

A health educator leads an awareness session for women

Tackling non-communicable disease among Syrian refugees and vulnerable host communities in Jordan

L Hyatt, IOCC, Jordan, 2016

By Loren Hyatt



Loren Hyatt is the Programme Manager for International Orthodox Christian Charities (IOCC) in Amman, Jordan, where she oversees a wide portfolio of projects supporting Syrian refugees and vulnerable Jordanians. Previously, Loren worked with Lutheran World Relief, USAID's Office of U.S. Foreign Disaster Assistance, and the White House. Loren is a graduate of Georgetown University (Master of Science in Foreign Service), where she studied international development and humanitarian emergencies.

The author gratefully acknowledges the support of Linda Shaker-Berbari, IOCC's Regional Technical Advisor – Health, Nutrition and IYCF, and Aya Lafi, IOCC's Health & Nutrition Coordinator in Jordan, in reviewing this article.

IOCC extends thanks to the ACT Alliance for funding support, including funding from the Dutch Ministry of Foreign Affairs' Syria Joint Response via the ICCO Corporation. Thanks also to the Government of Jordan Ministry of Planning & International Cooperation, the Ministry of Health, local implementing organisations, UNHCR Jordan, the Health Working Group, the Nutrition Sub-Working Group IOCC staff in Jordan, IOCC headquarters, staff and volunteers of local health partners and educators, and the community.

Location: *Jordan*

What we know: Non-communicable disease (NCD) is a leading cause of death in low and middle-income countries. In emergency response, NCDs are often overlooked.

What this article adds: In Jordan, NCD prevalence is high among the resident population and Syrian refugees, overburdening the health system. More obvious medical needs have been prioritised in the humanitarian response. NCD prevention and management amongst refugees is further constrained by unpredictable humanitarian assistance, costs and prioritisation of acute needs by both those affected and responders. In 2015 and 2016, community awareness sessions on NCDs were implemented by IOCC in four governorates through a network of 11 community-based organisations, targeting both Jordanians and Syrian refugees. Sessions included screening (blood pressure, weight and height) and collaboration with a local health organisation that enabled access to free healthcare services. Attendance (mainly women) and demand to continue was high. The programme is being expanded to targeted populations and in new areas. In addition, NCD education will be integrated into IYCF activities. Greater coordination around NCDs in Jordan is anticipated in 2017.

Context

Each year, non-communicable diseases (NCDs) lead to an estimated 38 million deaths, according to the World Health Organization (WHO) (WHO, 2015). These diseases affect people of all ages, in all regions of the world. In the throes of an emergency, the impact of NCDs is often overlooked and brushed aside in the rush to address more obvious health concerns, such as injuries, trauma, and acute malnutrition. However, if there is anything that humanitarian actors have learned from recent disasters, it is that preventative health, particularly of NCDs, cannot be overlooked.

WHO estimates that 60% of all deaths in the world are a result of four primary NCDs: cardiovascular diseases, diabetes, cancer and chronic respiratory diseases (WHO, 2009). Of these deaths, 80% occur in low and middle-income countries,

according to WHO. Once seen as a problem of rich or ageing countries, research has found that the impact of NCDs is felt strongly in low and middle-income countries, where NCDs are now the leading cause of death (WHO, 2011).

NCDs also have a direct link with nutrition (UNSCN, 2011). These diseases can result from, as well as lead to, increased prevalence of nutrition problems, particularly among vulnerable populations. Nutrition-related conditions, such as overweight and obesity, have a direct impact on the rise of NCDs. Food, diets, and nutritional status are important determinants of NCDs, as diet and nutritional status can lead to and impact cardiovascular diseases, some cancers and diabetes, as well as blood pressure and cholesterol levels (WCRF, 2014). Nutrition in-utero, as well as that of infants and young children, has shown to have

direct links to the vulnerability of an adult developing a nutrition-related NCD (SPRING, 2013), which emphasises the importance of proper nutrition during pregnancy, as well as infant and young child feeding (IYCF) practices.

In the immediate aftermath of an emergency, NCDs are often overlooked but must be addressed. People suffering from NCDs are particularly vulnerable during an emergency. They require continuous care for their disease over an extended period, which may be impossible depending on the context of the emergency; often need ongoing treatment or medication, which may be unavailable or inaccessible due to the crisis; and can easily suffer from acute complications in an unstable environment (UN Interagency Task Force on NCDs, 2016). Emergencies can lead to the worsening of NCDs among those already affected and also to the development of NCDs among populations affected by crisis that may no longer have access to preventative health services.

