and when humanitarian facilities, services and programmes are inaccessible and not inclusive, the most vulnerable groups can get left behind.

In response to this, approaches to reducing barriers to assistive technology in humanitarian settings include:

- **Products:** Designing and producing assistive products to better respond to humanitarian settings, for example through sustainable design and production; accessible humanitarian products and infrastructure; assistive technology catalogues and lists for humanitarian settings.
- **Provision:** Ensuring that assistive technology is accessible to frontline staff when emergency medical teams are triaging those in need.
- **Personnel:** Training all stakeholders involved in all stages of a humanitarian response – from community to international level, and from managers to staff and volunteers – in inclusive policies and practices that incorporate basic awareness of assistive technology to address functional difficulties.
- **Policy:** Inclusive emergency response policies and programmes must ensure rights to access assistive technology are protected.

Identifying effective information systems to help coordination among humanitarian actors and encourage collaboration between those actors in the interests of protecting the rights of people with disabilities is essential.

Humanitarian crises, temporary or protracted, sudden or slow-onset, include: natural disasters; public health emergencies such as epidemics; human-made and technological

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disasters; armed conflicts and wars; as well as other complex emergencies such as famine or large movements of people inside or outside of a country.

The need for assistive technology grows in most humanitarian crises, as do the barriers to accessing it. A rapid and flexible response is therefore required to ensure assistive technology is available and accessible, which is why World Health Assembly Resolution WHA71.8 calls on Member States to ensure access to assistive technology and inclusive barrier-free environments within emergency preparedness and response programmes. Similarly, the UN *Convention on the Rights of Persons with Disabilities* calls upon States Parties to take "all necessary measures to ensure the protection and safety of persons with disabilities in situations of risk, including situations of armed conflict, humanitarian emergencies and the occurrence of natural disasters" *(2)*.

Box 5.1 Priority assistive products during humanitarian crisis in Ukraine

Responding to a rapid increase in need for assistive technology as a result of the humanitarian crisis in Ukraine in 2022, WHO has developed two priority product lists. They are based on results from a stakeholder survey on priority assistive products for humanitarian crises carried out in 2020 and information from Ukraine health personnel and assistive technology users. In addition, UNICEF has developed a list of assistive products for children and people with disabilities in emergencies.[i]

The first WHO list of six products (AT6) includes wheelchairs and cushions, elbow and axilla crutches, walking frames and mobile toilet and shower chairs. They were included in deliveries of WHO Trauma Emergency Surgical Kits to health facilities in Ukraine. The second list of ten products (AT10) includes two types of wheelchairs and cushions, elbow and axilla crutches, walking frames, static toilet and shower chairs, absorbent products and three different types of catheter kits, targeting internally displaced people and refugees. Complementing AT6 and AT10, a communication board using pictures, symbols and letters was translated and printed locally.

Procurement and provision of both the AT6 and AT10 products was coordinated in collaboration with UNICEF, other UN Agencies, the Ministry of Health, government and nongovernmental service providers. Printed guidance in Ukrainian for service providers and those receiving the products was prepared; as well as online short training videos and information on product selection, fitting, use and follow up. Onward referral options for people with for more complex needs were mapped and clearly signposted in medical facilities and locations supporting displaced people and refugees.

Source: [i] Product List: Assistive Technology and other relevant products for children and people with disabilities in emergencies. Copenhagen: UNICEF Supply Division; 2021 (https://www.unicef.org/innovation/sites/unicef.org.innovation/files/2022-03/Assistive-products-for-emergencies_0.pdf, accessed 20 April 2022).

Technical know-how to practically deploy assistive technology during humanitarian crises has been identified as a gap, alongside the lack of coordination among the agencies and organizations for developing and deploying inclusive strategies to meet the assistive product needs of people with disabilities, older adults and other groups *(204)*.

Assistive products that are likely to be needed as a priority during a crisis include products for mobility, continence and communication (see Box 5.1).

Challenges for users

When humanitarian facilities, services and programmes are inaccessible and not inclusive, the most vulnerable groups can get deprioritized or left behind *(205)*. Those most at risk and disproportionately affected by crises include people with disabilities, especially children and older persons with disabilities, and chronic conditions, women, migrants and older persons *(205,206)*. Many of these subpopulations are also more likely to require assistive technology. In the Japan tsunami and earthquake of 2011, the mortality rate of people with disabilities was double that of the general population *(207)*.

