UN INTERAGENCY TASK FORCE ON NCDs
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World Health Organization

NONCOMMUNICABLE DISEASES IN EMERGENCIES

INTRODUCTION

Population ageing, increased life expectancy, widespread exposure to an unhealthy diet and lack of physical activity mean that noncommunicable diseases (NCDs) rather than infectious illnesses are now the leading causes of death and disability worldwide, including in low- and middle-income countries. As a result, NCDs are growing in importance as a major public health issue in humanitarian settings.

However, while the impact of NCDs on the health of populations, health systems and socioeconomic development is well known, their importance in humanitarian emergencies[1] has not yet been fully recognized.

This brief is intended primarily for emergency planners, emergency care professionals and policy-makers tasked with emergency response and preparedness. It provides a brief overview of the impact of emergencies on people with noncommunicable disease, and describes the minimum standards and priority actions to be adopted in relation to NCD care in emergencies.

1 According to the United Nations International Strategy for Disaster Reduction, emergencies are events or incidents that require action that is usually urgent and often non-routine. Emergencies are caused by natural hazards (such as earthquakes, cyclones, forest fires, floods, heatwaves and droughts), epidemic and pandemic diseases, transport crashes, building fires, chemical, radiological and other technological hazards, food insecurity, conflicts, and situations such as mass gathering events. Disasters can be considered large-scale emergencies that result in "a serious disruption of the functioning of a community or a society involving widespread human, material, economic or environmental losses and impacts, which exceeds the ability of the affected community or society to cope using its own resources".

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WHAT ARE NONCOMMUNICABLE DISEASES
AND WHY ARE THEY IMPORTANT IN EMERGENCIES?

NCDs are common causes of preventable morbidity and mortality.

Major NCDs include cardiovascular diseases, diabetes, cancer and chronic lung diseases. Other NCDs that may be important in emergency situations include dialysis-dependent kidney failure and epilepsy.

Almost three quarters of all NCD deaths (28 million people) and the majority of premature deaths (82%) occur in low- and middle-income countries[2].

The prevalence of NCDs such as diabetes and hypertension in adults is as high as 25–35% in adults in certain low- and middle-income countries.

In an adult population of 10 000 people, there are likely to be:

- 1500–3000[4] people with hypertension
- 500–2000 people with diabetes[5]
- 3–8 acute heart attacks over a normal 90-day period[6]
- 4–16 acute strokes over a normal 90-day period.[7]

PEOPLE WITH NCDS MAY BE MORE VULNERABLE TO THE HEALTH IMPACT OF EMERGENCIES

NCDs have common characteristics that can make affected people more vulnerable during an emergency. Emergencies appear to increase the risk of NCD-related complications; events such as heart attacks and strokes may be up to 2–3 times more common than in normal pre-emergency circumstances.[8] NCDs are chronic conditions that:

NCDS ARE CHRONIC CONDITIONS THAT:

- REQUIRE the provision of continuous care over an extended period (often lifelong);
- OFTEN REQUIRE ongoing treatment with a medicine, medical technology or appliance;
- CAN HAVE ACUTE COMPLICATIONS that require medical care, incur health costs and may limit function, affect daily activities and reduce life expectancy;
- CAN REDUCE PEOPLE'S ABILITY to cope with the emergency;
- NECESSITATE COORDINATION OF CARE provision and follow-up between different providers and settings;
- MAY BE ASSOCIATED with the need for palliative care.

[2] Global status report on noncommunicable diseases 2014. Geneva: World Health Organization; 2014.

[3] Raised blood pressure (SBP ≥ 140 OR DBP ≥ 90). Data by country. WHO Global Health Observatory Data Repository, 2014 survey data. Geneva: World Health Organization; 2014 (http://apps.who.int/gho/data/node.main.A875?lang=en, accessed 22 September 2015).

[4] Prevalence of raised blood pressure (SBP≥140 OR DBP≥90) in adults 18 years and older, both sexes, age-standardized. WHO Global Health Observatory Data Repository, 2014 survey data. Geneva: World Health Organization; 2014 (http://apps.who.int/gho/data/node.main.A875?lang=en, accessed 22 September 2015).