At the provider level, emergencies can impede the ability of health services to treat those with NCDs. Needed diagnostic equipment and medication may be lost or damaged. Access to healthcare facilities may be difficult for staff and patients. The ability of healthcare providers to diagnose, manage and treat an increased number of NCD cases may be beyond the capacity of disaster-affected health services. As research has identified in previous emergency settings, a lapse in care for NCD patients, even for a short amount of time, can result in higher levels of disability and premature death among an affected population (WHO, 2015 [2]). A lack of treatment of NCDs during emergencies can have long-term impacts on individuals, healthcare systems, and even whole countries.

Healthcare providers face a number of challenges in responding to nutrition during an emergency, which can lead to increased prevalence of NCDs. Providers may not be able to access affected populations or provide them with the services and/or supplies needed. Those impacted by a disaster may turn to coping strategies, such as skipping meals or prioritising food for particular family members, in post-disaster situations where food is scarce. Additionally, food shortages, including limited or unavailability of nutritious food, lack of safe water, and poor sanitation and hygiene practices can impact the ability of disaster-affected populations to meet nutritional needs and stay healthy. Breastfeeding can also be more difficult for mothers in an uncertain environment where they may lack privacy, be on the move, or face other challenges to feeding their children.

While more attention is being paid to NCDs in emergencies, there is a greater need for advocacy of issues and challenges in addressing NCDs in emergencies. Increased incorporation and integration of NCD interventions in general healthcare provision is needed, as well as the development of guidelines for clinical management of NCDs in emergencies (Demaio et al, 2013).

A recent symposium on NCDs in humanitarian settings also highlighted the importance of humanitarians better understanding the needs of those with NCDs and those treating NCDs in an emergency setting. Emphasizing the “mortality consequences of treatment interruptions,” the event confirmed the need for guidelines and tools for NCDs in emergencies as little guidance exists on the best practices. Ruby et al (2015) confirmed that limited evidence exists on the effectiveness of interventions related to NCDs in emergencies; however, the review also found that standardisation of care and patient follow-up are key in the aftermath of a disaster when responding to NCD-related needs.

Humanitarian actors are exploring additional ways to address nutrition in emergencies so that poor nutritional status does not lead to or worsen already existing NCDs among disaster-affected populations. Expanding general awareness of nutrition and its impact on health is important, as affected populations typically have limited resources and must make difficult spending decisions.

Additionally, humanitarian actors have been implementing cash-for-health and cash-for-nutrition¹ programming, which helps to address immediate health and nutritional needs, while also supporting the prevention and treatment of NCDs. More holistic, multi-sector humanitarian programming that includes health and nutrition is also warranted – for example, implementation of an agriculture project that incorporates awareness sessions on nutrition for beneficiaries alongside the project’s primary food security or livelihood activities and objectives.

In addition to impacting individual health, responding to NCDs can be taxing for healthcare systems. As more people are impacted by NCDs, more needs emerge for the healthcare infrastructure, equipment and services to treat these diseases; things that low and middle-income countries are often not able to afford or can easily overlook when responding to more immediate needs in an emergency setting. In addition to the infrastructure, the will and an enabling environment must exist among policy-makers to promote policies that help respond to and mitigate the impact of NCDs, such as advocating for smoke-free laws, promotion of healthy diet, protections against harmful use of alcohol, and urban planning to promote physical activity (WHO, 2011).

In addition to impacting individual health and healthcare systems, NCDs can also hamper and threaten the progress of entire countries in the aftermath of a disaster. The World Economic Forum has reported that NCDs are among the most important and severe threats to economic development, particularly as NCDs lead to reductions in productivity and family income, which results in fewer jobs and fewer people escaping poverty (WHO, 2011). Vulnerable populations, particularly those affected by a disaster, are more likely to be hit hard by NCDs and less likely to access healthcare, which can drain

household resources and push poor families further into poverty.

Additionally, WHO reports that NCDs can lead to loss of educational investments, as well as labour productivity (WHO, 2009) which can prevent people from escaping poverty and stifle economic growth. NCDs can reduce incentives to save if those diagnosed anticipate a shorter life; can reduce social capital through the loss of qualified and skilled professionals, teachers, and labourers; and, can impact economic earnings of those caring for chronically ill patients as the caregiver loses the opportunity to work and earn wages (WHO, 2009).

