SYSTEMS THAT SAVE LIVES

Lessons learned from global best practice on health system strengthening and noncommunicable diseases

CASE STUDY 1

Strengthening the health system response to NCDs in humanitarian settings

NCDAlliance

CASE STUDIES · 2025

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This case study is part of a series exploring the importance of strong health systems for the achievement of Sustainable Development Goal (SDG) target 3.4 to reduce premature mortality from noncommunicable diseases (NCDs) by one-third by 2030. This case study focuses on the health system response to NCDs in humanitarian settings. Other case studies cover the decentralised NCD response in Ethiopia and integrating NCD and HIV prevention, treatment and care services to improve the quality and reach of person-centred NCD care.

SDG TARGET 3.4

Noncommunicable diseases and mental health

By 2030, reduce by one-third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being.

Humanitarian crises:
A risk magnifier for NCDs

Over 360 million people in 2023 needed humanitarian assistance and protection and in 2024, the United Nations estimated that more than 165 million people would need emergency health assistance in humanitarian crises[1]. Providing NCD prevention, treatment and care services in these settings presents multiple challenges due to destroyed health infrastructure, weakened health systems, disruptions to treatment and limited integration of NCD programmes into humanitarian responses.

NCDs are the leading cause of death and disability worldwide, accounting for 74% of global deaths[2]. 86% of all premature deaths from NCDs occur in low- and middle-income countries (LMICs)[3]. NCDs primarily include cardiovascular disease (CVD), cancer, diabetes, chronic respiratory diseases, and mental health and neurological disorders, as these disease groups are responsible for the majority of global morbidity and mortality. However, additional NCDs such as cardiovascular, renal and metabolic (CRM) diseases and chronic kidney disease also present a significant and growing burden in humanitarian and non-humanitarian settings[4].

Methodology

This case study is based on a literature review of published reports, journal articles, and publicly available data as well as a small number of stakeholder interviews to verify information and gather additional evidence.

BOX 1
What are humanitarian settings?

"Humanitarian setting" is an informal term that captures both humanitarian crises and fragile, conflict-affected and vulnerable (FCV) settings. A humanitarian crisis is defined as a single event or series of events that threaten the health, safety or well-being of a community or large group of people. They include natural disasters, public health emergencies and armed conflict and its consequences. Humanitarian crises are increasingly caused or magnified by climate change and outbreaks of infectious diseases in non-endemic areas, as well as climate migration or conflicts over water and farmable land resources that have been diminished by climate change[5].

In humanitarian settings, there are additional complications that must be factored in[6]. People living with NCDs in humanitarian settings, whether at home or displaced, are at substantially higher risk of exacerbation of their condition due to trauma and stress, medication interruptions, and difficulty accessing care. Furthermore, humanitarian crises increase the risk of developing NCDs, through poor dietary options due to a lack of availability of healthy, nutritious food; constrained physical activity opportunities; increased susceptibility to use of addictive substances such as tobacco, alcohol[7]. For instance, 50.4% of refugee households in Syria report having a household member with one of five common NCDs (hypertension, CVDs, diabetes, chronic respiratory disease and arthritis)[8, 9].

> "People living with NCDs in humanitarian crises are more likely to see their condition worsen due to trauma, stress, or the inability to access medicines or services. The needs are enormous, but the resources are not."
>
> – WHO Director-General Dr Tedros Adhanom Ghebreyesus[10]

Despite the high prevalence of NCDs in humanitarian settings, until relatively recently, healthcare responses in these contexts have focused heavily on communicable diseases and immediate life-saving health needs[11].Evidence from stakeholders interviewed in the development of this case study suggest reasons for this include the low visibility of NCDs and lack of awareness of NCDs among key humanitarian stakeholders, a lack of integration of NCDs into emergency response plans and assessments, and the long-term, chronic nature of NCD treatment and care which requires a different health system response to the provision of emergency healthcare. As a result, NCDs have not yet been adequately and systematically integrated into many countries' essential package of health services at primary care level, or into emergency preparedness and response procedures and emergency national action plans.