[5] Percentage of population 18 years and older (both sexes) with fasting glucose ≥126 mg/dl (7.0 mmol/l) or on medication for raised blood glucose, age-standardized. WHO Global Health Observatory Data Repository, 2014 survey data. Geneva: World Health Organization; 2014 (http://apps.who.int/gho/data/node.main.A875?lang=en, accessed 22 September 2015).

[6] Moran AE, Forouzanfar M, Roth G, Mensah GA, Ezzati M, Flaxman A et al. The global burden of ischemic heart disease in 1990 and 2010: The Global Burden of Disease 2010 Study. Circ. 2014;129:1493–501.

[7] Global burden of diseases, injuries, and risk factors study 2010 (GBD 2010) and the GBD Stroke Experts Group. Global and regional burden of stroke during 1990-2010: findings from the Global Burden of Disease Study 2010. Lancet. 2014;383:245-54.

[8] Hayman KG, Sharma D, Wardlow RD, Singh S. Burden of cardiovascular morbidity and mortality following humanitarian emergencies: a systematic literature review. Prehosp Disaster Med. 2015:30:80–8.

EMERGENCIES CAN DIRECTLY COMPROMISE THE HEALTH OF PEOPLE WITH NCDS

Emergencies can lead to an acute exacerbation or a life-threatening deterioration in the health of people with NCDs. Elderly people are particularly vulnerable. These complications can be the result of:

- PHYSICAL INJURIES: direct traumatic injuries can exacerbate NCDs, precipitating acute cardiovascular events, a worsening of chronic respiratory disease and a worsening of diabetic control);
- FORCED DISPLACEMENT: loss of access to existing medication and/or assistive devices, loss of prescription, lack of access to health care services due to displacement leading to prolongation of disruption of treatment;
- DEGRADATION OF LIVING CONDITIONS: loss of shelter, shortage of water and regular food supplies, and lack of income adding to physical and psychological strain;
- INTERRUPTION OF CARE: through the destruction of health infrastructure, disruption of medical supplies and inability to access health-care providers who have been killed, injured, displaced or are unable to return to work. This can also include interruption of power or safe water, which may have life-threatening consequences, especially for people with end-stage renal failure requiring dialysis.

OBJECTIVES FOR NCD MANAGEMENT DURING THE **INITIAL RESPONSE** TO EMERGENCIES

In the initial response,[9] during the first 30–90 days of an emergency and especially during the first week, management of NCDs should focus on treatment of life-threatening or severely symptomatic conditions. This may include persons with, or at high risk of, an acute exacerbation/complication of their condition (e.g. acute myocardial infarction), those with severe physical suffering (e.g. dyspnea from heart failure) or those for which interruption of treatment could be life-threatening or could cause significant avoidable suffering (e.g. chronic dialysis treatment).

FIRST 30 - 90 DAYS: Focus on life-threatening or treatment of severly syptomatic conditions

KEY ACTIONS FOR THIS GROUP ARE:

- ENSURE CLINICAL MANAGEMENT/ stabilization and/or appropriate referral. For patients with acute exacerbations that cannot be managed at primary health-care level, all primary health-care facilities should have standard operating procedures for referral (if possible) to secondary and tertiary care facilities. Standard operating procedures should include processes for identifying patients in need of palliative care and standard procedures for pain and symptom relief in all patients. Primary health-care centres should also maintain easily accessible lists of vulnerable patients and a list of pre-identified referral hospitals.
- ENSURE IDENTIFICATION of the subgroup of NCD patients with special needs for which interruption of treatment could be fatal or critical (dialysis patients, persons with type 1 diabetes, transplant patients, patients with mechanical heart valves on anticoagulation, patients on controlled medications for whom sudden withdrawal can be dangerous).
- AVOID SUDDEN DISCONTINUATION of treatment and prioritize patient needs and management. This will require pre-emergency planning
- PROVIDE BASIC CARE at primary health-care level for the physical symptoms of advanced NCDs, including pain and respiratory distress.

[9] Emergency response framework. Geneva: World Health Organization; 2013.

CONTINUING RESPONSE: Expand management to sub-acute and chronic presentations of NCDs.