And in relation to COVID-19, people with disabilities have been shown to be at higher risk of contracting the virus than those without disabilities and have less access to COVID-19 information and health care *(207)*. For populations experiencing another humanitarian crisis alongside COVID-19 the risks are magnified. For instance, the *Global Humanitarian Overview 2021* reported particular problems with accessing assistive products as an additional negative impact on refugee populations in the occupied Palestinian Territories during the COVID-19 pandemic *(208)*.

The COVID-19 pandemic has particularly exacerbated access barriers to assistive products and services worldwide due to disruption of supply chains, requirements for social distancing, and strains placed on health care, education and other economic and social systems. COVID-19 has also reduced access to assistive technology services including training and repair, which are often provided through one-to-one, in-person support *(143,144,188)*.

Persons who have pre-existing functional difficulties may not have (or be able to use) their assistive products during a crisis. For example, people may lose or break their assistive products, or assistive products that depend on electricity or the Internet may be compromised by damage to infrastructure. In trying to access assistive technology, transport to reach products and services may be compromised, personnel capacity may be reduced, and procurement and provision systems may not be operational during a crisis. Movement between areas may be restricted due to security concerns, thus blocking access to available services for affected populations.

Barriers familiar from non-crisis contexts – such as lack of perceived need, lack of awareness about products and services available, inadequate availability, financial barriers, limited or inaccessible transportation, and stigma and discrimination – have also been reported during crises *(209)*. Low levels of awareness of functional difficulty, rehabilitation and assistive technology, and a lack of appropriate skills and programming in relation to assistive technology on the part of emergency medical teams and other humanitarian actors, have also been identified as barriers *(204)*. While substantial efforts

have been made to improve inclusive practices for people with functional difficulties among humanitarian organizations, policies and guidelines do not always translate into on-the-ground practice.

In a life-threatening crisis, saving lives is the highest priority of frontline emergency responders, along with reducing morbidity and other losses. Medical attention can include the provision of assistive technology for stabilizing and triaging those injured in order to get them to the most appropriate point of care. However, these products, services and personnel (e.g. rehabilitation professionals) may not be part of the frontline humanitarian response (see Box 5.2, for example).

Box 5.2 Assistive technology challenges during the humanitarian crisis in Syria

After nearly eight years of conflict in Syria, more than a quarter (27%) of the population aged 12 or above had a disability, and more than half of those aged 40 and above, (56%) had a disability.[i] In addition, over a third (36%) of those displaced inside Syria (12 years and older) have a disability. This can be compared with the estimated global disability prevalence of 15%.[ii] The need for assistive technology (e.g. prosthetic/orthotic services) has been identified as a priority, yet the lack of specialized care for people with disabilities and financial constraints pose major barriers.

Older people and those with disabilities are at increased risk of separation from their families and care providers and are dependent on assistive products for their independence. For Syrian refugees living in Jordan and Lebanon, persons with disabilities also experience accessibility challenges. One study of 1600 households in refugee camps[iii] with at least one member with a disability revealed that half face challenges with moving around the home (47.5% in Lebanon and 64% in Jordan). Lack of accessible latrines and access to safe water were also reported as challenges.[iv]

Sources:

[i] Disability: Prevalence and Impact. A nationwide household survey using Washington Group methodology. Syrian Arab Republic: Humanitarian Needs Assessment Programme (HNAP), United Nations–Syria; 2019 (https://www. humanitarianresponse.info/sites/www.humanitarianresponse.info/files/assessments/disability_prevalence_and_impact_2019.pdf, accessed 20 April 2022).

[ii] Syrian Arab Republic: Disability Prevalence and Impact. IDP Report Series (Fall 2020). Geneva: UN High Commissioner for Refugees; 2021 (https://reliefweb.int/report/syrian-arab-republic/syrian-arab-republic-disability- prevalence-and-impact-idp-report-series, accessed 20 April 2022).