> "We're missing out on managing [NCDs], we're missing out on dealing with the complications associated with them and the added burden of that to the health system which is already fragile to start with."
>
> – Dr. Mamsalla Faal-Omisore, Primary Care International[12]

This case study aims to illustrate the key health system challenges, alongside tested solutions, to improving NCD care and management in humanitarian settings. Drawing on evidence from humanitarian responses to conflict and natural disasters, it also aims to illustrate how investing in effective NCD programming in humanitarian settings can contribute to strengthening person-centred primary healthcare.

A robust response to NCDs in humanitarian settings:
Increasing access to care while strengthening health systems in an emergency

NCD prevention, diagnosis, treatment and management requires a long-term approach to health care that is frequently missing from a humanitarian response which, particularly in the early stages, focuses on emergency care, trauma and communicable diseases, rather than re-establishing essential primary healthcare services. Furthermore, in humanitarian settings, there is greater scarcity of resources, fragile and weakened health systems that are often operating with limited resources, and higher levels of instability and destroyed infrastructure. This all significantly impacts on the ability of the health care system that is in place to deliver the support needed for NCDs.

Until recent years, limited attention has been given to addressing the comprehensive care needs of people living with NCDs in humanitarian settings. There is, however, a growing body of evidence and practice demonstrating that it is possible to address critical health system barriers to the provision of high quality NCD care. By overcoming these barriers, it is also possible to build a stronger health system to sustain quality healthcare for the long-term, beyond the immediate timeframe of the initial response to the crisis. Examples of these health system challenges and approaches to overcoming them are explored below.

Service delivery

In humanitarian settings, some of the health service delivery challenges stem from a general lack of NCD diagnosis services leading to low visibility and awareness of the scale of the NCD burden in these settings. Another critical challenge in humanitarian settings is caused by interruptions to the continuity of care for people living with NCDs as a result of disrupted health systems, destroyed health infrastructure and medical supply chains, a lack of NCD monitoring tools, and a lack of health workers with the necessary skills and knowledge to diagnose, treat and manage NCD care. Among communities in humanitarian settings, care-seeking for NCDs is often given low priority due to needs perceived as more urgent and immediate.

> "We've struggled to assimilate NCDs and that's partly because they are somehow silent. People can live with NCDs without it being immediately visible. But also because, as humanitarian actors, we've struggled to give up on the notion of what some people refer to as the emergency imaginary – the idea we're only going to be here for 6 months."
>
> – Dr. Kiran Jobanputra, WHO[13]

Health workforce

Delivering high quality NCD care requires a skilled health workforce. In humanitarian settings, numerous health workforce challenges arise, not least that many health workers themselves may be directly affected or displaced in the event of a humanitarian crisis[14]. Beyond this, key health workforce challenges in humanitarian settings include a general lack of health workers, at all levels of the system, with the necessary knowledge and skills to diagnose, treat and manage NCDs and to understand the multiple morbidities people living with NCDs may experience. There is also an overall gap in trained health workers in many LMICs due to weak and fragile health systems, even in the absence of any humanitarian crisis.

Health information system

High quality data on the prevalence and management of NCDs is essential to the provision of quality care. However, a lack of data on NCDs has been identified by multiple stakeholders as a key challenge to the provision of NCD care in acute and protracted emergencies[15, 16, 17]. This included a lack of basic data being captured on the number of patients diagnosed and treated for NCDs; the lack of integration of NCDs in humanitarian health management information systems; and a lack of data monitoring on NCDs and NCD care outcomes.

Essential medical products, vaccines and technologies

Access to essential NCD medicines is one of the key health system challenges relating to the provision of quality NCD care in humanitarian settings[18,19 , 20]. Reasons include a lack of inclusion of NCD drugs on essential medicines lists; medication stock outs, linked to poor consumption and inventory monitoring resulting in delays in placing medication orders; and lack of trust in medications being provided, as often the available medications were produced by a different manufacturer and using a different name to that which patients are used to.