People with NCDs in any context are faced with a number of barriers to accessing treatment. Overcoming these barriers can be difficult or even impossible for those living in poverty or recovering from an emergency. NCDs require regular visits with healthcare providers. Patients must be able to afford ongoing medical care, as well as the transportation to reach this care, the opportunity cost of the time spent seeking care, and the medications needed to treat their conditions. In Lebanon, for example, refugees seek care for NCDs through primary healthcare centres, which requires use of out-of-pocket money at a substantial burden (Doocey et al, 2016). Treatment over the course of one’s life can drain household income and savings and even impoverish an entire family. Additionally, the poor and displaced are often less easily able to make needed lifestyle changes to prevent or mitigate the impact of NCDs, such as paying higher prices for food that is more nutritious rather than purchasing the often cheaper, processed foods.

Situation in Jordan

The impact of NCDs is particularly troublesome in a country like Jordan, where the NCD prevalence is high among the more than 655,000 Syrian refugees (UNHCR, 2016), who have come to the country since conflict broke out in Syria in 2011, as well as among the Jordanian host community population. Responding to the health needs of both populations has burdened Jordan’s healthcare system and stressed already-limited resources.

In Jordan, WHO reports that NCDs are estimated to account for 76% of total deaths in the country (WHO, 2014 [2]). Among Jordanians, the probability of dying between the ages of 30 and 70 years from one of the four primary NCDs is 20% (WHO, 2014 [2]). While healthcare for those with NCDs in Jordan is available, research has found that the demand for acute

¹ Cash-for-nutrition programming could be implemented in a number of different ways. One example would be provision of cash to households who are identified as having a malnourished member. Selected households would use cash received through the programme for the purchase of needed nutritious food, in addition to the medical treatment received by the malnourished household member. Providing cash would allow the household to purchase the items most needed when resources are limited and help ensure that additional family members do not also become malnourished. Cash could also be a way to address the underlying causes of malnutrition and therefore prevent relapse once children are cured.

care is high, but management of chronic NCDs and demand for prevention services is weak (RRP6, 2014).

Before conflict broke out in Syria, WHO estimated that 77% of all deaths in the country were attributed to NCDs in 2011 (WHO, 2011 [2]). Today, the impact of NCDs continues to affect those living in Syria and has followed the millions of Syrian refugees registered with UN-HCR to neighbouring countries, such as Jordan, which are struggling to respond to the health needs of these refugees on top of the needs of the host community population.

For those Syrian refugees with NCDs in Jordan, the situation can be bleak. Life as a refugee can make living with an NCD, or even identifying that you have one, difficult. Humanitarian assistance may not subsidise all the costs of a refugee's NCD-related needs, and refugees often feel that they cannot afford to use their limited resources to seek medical treatment. (Doocy et al (2016) identify cost as the primary barrier for those Syrian refugee households in Jordan with NCDs who are not receiving treatment.) Families are often unsure from where their next meal will come and rely on support to survive. Seeking medical care is expensive when displaced and living in poverty, as many refugees are.

And, if refugees do have cash to spare, they are more likely to spend it on food for their families or rent to keep a roof over their heads rather than addressing longer-term, slow developing health issues, such as NCDs. When buying food, refugees often have to make difficult purchasing decisions with their limited resources. For example, a cost-of-diet exercise² led by International Medical Corps in July 2016 with the participation of international non-governmental organisation (INGO) representatives, including International Orthodox Christian Charities (IOCC) staff, in Jordan's Azraq refugee camp found that a nutritious diet is available in the camp; however, when looking at the basic dietary habits of Syrian refugees living in the camp, a nutritious diet is not affordable, given the value of the food vouchers refugees currently receive from the UN World Food Programme (WFP) (IMC, 2016).

IOCC and NCDs in Jordan

In Jordan, IOCC has found that NCDs are of particular concern for both Syrian refugees and vulnerable Jordanians. Reports indicate that more than half of Syrian refugee households in Jordan have a member suffering from an NCD (Doocy et al, 2015), on top of the already high prevalence of NCDs seen among Jordanian host community members. Hosting refugees and responding to their health needs, as well as those of the Jordanian population, has put significant pressure on Jordan's already strained health services and infrastructure.