[iii] World report on disability. Geneva: World Health Organization; 2011 (https://www.who.int/teams/noncommunicable-diseases/sensory-functions-disability-and-rehabilitation/world-report-on-disability, accessed 20 April 2022) *(28).*

[iv] Hidden victims of the Syrian crisis: disabled, injured and older refugees {website]. London: Handicap International and HelpAge International; 2014 (https://reliefweb.int/report/syrian-arab-republic/hidden-victims-syrian-crisis- disabled-injured-and-older-refugees, accessed 20 April 2022) *(210).*

Published evidence on assistive technology needs and provision during humanitarian crises is limited, with comparatively more studies on the acute stage of a crisis rather than on preparedness planning or recovery efforts after a crisis. The evidence base is insufficient across all types of assistive products to determine the extent of use and met needs, with more attention to mobility and vision assistive products. Studies of humanitarian programmes have shown that refugees who are older, who have disabilities or newly acquired injury are often neglected in the assessment, data collection, design and delivery of responses *(210)*.

Access to assistive technology does not necessarily mean satisfaction with products and services, or that a functional difficulty has been fully or even partially addressed. Users in humanitarian settings report high rates of continued functional challenges, such as still experiencing difficulties in seeing among those who wear spectacles *(211)*.

Few studies have examined the effectiveness of assistive technology provision during a crisis, but one systematic review of physical rehabilitation interventions during emergencies (primarily focused on earthquakes) found that in these settings, prostheses were the most provided type of assistive product, generally by international humanitarian organizations. Provision challenges were also identified, such as 'product dumping' in Haiti *(212)*.

Reducing barriers

The global impacts of COVID-19 have heightened awareness of health disparities (e.g. access to health care and information). Addressing COVID-19 has also revealed the potential to accelerate transformative changes across global health fields to address structural inequities and barriers to access, including access to assistive technology. Empowering at-risk groups and community-level actors to identify and address needs, and to be active participants (not passive recipients) in developing humanitarian plans and responses, is at the heart of many recommendations (see Mahpekay's story) *(144)*.

Preparedness planning and practice for a crisis can occur at all levels – from individuals to national governments. Addressing the needs of users can be integrated into plans, programming and disaster drills for all humanitarian actors – from international humanitarian organizations to national and local government agencies and civil society organizations (see Box 5.3, for example). Individual users and their support networks can also create emergency preparedness plans that increase their capacity to cope with a crisis.

Preparedness guidelines and resources have been developed by humanitarian and other organizations for specific types of crises, regions and populations. Most resources provide guidelines on how to design and implement inclusive programming, train personnel, and meaningfully engage at-risk groups.

Specific solutions to overcome identified barriers to assistive technology during a humanitarian crisis according to the four components of the assistive technology system include the following examples.

Box 5.3 Humanity and Inclusion's approach to disaster risk reduction

Humanity and Inclusion (formerly Handicap International) employs a twin-track approach to disaster risk reduction (DRR):

1. **An inclusive DRR system and stakeholders** that support and strengthen the capacity of local, national, regional and international DRR stakeholders (i.e. service providers and service delivery) to include the most-at-risk groups, in particular people with disabilities.
2. **Empowerment of at-risk groups** that includes identifying and supporting at-risk groups, in particular people with disabilities and their families and representatives, to increase their resilience to disaster risks and facilitate their participation in mainstream DRR.

Source: Inclusive Disaster Risk Reduction (Policy Brief no 13). London: Handicap International; 2017 (https://d3n8a8pro7vhmx.cloudfront.net/handicapinternational/pages/1500/attachments/original/1499955359/Inclusive_ DRR_2017.pdf, accessed 20 April 2022).

Products

Assistive products can be designed and produced to better respond to humanitarian settings, for example through:

- *sustainable design and production:* repair, reuse and materials recovery at the local level have been proposed as alternatives to relying on global supply chains that may be disrupted during a crisis *(171)*.
- *accessible humanitarian products and infrastructure:* assistive products and accessibility measures that can be quickly deployed during a humanitarian crisis are becoming more common (e.g. accessible showers, toilets, pathways, ramps, etc.). Procuring such humanitarian products is recommended as best practice by leading humanitarian organizations, which are also investing in designing new technologies specifically adapted to these contexts.
- *assistive technology catalogues and lists for humanitarian settings:* these can expand and segment assistive products suitable for different humanitarian settings in supply catalogues and lists to facilitate procurement by humanitarian actors *(204)*. For example, a list of priority products was developed by WHO and UNICEF to ensure that people with disabilities were not excluded from COVID-19 response efforts. The list includes COVID-19-specific products (e.g. face masks) and a range of assistive products *(213)*.