Health financing

A key challenge to providing effective responses to NCDs in humanitarian settings is the lack of funding for NCD care. One of the reasons for this is the lack of inclusion of NCDs in initial rapid assessments of humanitarian settings. This means that, as there is limited data on the needs of people living with NCDs, specific NCD interventions are not included in the humanitarian response and needs plans, and financial resources are not allocated for NCDs[21]. In many LMICs, funding for NCDs is inadequately covered by donor or domestic financing and as a result people living with NCDs are often required to pay out-of-pocket for their NCD care risking the deferment of or forgoing NCD care[22]. When NCDs are not fully integrated into humanitarian response plans and budgets, this risks the perpetuation of the vicious cycle of poor health and high levels of household poverty for people living with NCDs.

Table 1: Health system challenges and solutions for NCD prevention, treatment and care in humanitarian settings

Health system building block	CHALLENGES	SOLUTIONS
Service delivery	• Low visibility of NCDs among healthcare providers and in communities. • No diagnosis of NCDs. • Interruptions to continuity of care due to disrupted health systems and supply chains.	• Integrating NCDs into emergency preparedness planning. • Investing in building a resilient primary healthcare system that can respond to shocks more easily. • Integrating NCD care into primary healthcare services. • Implementing community-based, comprehensive, NCD services which include community outreach, screening for NCDs, skilled health workers, and reliable supplies of medications and diagnostic tools.
Health workforce	• Loss of health workers due to displacement and/or personal loss/ injury. • Lack of knowledge and skills among health workers to diagnose, treat and manage NCDs, including co-morbidities.	• Cascade training/'training of trainers' programmes to increase NCD knowledge and skills across all levels of the health workforce. • Developing NCD focal points/champions. • Continuous professional development for local and regional trainers and community health workers, including through online/e-learning tools.
Health information system	• Lack of data captured on NCD patients. • Low integration of NCD data into health management information systems. • Lack of monitoring of disease progression and NCD care outcomes.	• Integrating essential NCD data into health management information systems. • Building capacity of health workers to input and monitor data on NCDs. • Ensure the inclusion of data capture on NCDs in humanitarian response surveys and assessments.
Essential medical products, vaccines and technologies	• NCD drugs and monitoring equipment not included in essential medicines list. • Interrupted supply chains and high levels of medication stock outs. • Lack of trust in medications being provided for treatment and management of NCDs.	• The WHO NCD Kit enables the continuity of support to people living with NCDs in emergency settings while also creating an entry point for workforce capacity-building and integration of NCDs into primary healthcare.
Health financing	• Lack of funding allocated for NCDs in emergency response plans. • Out-of-pocket payments for NCD care.	• Integrate NCD data into public health situation analyses to demonstrate the funding need for NCD care. • Allocation of specific funding for NCDs within the overall package of humanitarian funding during emergencies.

Stronger health systems to deliver quality, person-centred NCD care in humanitarian settings

Although there remain significant challenges to ensuring the full integration of NCD diagnosis, management and care into health systems and services in humanitarian settings, some humanitarian actors have begun to recognise and respond to the challenges outlined above. Examples of solutions to some of the challenges that are beginning to be addressed are presented here.

SERVICE DELIVERY

Community engagement to improve the quality of NCD care

Community engagement is an essential element of primary healthcare that can increase awareness of NCDs, extend screening and diagnosis of NCDs, and strengthen the other essential health systems building blocks including the health workforce, access to and availability of medical products, and improved data collection. Community engagement has also been shown to be a key tool for improving access to NCD diagnosis, treatment and care in humanitarian crises. Examples of this include[23]:

- **Increasing the visibility of NCDs among Rohingya refugees in Cox's Bazaar, Bangladesh:** In the Rohingya refugee camps in Cox's Bazaar, Bangladesh, a community outreach programme increased screening for NCDs and revealed a hidden population with previously undiagnosed hypertension as well as the identification of new diabetes cases. Key to the success of this programme was the delivery of NCD awareness raising campaigns (including mental health) among community members alongside a community screening programme for hypertension and diabetes and the provision of mental health support. Additional elements of the programme, further strengthening its impact, included training local healthcare workers on NCD care, establishing primary care services for NCD management, and establishing reliable medical supply chains[24].
- **Improving diabetes care to save young lives in Hargeisa, Somaliland:** A community-based programme for children living with type 1 diabetes was implemented as part of a study to provide care to 200 young diabetics in Hargeisa. Key elements of the programme included conducting weekly health information sessions for children and their carers; providing regulated supplies of insulin, glucose monitoring devices and syringes; putting in place regular clinic appointments with a dedicated physician; establishing a call and recall system; and providing information, education and communication (IEC) materials translated into local dialects for patients and carers. As a result, there was increased knowledge of type 1 diabetes, 89% of children achieved optimal glycaemic control, the frequency of abscesses was reduced, and most children were able to resume school in a supportive learning environment[25].

