

# WHO Noncommunicable disease kit (NCDK) 2022

*Please note that related information resources and training materials are available in the USB thumb drive included*

## Scope of the NCD kit

The revised NCD kit 2022 is designed to better support treatment of noncommunicable disease (NCD) patients in emergency settings. Each kit is assembled to treat 10 000 people for three months when medical facilities and regular supply has been disrupted. It provides essential medicines and medical devices for the management of hypertension and cardiac conditions, diabetes & endocrine conditions and chronic respiratory diseases for outpatient care in primary health care settings.

Mental health and neurological conditions are managed in a different kit called Mental Health Kit 2022, which contains two modules: one specifically dedicated to primary health care, the other for hospital settings.

The NCD kit is divided into several modules to enable custom orders according to need and available capacity.

## Structure and content of the NCD kit 2022

	KMEDNCDK2----A1	NON COMMUNICABLE DISEASES KIT (NCDK), 2022, complete
<b>MODULE 1</b>	KMEDNCDK2MM--A1	(NCDK 2022) MODULE MEDICINES
<b>MODULE 2</b>	KMEDNCDK2MCC-A1	(NCDK 2022) MODULE 2A, INSULIN, COLD CHAIN
	KMEDNCDK2MS--A1	(NCDK 2022) MODULE 2B, INSULIN SYRINGES
<b>MODULE 3</b>	KMEDNCDK2MR--A1	(NCDK 2022) MODULE RENEWABLES
<b>MODULE 4</b>	KMEDNCDK2ME--A1	(NCDK 2022) MODULE EQUIPMENT
<b>MODULE 5</b>	KMEDMGLU300TLA1	MODULE, GLUCOMETER, 300 tests & lancets

As a result of the review of the NCD kit 2016, changes were made to the modules and content of the kit to better respond to countries' needs and capacity for implementation. As all modules are stand alone, countries can request any quantity depending on their need.

### Module 1 – Medicines

Contains essential medicines to treat hypertension and cardiac conditions, type 2 diabetes, and chronic respiratory diseases. Does not include cold-chain human insulins. The mental health medicines are removed from that kit and now gathered under a special mental health kit (MH2022).



Changes from NCDK 2016: Within the medicines module, glibenclamide was replaced with gliclazide to reduce the risk of hypoglycaemic reactions. New additions to the module include the statin simvastatin, the angiotensin-converting enzyme (ACE) inhibitors enalapril and hydrochlorothiazide, as well as a paediatric formulation of the asthma medication beclomethasone (100mcg).



## Module 2 – Cold chain

Contains cold chain medicines only, i.e. human insulins in vials of 10ml.



Changes from NCDK 2016: Quantity of human insulin mix 70/30 of rapid-acting and intermediate-acting insulins were increased.

For logistic reason this module is divided into part a) cold chain 2-8°C shipped by air and part b) ambient temperature by air or by sea.

## Module 3 – Supplies and renewables

Contains a small supply and renewables such as, urinary test strips, cotton wool, examination latex gloves, adhesive tape, and swab alcohol pads.

## Module 4 – Equipment

Contains stethoscope, peak flow meter, otoscope and ophthalmoscope set, sphygmomanometer, pen flashlight, clinical digital thermometer, body tape measure, adult scale, monofilament devices for diabetic foot screening, as well as inhalers with a spacer.

Changes from NCDK 2016: The equipment module was expanded to include monofilament devices for diabetic foot screening, spacer inhaler chamber and an adult scale.



## Module 5 - Glucometer

Contains a glucometer with 300 strips and 300 lancet pens 28G. The module serves one patient for three months. Note that the glucose strips and the lancets can be reordered on the WHO catalogue.

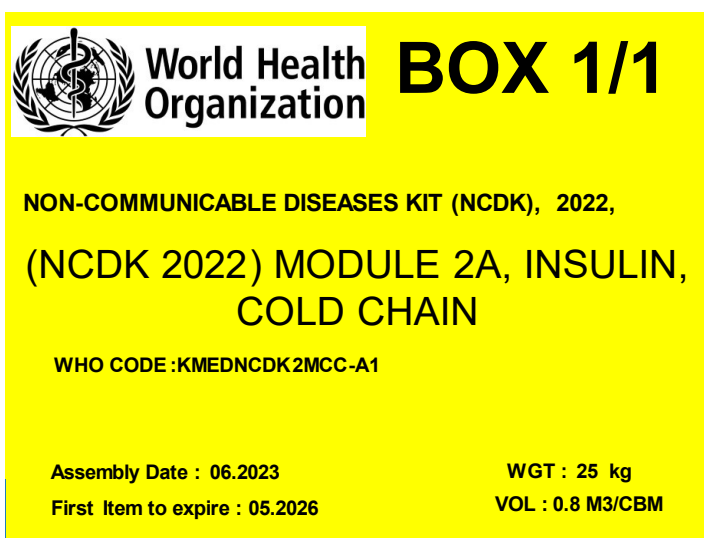


Changes from NCDK 2016: Glucometer, strips and lancets are now separated (previously included in the equipment and supplies, and renewables modules, respectively).