In response to identified needs, IOCC planned community awareness sessions throughout four governorates – Amman, Irbid, Mafraq, and Zarqa – with high concentrations of Syrian refugees and vulnerable Jordanians in late 2015

Box 1 Expanding target groups in 2017

During awareness sessions held in 2015–2016, attendees were primarily women. However, for 2016–2017 project implementation, IOCC has taken steps to better reach men, women, and adolescents separately with key messages related to nutrition, NCDs, and healthier lifestyles. IOCC has expanded its health and nutrition team to include both male and female nutritionists who have designed awareness sessions targeting the specific population for each session. IOCC is also collaborating with Jordan's National Centre for Culture & Arts to develop a play and recreational activities for adolescents (of both genders) that shares key messages on nutrition, NCDs, and healthy lifestyles. While women are typically assumed to be more closely involved with the health of the family, particularly children, IOCC's awareness sessions aim to raise knowledge among all household members about NCDs, IYCF, and healthier lifestyle choices. In planning its awareness sessions, IOCC has also taken into consideration factors that may impact the attendance of a particular group. For example, IOCC has ensured that sessions are held at varying times during the day as not to interfere with work or other commitments beneficiaries have, as well as having space for mothers to bring their children with them to sessions. IOCC also invites attendees living around the community centre where the awareness sessions are held so that transportation issues do not negatively impact attendance.

and early 2016 to raise awareness about the impact of NCDs, encourage those affected by these diseases to seek treatment, direct those interested and in need to service providers, and demonstrate ways in which affected populations could mitigate the impact of an NCD they were suffering from or potentially prevent a future disease.

These sessions on NCDs were the first of their kind for IOCC in Jordan and were of great interest to communities with high concentrations of refugees. Aiming to reach a broad audience of those with NCDs, as well as those not suffering from the diseases, IOCC worked through a network of 11 community-based organisations (CBOs) to hold awareness sessions. IOCC collaborated with each CBO to invite Jordanians, Syrian refugees, and others who the sessions would be helpful for, of interest to, and to whose health the session would potentially make a difference. Working closely with these populations on a daily basis, each CBO invited those who would potentially find these sessions most useful.

In total, 1,895 people attended IOCC's NCD awareness sessions through 41 community awareness sessions. Attendees included both men (14%) and women (86%) and represented a wide age group – from young adults to the elderly – of Syrian refugees (60%), Jordanians (39%) and people of other nationalities (1%). All of those in attendance were considered to be vulnerable and were registered for humanitarian assistance with the CBO that invited them. Attendees included those with NCDs, caregivers of people with NCDs, and those without NCDs who could take the information back to their families and focus on prevention.

Community-awareness sessions were held in partnership with a local health organisation, through which session attendees could access free healthcare services. Led by health educators, the sessions aimed to increase men and women's knowledge regarding NCDs, correct previously held misconceptions about these diseases, and advocate for behavioural change related to the

prevention and treatment of NCDs. Through the community awareness sessions, IOCC took the opportunity to highlight the importance of routine health checkups for participants. Health educators provided information to session attendees on the services offered by health clinics and how those services could be accessed, particularly for those in attendance with NCDs or who were concerned that they may potentially suffer from a NCD. While community-awareness sessions focused generally on the primary NCDs that impact Jordanians and Syrian refugees, health educators allowed time toward the end of each session for attendees to ask questions particular to their own health and condition. Health educators provided one-on-one guidance as there was interest and time allowed. While each beneficiary only attended one awareness session, based on post-session surveys, beneficiaries expressed interest in an ongoing series of sessions.

In addition to receiving information during the sessions, health educators conducted necessary screening for NCDs through measuring blood pressure, weight, and height of all participants prior to the sessions so that attendees were better informed on their personal health. This information could be used during the session as health educators explained risk factors for each of the NCDs, as well as methods to prevent NCDs and mitigate their impacts. Examples of information covered during sessions include: promoting physical activity and discussing ways to get exercise when safety or cultural constraints may impact ability to leave the home; learning the food groups and appropriate amounts of each to be consumed daily, as well as how those receiving WFP food vouchers could use the assistance received to purchase nutritious food for the whole family; and smoking cessation in a context where smoking cigarettes and shisha is prevalent among adolescents and adults.

² A cost-of-diet exercise looks at the lowest cost, quantity and combination of local foods a family requires to meet its average needs for energy and recommended intake of protein, fat and micronutrients.

Overall, IOCC found the awareness sessions on NCDs to be a success. Attendees repeatedly asked when additional sessions would be held and identified particular topics that they would be interested in learning more about, such as cancer and issues specific to women's health. IOCC took these recommendations into account, as well as findings of additional assessments on health and nutrition of refugees and host communities members, in designing its 2016-2017 interventions.