SERVICE DELIVERY

Integrating NCD care into primary health care

To deliver effective NCD care, it is essential for it to be integrated into a comprehensive package of primary healthcare. In the Bidibidi refugee settlement in Uganda, the International Rescue Committee supported a four-year programme (2019-2023) to improve NCD management through the integration of NCD care into existing primary healthcare facilities in the refugee settlement, achieving a 50% increase in access to NCD care. This approach included both strengthening of health facilities to deliver NCD care and engaging local communities to raise awareness of NCDs and support those living with NCDs. Approaches used to achieve this include:

- **Strengthening of health facilities:** Provision of NCD medications, diagnostic and disease management equipment; development of NCD treatment protocols; training health care workers on NCDs; strengthening referral systems; strengthening the screening and data management of NCD patients; establishing clinic days for NCD management; and tracking NCD patients through village health teams and buddy groups.
- **Community engagement:** Promotion of NCD prevention and care messages through IEC materials; establishing community entry points through village health teams and opinion leaders; and conducting community awareness sessions.

Outcomes of this programme included a 75% increase in NCD clinic attendance, 95% of health care workers demonstrating improved NCD management and 65% of patients achieving better control of their conditions within six months of enrolment in the programme[26].

HEALTH WORKFORCE

Integrating NCDs into community health workforce programmes

In refugee settings in Kenya, South Sudan, Jordan and Thailand, increasing prevalence and awareness of NCDs has led to NCD care being incorporated into the package of services that community health workers provide. This includes, for example, supporting screening processes, patient education, follow-up of patients in the community, and referral back to health facilities. In Burundi people living with NCDs have been provided with home monitoring devices (e.g. glucometers for people living with diabetes, blood pressure cuffs for people living with hypertension) and trained to self-monitor their condition. Community health workers monitor these results and support patients to respond to changes in their condition, including through referrals to health facilities, where necessary. This approach not only relieves pressure on health systems that are over-burdened and lacking in capacity but also empowers patients to monitor their own health[27].

HEALTH WORKFORCE

Training health care workers on NCD diagnosis, treatment and care

Primary Care International (PCI) has been working in partnership with UNHCR to improve the quality of care for refugees in countries including Cameroon, Rwanda, Jordan and Uganda, through improving NCD awareness, knowledge and clinical practice among public health and clinical staff. This has involved training and developing NCD champions who conduct cascade training on NCDs for their colleagues as well as playing a leading role in restructuring NCD services so that they are better integrated into the health system in humanitarian settings. The programme was considered to have a significant impact on improving NCD care and outcomes in the refugee camps. Key factors contributing to this included strengthened early case detection and diagnosis, reduced late-stage complications, improved prediction of supply need, increased awareness of NCDs in the community, greater autonomy of primary healthcare workers, and increased patient trust in and engagement with services[28].

HEALTH INFORMATION SYSTEM

Improving surveillance and monitoring of NCDs

Capturing data on NCDs is critical in humanitarian settings, not only for identifying and responding to the care needs of people living with NCDs, but also for monitoring long-term health outcomes and for ensuring that NCD care is sufficiently financed. Recognising a gap in data being collected on NCDs, UNHCR has highlighted the need for such data to be able to better understand the scale of NCDs in humanitarian settings. As well as integrating NCD data into the health management information systems (HMIS), the capacity of health staff to enter and monitor data has been increased, leading to a vast improvement in data on NCDs in national health systems. An ongoing challenge however is how to capture and monitor more longitudinal data to be able to assess the quality of care being provided and how this is impacting on long-term health outcomes[29].