## Kit Label

The label colour for the NCD kit 2022 is “**yellow**”. You find useful information on the label such as:

- **Kit name:** “NCD kit 2022”
- **Module name:** e.g. “MEDICINES COLD CHAIN ”
- **Number of boxes per module:** “Box 1/3”, in the example below, indicates that three boxes of the “mental health” module were provided in total and that the label pertains to box 1. *This is not to be confused with the number of boxes for all modules in the entire kit.*
- **WHO code for the module (*not the kit*):** KMEDNCDK2MMH-A1
- **Expiration date of the first item to expire in the module:** this (these) specific item(s) should be in the box#1. Box#1 always contains the short shelf life item(s).



### How to read the data logger

A data logger is added to the cold chain module (module 2a) and the temperature sensitive modules (module 1).

#### Cold chain module:

- The temperature is set to 2-8°C. The data logger has been configured by the supplier with alarms in case of temperature excursions outside of 2-8°C.
- The data logger is located inside the cold chain box, next to the medicines.
- Open the cold chain box inside the cold room or just next to the refrigerator. Do NOT open the cold chain boxes at customs or during transit.
- Retrieve the data logger and press the black stop button located on the right. Do not worry if you cannot stop the data logger.
- To read the data logger: as soon as the data logger is connected to a USB port, a PDF report will be created automatically.
- Ask a technical officer to validate the shipment arrival. Excursions do not mean that the medicines cannot be used. In doubt, ask the expert (logistician or pharmacist).

Watch our cold chain video: <https://www.who.int/emergencies/emergency-health-kits>

#### Temperature sensitive modules:

- The temperature is set 15-25°C. The data logger has been configured by the supplier with alarms in case of temperature excursions outside of 15-25°C.
- The data logger is affixed to one of the pallets, clearly marked “data logger/temperature-controlled device”.
- The step by step process to read the data logger is the same as outlined above for the cold chain module.

### Pre-deployment planning and training

The WHO NCDK 2022 addresses supply chain disruptions and requires adequate health system capacity to dispense its content. Pre-deployment planning is key to make best use of available resources, anticipate logistical challenges, correctly assess health facility capacity and health workforce readiness.

Before ordering the NCDK 2022, it is highly recommended that countries request WHO training for medical staff, programme managers and pharmacists, including training on prevention, diagnosis and treatment of NCDs, as well as mental health and neurological conditions. Work force capacity must be considered, when ordering different modules.

To request support or training, please contact WHO at [ncddepartment@who.int](mailto:ncddepartment@who.int)

### How to order the NCD kit 2022

Each kit is assembled to treat 10 000 people for three months. Each module is a standalone unit that can be ordered individually. Countries can therefore request each module in different quantities based on their needs. Equipment can be reused as appropriate. Therefore, it is recommended to order less equipment modules.

Watch our training video: <https://www.who.int/emergencies/emergency-health-kits/non-communicable-diseases-kit-2022>

### Case study

**Case study 1: Prepositioning** ( <https://www.paho.org/en/news/21-6-2022-deploying-emergency-kits-noncommunicable-diseases-following-volcano-eruption-saint>)

On the island of St Vincent, the volcano La Soufriere erupted unexpectedly in April 2021, forcing the urgent displacement of 20,000 inhabitants. This led to significant disruptions in people's lives, health and disruption to the island's healthcare system. People living with a noncommunicable disease (NCD) were particularly affected as they need continuing access to care, services and medicines to properly manage their condition.

When the volcano erupted, PAHO in collaboration with Yale University School of Medicine and Primary Care International (PCI) worked with the Ministry of Health to deploy the World Health Organization (WHO) NCD kits to ensure displaced persons would receive essential NCD medicines. Prior to the arrival of the WHO NCD kits in the country, PCI delivered a series of five virtual trainings on the use of the kits, with approximately 40 physicians, nurses and pharmacists, in addition to delivering 2 refresher virtual courses after the NCD kits arrived in country. Theoretical information was provided to participants on NCD management, case scenarios of persons living with an NCD were discussed to stimulate clinical reasoning, and information was provided on the contents of the NCD Kit Modules and how to use the medicines in the kits with the national clinical guidelines, including medication substitutions. The training covered clinical management of people with diabetes, hypertension, cardiovascular disease, chronic respiratory disease (asthma and chronic obstructive pulmonary disease), seizures and epilepsy, and mental health conditions.

**Lessons learnt:** prepositioning by ordering NCD kits for at least one month of supply with prior training to the health workers would be helpful during disasters where it is more or less predicted. This is to ensure when the area is facing a risky season (e.g., due to a hurricane), workers are trained and logistics are ready to be accessed by patients who seek care.



### **Case study 2: Responding to a protracted emergency: Cox's Bazar, Bangladesh**

In response to the Rohingya humanitarian crisis following the influx of Myanmar Nationals into Bangladesh in August 2017, WHO NCD kits were the primary support for health sector partners to access essential medicines and diagnostic equipment required for NCD management.