OBJECTIVES FOR NCD MANAGEMENT DURING THE **CONTINUING RESPONSE** TO EMERGENCIES

During the recovery phase after emergencies or during protracted emergencies such as long-term settlements, the management of NCDs should be expanded to include management of sub-acute and chronic presentations of previously identified NCDs, as well as ongoing care and palliation. The WHO package of essential NCD (PEN) interventions provides a set of protocols, medicines and equipment for managing the four common NCDs.[10] These interventions can be used as a guide and adapted to the local context (Annex 1).

PREVIOUSLY **IDENTIFIED** NCD OR RISK FACTOR

The NCD patients most commonly encountered in an emergency are those presenting with an NCD (e.g. prior myocardial infarction) or a related risk factor (such as hypertension or hypercholesterolaemia) which is not immediately life-threatening and which was identified and treated before the emergency. Key actions for this group include:

- ENSURE ACCESS TO ESSENTIAL DIAGNOSTIC equipment, core laboratory tests and medication for the routine, ongoing management of the most common NCDs in the primary health-care system.
- ENSURE ACCESS TO ESSENTIAL NCD MEDICATION, prioritizing the WHO PEN package[10] or the national essential medicines list. A review of the existing lists of essential medicines of the emergency-affected country might be needed early in the response to determine their appropriateness and to ensure that essential NCD medicines are available

PREVIOUSLY **UNDETECTED** NCD OR RISK FACTOR

Another category of patients includes those with previously undetected NCDs and related risk factors, the number of which will depend on the pre-emergency state of NCD care in the area. Detection and management of these conditions through primary care may offer opportunities to improve health once the situation allows. The decision to actively seek out asymptomatic cases will depend on the burden of undiagnosed cases in the population and:

- ABILITY OF HEALTH CARE SERVICES TO diagnose and manage the additional burden of new cases, including preventive treatments (e.g. tobacco cessation).
- AVAILABILITY OF ESSENTIAL NCD MEDICATIONS AND TECHNOLOGIES, recommended in the WHO PEN package[10] or the national essential medicines list.

CANCER

Patients with cancer constitute a distinct category in view of the various ethical and operational challenges of providing cancer care during an emergency. Many cancer drugs require a complex service delivery setup and are often administered through a parenteral route in hospitals over a course of days. In many low- and middle-income countries, cancer care capacity may already be limited before the emergency. Efforts should be made to identify and resolve ethical dilemmas related to limited resources, competing priorities and distributive justice.

[10] Package of essential noncommunicable (PEN) disease interventions for primary health care in low-resource settings. Geneva: World Health Organization; 2010

DURING EMERGENCIES:

- ensure access to treatments
- ensure treatment of people with acute life-threatening condition
- establish SOPs for referral
- ensure access to essential diagnostic equipment

INDICATORS

Below is a list of key indicators which are slightly modified from those identified in the Sphere Project handbook[11]

- number/percentage of primary health-care facilities that have clear standard operating procedures for referrals of patients with NCDs to secondary and tertiary care facilities;
- number/percentage of primary health-care facilities that have adequate medication to continue the pre-emergency treatment, including pain relief, of individuals with NCDs.

Additional indicators for measuring the impact of NCD management in emergencies can be derived from the Humanitarian Indicators Registry of the United Nations.[11] With the aim of ensuring access to health care for patients with NCDs, the following indicators could be used:

- number and percentage of functional health facilities providing care for NCDs;
- number of functional basic health units that can deliver care for NCDs per 10 000

of minimum care for NCDs according to the international and Sphere Project standards for provision of basic health-care services.

Essential services include preventive, curative and palliative interventions that aim to prevent and reduce excess morbidity, mortality and suffering from NCDs. Maintaining access to pre-emergency treatments should be the mainstay of the health-sector response in humanitarian settings. This should include a minimum set of palliative care services such as the management of pain.

EMERGENCY **PREPAREDNESS** FOR NCD MANAGEMENT

Lessons learned from previous emergencies can be used to enhance preparedness for the future. Disaster plans and standard operating procedures for governments and organizations with responsibility for emergency response should include:

- protection of key health facilities from natural disasters and stockpiling of key medicines/equipment, including NCD medication;
- incorporation of the needs of NCD patients into national disaster plans;
- facility-specific disaster planning for critical facilities such as major hospitals and dialysis units;
- development of individual patient strategies for emergencies, including a backup supply of medications and instructions for emergency care, and promotion of community-level preparedness among the population group with NCDs;
- establishment of registries of NCD patients