During crisis situations, supply chains for health and other essential products may be disrupted. Mitigating these disruptions includes carrying stock of inventory locally, having back-up suppliers for situations where primary suppliers cannot fulfil orders, and building the capacity of assistive technology resources at the community level *(204)*.

Meet Mahpekay

Afghanistan

Mahpekay lives with her mother, six sisters and two brothers in Kabul, Afghanistan. Originally from rural Afghanistan, Mahpekay was six years old when she and her family fled to Kabul due to the growing conflict and lack of security in her country. Shortly after their arrival Mahpekay was injured in an explosion and both of her legs were amputated.

Growing up as a double amputee, Mahpekay often felt excluded because she was not able to walk like the other children, and she felt depressed. Even with mobility devices, she had difficulty going to school as it was not accessible: "At that time, my life didn't feel like it had any meaning."

Today, Mahpekay is a qualified orthotist/ prosthetist, and deputy director of the Kabul Orthopedic Organization. She has provided many children and adults with prosthetics like those that she wears herself. She says, "there are thousands of people like me, including many children who lost their limbs from the use of these explosive weapons."

Achieving her qualifications and being able to work and support her family relies on her continued access to prosthetics, a wheelchair and other assistive products. "I enjoy it the most when I provide quality services for people with disability, because I have disability and I know the difficulties the people with disabilities face. When I solve their problem, I give them new hope for life."

"Assistive technology enabled my access to education, and the knowledge I have gained has changed my life and my family's life as well. I financially support my family and I am the only one that has a job, my sisters are students at school and my brother is a student in university".

Provision

Assistive technology may be needed on the frontline when emergency medical teams are triaging those most in need. Lists of essential assistive products and equipment for trauma care already exist, alongside best practices to address common types of injuries *(214)*.

Many common types of traumatic injuries require assistive technology. People who experience fractures, amputations, spinal cord injuries and brain injuries are likely to have short- or long-term needs for assistive technology. In conflict zones, injury patterns correspond to types of weapons used – which makes it possible for emergency responders and other humanitarian actors to plan for specific types of assistive products and services needed *(215)*. In all humanitarian settings, quickly identifying those who use, or may need, assistive products is recommended *(143,204,216)*.

Other inclusive practices include providing:

- information in accessible formats, including addressing the information needs of people with intellectual or developmental disabilities;
- accessible and equitable humanitarian assistance such as specialized services for users (e.g. home-based services, nearby service points);
- remote training and service delivery for some types of assistive technology provision (e.g. telemedicine); and
- efficient systems to procure and supply assistive technology that are most essential in a crisis setting.

As humanitarian responses shift to the recovery phase and longer-term solutions, national assistive technology system actors and humanitarian relief organizations may share responsibility for ongoing provision. Partnerships between national or local governments, private sector and international humanitarian organizations all play a role in long- term assistive technology provision, and international resources (i.e. funding, expertise, technology and equipment) can be leveraged to strengthen this response to meet local needs *(217)*. In protracted humanitarian situations, long-standing refugee camps may have to provide ongoing housing and a range of services. Accessible infrastructure can be used in these settings, such as accessible latrines. For example, UNICEF has worked with private sector partners to design, test and produce multiple products to create accessible latrines that are easy to transport and assemble, and which can be deployed in emergency settings. CBM International describes 16 minimum requirements for building accessible shelters that are practical and cost-effective. These requirements apply universal design principles and aim to create a barrier-free environment for people with a range of disability types (e.g. mobility, sensory) *(218)*.

Raising awareness about assistive technology and inclusive attitudes and practices is also recommended for the broader refugee community and humanitarian staff *(219)*. Recovery in this context aims to increase refugees' self-reliance through self-help groups and peer support. Rehabilitation and reintegration of those who have experienced physical or psychological trauma is also often part of recovery efforts.

