

## **HeartCare**

A Primer for Policy-makers and Health-care Professionals



**Noncommunicable diseases** (NCDs) are the leading causes of death and disability in many countries. In 2015, 31 million deaths in low- and middle-income countries were due to NCDs. Of these, roughly **15 million people died before they reached the age of 70 years**. In countries with low resources, people at risk for or suffering from NCDs usually have difficulty accessing health-care services, leading to delayed care, disease progression and complications, higher costs of care, and early deaths.

NCDs are caused by a combination of genetic, physiological, environmental and behavioural factors; usually have a long duration; and require lifelong management. Successful prevention and control of NCDs depend partly on the willingness of individuals and their families to make daily decisions to practise healthy behaviours, address modifiable risk factors and follow medical advice.

# What is being done to improve NCD prevention and control?

In 2010, the World Health Organization (WHO) launched the Package of Essential Noncommunicable Disease Interventions for Primary Health Care in Low-Resource Settings (**WHO PEN**), which gives guidance to primary health-care staff working with limited resources.

Building on **WHO PEN**, in 2016, WHO and the United States Centers for Disease Control and Prevention (CDC) launched the Global HEARTS Initiative to strengthen action against cardiovascular diseases (CVDs). This Initiative has three technical packages:

- HEARTS technical package for CVD management,
- SHAKE technical package for salt reduction, and
- MPOWER technical package for tobacco control.





#### The **HEARTS technical package** has six elements packaged into the following modules:



CVD risk prediction charts and standardized treatment algorithms are provided in the **Evidencedbased treatment** and **Risk-based management** modules. These charts are useful in motivating people to work on modifiable CVD risk factors (i.e. risk factors they can control). However, some health-care providers find these charts difficult to use. Any errors made when calculating CVD risks could result in patients not receiving the proper care they need.

The **Systems for monitoring** module offers indicators and tools to track progress of patients who visit different clinics and facilities, especially if their medical records are paper-based. Monitoring CVD therefore remains a challenge, especially in lowand middle-income countries where information systems are not yet in place to manage long-term medical data required for the care of patients with chronic diseases. A reliable monitoring system is critical for improving patient care.



## What is HeartCare?

**HeartCare** is a user-friendly software programme developed by WHO to simplify and standardize CVD risk prediction and management. It has the following four key features:

#### 1. Monitoring of CVD risk factors

**HeartCare** automatically calculates a person's risk of suffering a heart attack or stroke in a 10-year period. Following WHO PEN and HEARTS technical package recommendations, **HeartCare** determines whether an individual's CVD risk is low, moderate, high or very high based on his or her age, gender, blood pressure, history of diabetes, tobacco use, previous heart attack or stroke, height, weight, and, if available, blood cholesterol level.

#### 2. Guidance for health professionals and individuals

**HeartCare** uses a Clinical Decision Support System to quickly analyse information according to WHO PEN and HEARTS technical package protocols. It then provides appropriate clinical management advice to guide health-care professionals. Individuals may be given a printed Personal Summary sheet with medical information and instructions for them to bring home as a reference.

#### 3. Electronic medical records and automated summary reports

**HeartCare** can function as an electronic medical record system that can be used to access and update medical records across a network of facilities. The system can also generate reports describing the CVD status of a given population.

#### 4. Offline programme

Once installed in a device, **HeartCare** can operate without Internet access. Information collected through Android devices can be transferred to a health facility's offline computer. This allows the health-care manager to collect CVD information from individuals who are seen outside of the health facility and then identify high-risk patients who need medical follow-up. For health facilities with a secure Internet environment, **HeartCare** can be adjusted to operate online in accordance with national data protection policies.







### How do I use HeartCare in my facility or community?

The HeartCare software can be downloaded on a personal computer or an Android device.

#### Individuals

Anyone can download the software onto his or her Android device and use the risk predictor to monitor and manage their CVD risk. A personal summary of their CVD risk factors is also provided.

#### Health-care professionals

Since HeartCare can be used on a portable mobile device, health-care professionals will be able to conduct education and counselling on CVDs both in a clinical setting or during household visits, using updated evidence-based guidelines.

#### **Health-care facilities**

HeartCare's electronic medical record system allows staff at a health facility to quickly retrieve patient files, freeing them to focus on other important duties. They can save time by not having to manually re-enter patient information for filing and reporting.

A facility can also easily generate a summary of 10-year CVD risk, prevalence of diabetes, hypertension and high cholesterol in the catchment area.



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