IOCC is currently in the process of expanding its work in health and nutrition in Jordan. Based on needs identified and lessons learned from the 2015-2016 awareness sessions (see Box 1 for an example), IOCC is expanding its health and nutrition programme to reach targeted populations with tailored messaging aimed at improving the health and nutrition of both Syrian refugees and vulnerable Jordanians. IOCC will be continuing its awareness sessions at the community level for adults both raising community awareness and linking session attendees with nearby healthcare providers. In the coming months, IOCC will be scaling up its activities in Amman, Irbid, Mafraq, and Zarqa governorates, connecting with new CBOs and reaching new audiences.

While raising awareness about NCDs is important, awareness itself is not enough to address the challenges of NCDs in emergencies, including challenges faced by those affected by the Syria crisis in Jordan. Given the link between nutrition and development of NCDs (Singhal, 2016), IOCC plans to take an integrative approach to educating communities on NCDs through its health and nutrition activities in the coming months, including a focus on IYCF, building the capacity of local healthcare providers to screen for and respond to malnutrition, formation of the peer support groups where NCD and nutrition key messaging will be incorporated into regular meetings and awareness-raising sessions,

and one-on-one IYCF counselling, as needed, along with referrals to specialised healthcare providers with the equipment, medication and expertise to address health concerns, such as NCDs and malnutrition.

Awareness sessions on health and nutrition fill a gap, contributing to community knowledge in the prevention, mitigation, and treatment of malnutrition and NCDs; however, IOCC has found the availability of ongoing and accessible services for those with NCDs is needed, such as counselling from healthcare professionals and access to medications and specialised services. While IOCC health educators have and continue to provide tailored advice to those affected by NCDs during awareness sessions, IOCC has observed a need to provide further assistance to individuals with chronic diseases through specialised care and treatment.

In 2017, humanitarian actors hope to see more coordination efforts toward addressing NCDs in Jordan. Discussions have been held in the monthly Health Sector Working Group, which is chaired by the Office of the U.N. High Commissioner for Refugees (UNHCR) and WHO, about the future of a NCD Task Force in Jordan. Led by WHO and the Government of Jordan (GoJ) Ministry of Health (MoH), the NCD Task Force has been inactive since late 2015. In addition to this mechanism, NCDs are also a topic discussed in the Community Health Task Force in Jordan where humanitarian actors can share information about the pressing issue of NCDs and coordinate a way forward for both Jordanians and Syrian refugees at the community level. While Jordan currently has a strategy for smoking cessation, as well as the National Strategy and Plan of Action against Diabetes, Hypertension, Dyslipidemia, and Obesity, there are a number of actors who are interested in operationalising these plans and doing more to address the impact of NCDs in Jordan alongside the government.

Conclusions

Overall, NCDs have a far greater impact, particularly on those in disaster contexts, than may initially be apparent. In the rush to respond to emergency needs, humanitarian actors must not overlook the importance of helping communities affected by disaster or crisis to address the longer-term, more slowly developing medical needs related to NCDs. A holistic approach to addressing both the immediate identification of diseases and the ongoing and long-term impacts of NCDs must be taken. By bringing NCDs to the forefront of an emergency response, humanitarian actors not only help those affected in the short-term but may also prevent long-term damage to an individual's health, as well as the ability of an affected country to recover and pursue future economic growth.

Looking to the future, IOCC hopes to continue promoting awareness of NCDs at the community level in Jordan and also collaborate with the GoJ, WHO, UNHCR, and other humanitarian actors on supporting individual healthcare, as well as larger health systems and infrastructure, in order to be able to respond to the long-term impact that NCDs have on a population. IOCC will continue to raise the issue of NCDs so that these disease are not overlooked, forgotten, or pushed aside in favour of other health topics that may be more attention-grabbing or seemingly more urgent.

Treatment and education on prevention of NCDs must be integrated into primary healthcare and explicitly addressed by healthcare providers. Investing in services for NCDs will not only help vulnerable Jordanians and Syrian refugees in the short-term, but this investment will also reduce the long-term burden of care and the rising costs of medical treatment that will be needed. As humanitarian actors look at a potential transition in assistance from relief to longer-term resilience, treatment of NCDs must not be left behind.