WHO NCD KIT

Essential medical products, vaccines and technologies

Recognising the challenge of access to medicines in humanitarian settings, and the impact of this on continuity of care for people living with NCDs, WHO developed the NCD Kit (NCDK) to improve NCD treatment in emergency settings. Each NCD Kit is assembled to treat 10,000 people for three months when medical facilities and regular supply chains have been disrupted. In 2022 the NCDK was revised to include the provision of essential medicines and medical devices for the management of hypertension and cardiac conditions, diabetes and endocrine conditions, and chronic respiratory diseases[30]. Use of the kit, however, depends on the level of knowledge, skills and familiarity of its contents among the health workforce. The NCDK can be used in various health facilities and locations such as mobile clinics, primary health centres, and field hospitals, and can be pre-positioned as part of emergency preparedness planning. Since 2016, the NCD Kit has been used in over 20 countries for both emergency preparedness and acute emergency response, playing a key role in bridging supply gaps where stocks were inadequate or where NCDs have not been sufficiently integrated into the essential package of services for universal health coverage (UHC). The NCD Kit also offers an entry point for integrating NCDs into primary care services and for undertaking basic NCD capacity-building of the workforce in protracted crises[31].

BOX 2
The WHO NCD Kit modules[32]

First developed in 2016 and revised in 2022, WHO's NCD Kit aims to improve the support for people living with NCDs in emergency settings. **The kit consists of five modules:**

Module 1	Medicines to treat hypertension and cardiac conditions, type 2 diabetes, and chronic respiratory diseases.
Module 2	Cold chain containing human insulin in vials of 10ml cold chain medicines.
Module 3	Supplies and renewables including urinary test strips, cotton wool, examination latex gloves, adhesive tape, and swab alcohol pads.
Module 4	Equipment including stethoscope, peak flow meter, otoscope and ophthalmoscope set, sphygmomanometer, body tape measure, monofilament devices for diabetic foot screening, inhalers with a spacer.
Module 5	Glucometer with 300 strips and 300 lancet pens to serve one patient for three months.

HEALTH FINANCING

To address the challenge of funding NCD care in humanitarian settings, UNHCR has taken the approach of allocating specific funding for NCDs within the overall funding package for humanitarian responses. In recent years, this has enabled UNHCR to secure protected space to ensure progress is made on NCDs in humanitarian settings[33]. Over the longer term, however, NCDs should be fully integrated into the health system and national and local health budgets. It is also essential that NCDS are integrated into public health situation analyses. In Ukraine in 2022 and Sudan in 2023, extensive data on NCDs was included in the public health situation analyses which, in turn, prompted a substantial interagency response to ensuring NCD services were financed as part of the humanitarian response package.[34]

HIGHLIGHT
Improving quality of NCD care in refugee settings by strengthening the health workforce[35]

- Between 2014-2020, Primary Care International worked in partnership with UNHCR to improve the quality of NCD care for refugees in Cameroon, Rwanda, Jordan and Uganda. The overall aim of the project was to reduce NCD mortality and morbidity through the development of evidence-based clinical guidelines and their adoption by clinicians at community level. To achieve this, the project adopted a training-of-trainers model to develop NCD champions who, in turn, conducted cascade training for their colleagues and took a lead role in restructuring their programme's NCD services. As a result, there was improved awareness of NCDs, knowledge of NCD management, and NCD clinical practice among public health and clinical staff as well as improving understanding of a systems approach to NCD management.

- The project was recognised as relevant, timely and filling an important gap in NCD knowledge and systems. The focus on diabetes, hypertension, CVD, COPD and asthma was perceived as relevant and largely corresponding to the most common NCDs encountered in the target refugee populations. It was also perceived as effective in achieving its overall objectives. The project significantly changed the way in which NCD care was provided, resulting in more structured care delivery with the introduction of registers, patient files and recall systems.

Challenges experienced included maintaining quality of care in the long-term and a high turnover of implementing partner clinical staff making it difficult to sustain the improvements in awareness, knowledge and practice attained by most stakeholders. Limited network connectedness and self-motivation were also identified as common barriers to accessing remote support.