Upon request of the government of Bangladesh, NCD kits were first ordered in April 2019. With no real-time surveillance data of NCDs and NCD risk factors for the Rohingya population, the procurement plan was based on prevalence of NCDs in Bangladesh according to the WHO STEPs survey and WHO country profile. Module 1a (medicines) and 1c (renewables) were ordered in higher amounts to set up screening, diagnosis, and management of NCDs including mental health conditions. Due to limited cold chain capacity of health partners, module 1b (insulin) was supplied in few quantities. This public health intervention helped establish NCD service delivery in 123 primary health care facilities serving Rohingya refugees, as well as the host community.

In 2020, another procurement of NCD kits was distributed across 45 health facilities in Rohingya refugee camps and the adjacent host community. Based on estimation figures and balances of the first procurement, this time no medicines from modules 1a and 1b were ordered. To support the increased demand of screening for NCD risk factors, the module ordered in the highest quantity was module 1c (renewables).

From 2020, the public health situation in Cox's Bazar stabilized and the local market started to meet the need for NCDs medicines and equipment allowing for phasing out of the NCD kits.

#### **Lessons learnt:**

- **Local NCD surveillance data is not always available:** Data from the WHO STEPs survey and WHO country profile for Bangladesh was used as the basis for the first procurement given the lack of surveillance data of NCDs and associated risk factors for the Rohingya refugee population. Development of evidence-based procurement plans and forecasting should also be supported with capacity-building for healthcare managers in the camps.
- **National contextualization of NCD kits increases their efficacy and impact:** In Cox's Bazar, some NCD kit medicines and basic diagnostic equipment were not utilized properly due to differences in local practice and national guidelines pointing to the need for early contextualization of the kits.
- **Demand and capacity for utilization of mental health medication often differs from other major NCDs:** A separate mental health module (as now available with the NCD kit 2022) and training for identification and management of mental health conditions helps implement a need and capacity based procurement plan.

### **Case study 3: Pre-deployment training: Afghanistan**

In 2018, the WHO collaborated with the Afghan Red Crescent Society and Primary Care International to pilot a training for the use of the NCD emergency kit. The 4-day training aimed to help medical staff understand and use medicines and equipment for the management of key NCDs. Key medical staff from primary health care centres run by the Afghan Red Crescent Society in Herat, Kunduz, Kandahar and Nangarhar travelled to Kabul ahead of the deployment of the NCDK to their centres.

With a mixture of presentations, role plays, and case discussions, the trainees learned about hypertension, type 2 diabetes, chronic respiratory disease, cardiovascular disease and secondary prevention. Trainees also participated in a session on communication and consultation skills with a focus on motivational interviewing techniques.



Similar training programmes were conducted for Gaziantep and Syria to ensure the continuation of NCD management for populations affected by complex emergencies.

## Useful resources and WHO Guidelines

### General

- WHO emergency health kit webpage <https://www.who.int/emergencies/emergency-health-kits>
- WHO noncommunicable diseases kit (NCDK) 2022 webpage <https://www.who.int/emergencies/emergency-health-kits/non-communicable-diseases-kit-2022>
- WHO package of essential noncommunicable (PEN) disease interventions for primary health care. Available at <https://www.who.int/publications/i/item/9789240009226>
- WHO Package of essential noncommunicable (PEN) disease interventions for primary health care in low-resource settings. Available at <https://www.who.int/publications/i/item/9789241598996>
- HEARTS: Technical package for cardiovascular disease management in primary health care: Risk-based CVD management. Available at <https://www.who.int/publications/i/item/hearts-technical-package>
- HEARTS D: diagnosis and management of type 2 diabetes. Available at <https://www.who.int/publications/i/item/who-ucn-ncd-20.1>
- Guideline for the pharmacological treatment of hypertension in adults. Available at [Guideline for the pharmacological treatment of hypertension in adults \(who.int\)](https://www.who.int/publications/i/item/guideline-for-the-pharmacological-treatment-of-hypertension-in-adults)
- WHO Model List of Essential Medicines. Available at <https://list.essentialmeds.org/>
- WHO Essential Diagnostics List. Available at <https://iris.who.int/bitstream/handle/10665/373322/9789240081093-eng.pdf>
- WHO Model formulary 2008. Available at <https://www.who.int/publications/i/item/9789241547659>

### Mental health

- WHO mhGAP humanitarian intervention guide (mhGAP-HIG): clinical management of mental, neurological and substance use conditions in humanitarian emergencies. Available at <https://www.who.int/publications/i/item/9789241548922>
- WHO mhGAP Intervention Guide - Version 2.0. Available at <https://www.who.int/publications/i/item/9789241549790>
- WHO Pharmacological treatment of mental disorders in primary health care. Available at [https://apps.who.int/iris/bitstream/10665/44095/1/9789241547697\\_eng.pdf](https://apps.who.int/iris/bitstream/10665/44095/1/9789241547697_eng.pdf)

### Cold chain

- How to temperature map cold chain equipment and storage areas. Available at <http://apps.who.int/iris/handle/10665/330882>
- Vaccine Management Handbook: How to calculate Vaccine Volumes and Cold Chain Capacity Requirements. Available at <https://who.int/publications/i/item/WHO-IVB-17.06>