For more information, contact: Loren Hyatt, lhyatt@ioccc.org

References

- Demaio et al, 2013. Demaio A, Jamieson J, Horn R, de Courten M & Tellier S. (2013). Non-communicable diseases in emergencies: A call to action. *PLoS Currents Disasters*. currents.plos.org/disasters/article/non-communicable-diseases-in-emergencies-a-call-to-action/
- Doocy et al, 2015. Doocy S, Lyles E, Robertson T, Akhu-Zaheya L, Oweis A & Burnham G. *Prevalence and Care-seeking for Chronic Diseases among Syrian Refugees in Jordan*. *BMC Public Health*, 31 Oct. 2015. bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-015-2429-3
- Doocy et al, 2016. Doocy S, Lyles E, Hanquart B, & Woodman M. (2016). *Prevalence, care-seeking, and health service utilization for non-communicable diseases among Syrian refugees and host communities in Lebanon*. *Conflict and health*, 10(1), 21
- IMC, 2016. *Cost of Diet Analysis among Syrian Refugees in Azraq Camp, Jordan*. International Medical Corps: 2016. nutritioncluster.net/wp-content/uploads/sites/4/2016/10/Cost-of-the-Diet-Analysis-among-Syrian-Refugees-in-Azraq-Camp.pdf
- RRP6 2014. *Jordan: RRP6 Monthly Update, June 2014 – Health*. reliefweb.int/report/jordan/jordan-rrp6-monthly-update-june-2014-health
- Ruby et al, 2015. Ruby A, Knight A, Perel P, Blanchet K, & Roberts B. (2015). *The Effectiveness of Interventions for Non-Communicable Diseases in Humanitarian Crises: A Systematic Review*. *PLoS one*, 10(9), e0138303. journals.plos.org/plosone/article?id=10.1371/journal.pone.0138303
- Singhal, 2016. Singhal A. *The role of infant nutrition in the global epidemic of non-communicable disease*. The Proceedings of the Nutrition Society, 2016 75(2), 162-168. www.ncbi.nlm.nih.gov/pubmed/27066843)
- SPRING, 2013. SPRING, 2013. *Preventing Nutrition-related Noncommunicable Disease*. Strengthening Partnerships, Results, and Innovations in Nutrition Globally (SPRING): 2013. www.spring-nutrition.org/technical-areas/systems/n-rncdWHO, 2009.
- WHO, 2009. *Noncommunicable Disease, Poverty and the Development Agenda*. Discussion Paper, World Health Organization: May 5, 2009. www.who.int/nmh/publications/discussion_paper_ncd_en.pdf
- WHO, 2011. *Global Status Report on Noncommunicable Diseases 2010*, Chapter 2: NCDs and Development. World Health Organization, April 2011. www.who.int/nmh/publications/ncd_report_chapter2.pdf
- WHO, 2011 [2] *Noncommunicable Diseases Country Profiles 2011 – Syrian Arab Republic*. World Health Organization, 2011. www.who.int/nmh/publications/ncd_profiles2011/en/
- WHO, 2015. *Noncommunicable Diseases Fact Sheet*. World Health Organization, Jan 2015. www.who.int/mediacentre/factsheets/fs355/en/
- WHO, 2015 [2]. *Addressing Noncommunicable Diseases in Emergencies – Ukraine*. World Health Organization, Sept 2015. www.who.int/features/2015/ncd-emergencies-ukraine/en
- WCRF, 2014. *The link between food, nutrition, diet and non-communicable diseases*. The NCD Alliance and World Cancer Research Fund International: Oct 2014. www.wcrf.org/sites/default/files/PPA_NCD_Alliance_Nutrition.pdf
- WHO, 2014 [2]. *Jordan Country Profile*. World Health Organization: 2014. www.who.int/nmh/countries/jor_en.pdf?ua=1
- UNHCR, 2016. *Registered Syrian Refugees in Jordan*. UNHCR: 31 Dec 2016. reliefweb.int/report/jordan/registered-syrians-jordan-31-december-2016
- UN Interagency Task Force on NCDs, 2016. *Noncommunicable Diseases in Emergencies*. UN Interagency Task Force on NCDs and World Health Organization, March 2016. apps.who.int/iris/bitstream/10665/204627/1/WHO_NMH_NVI_16.2_eng.pdf
- UNSCN 2011. *Nutrition and Noncommunicable Diseases: Critical to Take Action and Move Now!* UN Standing Committee on Nutrition: 2011. [unscn.org/files/Newsletters/Nutrition_and_NCDs_discussion_paper_1509_11_FINAL1.pdf](https://www.unscn.org/files/Newsletters/Nutrition_and_NCDs_discussion_paper_1509_11_FINAL1.pdf)