Key recommendations
from the programme evaluation included:

Continue NCD care capacity strengthening activities;

Increase participation of senior public health and clinical staff in the trainings;

Consider complementing local staff training with specialised training for higher-level regional or national staff from government or implementing partner NGOS;

Improve monitoring of NCD care with a complete list of simple and clear indicators for NCD systems, processes and clinical outcomes and introduce an electronic medical record to improve patient follow up and allow cohort monitoring;

Create a system for continuous learning and professional development.

BOX 3
WHO call to action on NCD care in humanitarian settings[36]

WHO calls on governments, humanitarian agencies, funders and development agencies to consider these recommendations in their NCD policies and programmes:

- **Development partners** should specifically integrate and include resources for NCD prevention and treatment in their development assistance.
- **Humanitarian agencies should ensure budget allocation** to address NCDs within humanitarian health programmes, engage with national disaster risk reduction initiatives, and support resilience strengthening of health systems.
- **Funders should ensure that funding provided for primary and secondary care** and service delivery in acute and protracted emergencies integrates NCD prevention and treatment.
- **Governments should develop and implement policies** to ensure that the particular vulnerability of people living with NCDs is recognised in health system strategies and emergency planning. They should strengthen NCD surveillance and ensure NCDs are included in health information system data. Platforms to improve joint planning between the health systems and emergency communities should also be developed and reinforced. Finally, and crucially, people living with NCDs should be included in design, planning and implementation of these interventions.

CONCLUSIONS

This case study illustrates that NCDs are as much a growing health care challenge in humanitarian settings as they are across the wider world. In humanitarian settings, NCD risk factors are increased, while interruptions to the continuity of care for people living with NCDs can exacerbate their condition, especially where people have co-morbidities. Furthermore, until relatively recently, NCDs have been overlooked in humanitarian response programmes, with greater attention given to communicable diseases, trauma and emergency care.

Integrating NCD care into humanitarian responses can have important benefits for both people living with NCDs and health systems. NCDs require a health system approach starting from the primary healthcare level, which means that investing in NCD care can contribute to sustaining health system strength and resilience even once the crisis is over, or when an immediate crisis becomes a longer-term, protracted crisis. Evidence shows that providing quality NCD care in humanitarian settings is possible but requires a range of interventions, from developing comprehensive community-based NCD programmes, to training the health workforce on NCDs, alongside the development of essential tools such as the WHO NCD Kit and the greater integration of NCD data into humanitarian assessments and health management information systems. It is critical that this evidence is harnessed, built upon, and shared to ensure that people living with NCDs in humanitarian settings are not left behind.

LESSONS LEARNED

Building **resilient primary healthcare systems that are people-centred and affordable for all strengthens long-term care for NCDs and enhances the ability to respond to future health crises.** This includes ensuring services across the continuum of care, such as by increasing the supplies of medication and products and working directly with communities to support people living with NCDs in humanitarian crises to seek care and self-manage their condition.

Training and supporting **a multidisciplinary health workforce**, including community health workers, ensures that healthcare providers in humanitarian crises can deliver effective care. They must be equipped with the knowledge, skills and capacity needed to prevent, diagnose and treat NCDs in humanitarian settings, including through the promotion of continuous professional development and the provision of online training and e-learning.

Integrating **up-to-date, disaggregated data** on NCD prevalence, risk factors and treatment into health information systems improves decision-making on provision of care in humanitarian settings, the ability to monitor health outcomes, and improved accountability. Access to health records should be ensured in order to support continuity of care and treatment adherence.

Countries should seek support and/or partnerships to ensure stable access to **essential medical products, vaccines and technologies**. WHO NCD Kits are available to help close access gaps in acute humanitarian emergencies. In all cases, the provision of medical products and supplies must be accompanied by appropriate NCD training of the health workforce, as correct use is subject to workforce knowledge.

Securing sufficient **financing for NCD services** within humanitarian settings is crucial to enable long-term support for people living with NCDs during crises. This requires investing in building health system capacity and resilience to be able to withstand shocks caused by emergencies, integrating NCDs into public health system assessments, and ensuring NCDs are included within humanitarian financing packages.

Integrating essential NCD services into every part of the emergency cycle, from preparedness and disaster risk reduction, through the immediate response, to building back better in the recovery period, ensures that people living with NCDs receive continuous care, preventing their conditions from worsening and reducing the risk of complications during crises.

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