Personnel

Stakeholders involved in all stages of a humanitarian response – from community to international level, and from managers to staff, family members and volunteers – can be trained in inclusive policies and practices that incorporate basic awareness and provision of assistive products to address functional difficulties. Examples of resources on inclusive practices in humanitarian settings that incorporate assistive technology include the following guidelines and standards:

- Age and Disability Capacity Programme (ADCAP), which is designed to ensure older people and people with disabilities are included during emergency responses *(220)*.
- *Guideline on the inclusion of persons with disabilities in humanitarian action*, which sets out "essential actions that humanitarian actors must take in order to effectively identify and respond to the needs and rights of persons with disabilities who are most at risk of being left behind in humanitarian settings" *(221)*.

- *WHO Emergency medical teams minimum technical standards and recommendations for rehabilitation*, which aims to strengthen the capacity of emergency medical teams to better prevent patient complications and ensuing impairments *(214)*.

Personnel likely to provide assistive technology during a crisis, such as frontline rehabilitation or health care personnel, require clinical and technical training specific to the assistive products most needed and feasible to deploy in a crisis setting. Training frontline workers in the rights of people with functional difficulties (including users) is recommended.

Coordination and management personnel are central to a humanitarian response – both to address acute needs and provide ongoing humanitarian assistance. Developing systems and training that support these personnel in quickly mobilizing assistive technology resources is essential (e.g. training service providers in using virtual provision platforms) *(188)*. Addressing the shortage of assistive technology personnel during a crisis can be achieved through strategies such as task-shifting (see *Personnel – Identifying and closing gaps* in section 4).

Policy

Inclusive emergency response policies and programming must aim to ensure the rights of people with functional difficulties are protected, including the right to access assistive technology *(222)*.

Mandates such as *UN Convention on the Rights of Persons with Disabilities* (Article 11) enshrine the rights of vulnerable groups in humanitarian crises, and many include the provision of assistive technology (2,223). Funding the implementation of policies and best practices to provide assistive technology during and after a crisis generally demands national and international financing, specifically:

- funding assistive technology through national and international emergency response plans;
- developing funding mechanisms that enable humanitarian agencies and other donors to quickly fund response priorities, including the rapid provision of assistive technology *(224)*;
- applying creative funding models to support long-term rehabilitation and assistive technology provision, particularly in fragile and conflict areas (Box 5.4).

My hearing aid allows me to hear a baby crying, the sound of trains and sirens.

Mar'yana (36), Ukraine

Additional approaches to strengthen the humanitarian policy environment include *(204,207,225)*:

- clarifying which bodies (international and national) are responsible for addressing assistive technology needs during a crisis;

- identifying effective information systems to help coordination among humanitarian actors, and rapid procurement and deployment of essential products and services;
- establishing a multi-stakeholder taskforce that meaningfully engages users to develop plans and strategies for responding to humanitarian crises and monitoring progress;
- collaboration among leading global organizations working to ensure that the rights of people with functional difficulties are realized within complex humanitarian settings, and to produce practice and training resources that are tested for effectiveness, evaluated and continually updated as new evidence becomes available.

Box 5.4 First physical rehabilitation centre in Maidugur (Nigeria)

The International Committee of the Red Cross (ICRC) has built a physical rehabilitation centre to provide assistive technology and rehabilitation services in a conflict prone area of northern Nigeria. Government and academic partners collaborated with ICRC in establishing the centre, which is funded through an innovative private–public investment mechanism called the 'Humanitarian Impact Bond'. ICRC provides physical rehabilitation services in countries experiencing armed conflict and violence.

Sources:

Nigeria: First physical rehabilitation centre opens in Maiduguri [news release] – 19 Nov 2020. Geneva: International Committee of the Red Cross; 2020 (https://www.icrc.org/en/document/nigeria-first-physical-rehabilitation-centre- opens-maiduguri, accessed 20 April 2022).

International Committee of the Red Cross [website]. Geneva: International Committee of the Red Cross (https:// www.icrc.org/en, accessed 20 April 2022).