

## What are cardiovascular diseases?

Cardiovascular disease (CVD) refers to conditions that affect the heart and blood vessels. Most commonly this includes coronary heart disease (heart attacks), cerebrovascular disease (stroke) or raised blood pressure (hypertension). A stroke occurs when a blood clot (ischaemia) or a bleed (haemorrhage) disrupts the blood supply to part of the brain, starving that area of oxygen.

CVDs are the leading cause of deaths globally and CVDs is identified as one of the four major non communicable diseases (NCDs) in the 2011 United Nations Political Declaration on NCDs and Global Action Plan 2013-20.

Risk factors of heart disease and stroke may be modifiable or non-modifiable:

- **Modifiable risk factors** include unhealthy diet, physical inactivity, tobacco use and harmful use of alcohol. People with CVD may be less likely to be able to complete physical activity, thus further increasing their risk of a stroke or heart attack.
- **Non-modifiable risk factors** are age, gender and family history.

## Who are the main stakeholders?

**Users:** persons affected by cardiovascular diseases, persons most at risk, their families and communities | **Service providers** in all relevant sectors including NGOs | **Ministries:** Health, Social Affairs, Education | **International professional organisations:** World Stroke Organization | **International bodies and partnerships:** World Health Organization (WHO), World Heart Federation, NCD Alliance, international NGOs.

## Common impairments and activity limitations from cardiovascular diseases

Since the brain controls bodily functions, strokes can cause a range of motor, sensory and cognitive impairments.

- Muscle paralysis down one side of the body, or **hemiplegia**, is a common effect that may be short lasting or permanent. This may cause tightening or loosening of the muscles and can inhibit movement and impact on mobility and/or arm and hand use.
- **Word forming difficulties and slurring of speech** may occur due to paralysis of facial muscles and swallowing can be affected, impacting on eating and drinking and increasing the risk of life threatening respiratory infections.

- **Cognitive function** may be impaired impacting on a person's ability to plan, process thoughts or understand language.
- **Depression** is common in people after a stroke.

For people with heart disease, physical mobility and daily activities can be limited:

- Coronary artery disease can also cause **sensory loss**, particularly in the peripheries such as fingers and toes.
- Heart disease and heart failure can lead to **shortness of breath** and restricted tolerance for physical activity. This can also cause **fatigue and lethargy**.

### QUICK FACTS

- Every 2 seconds, somebody has a stroke.
- CVDs are the number 1 cause of death globally. An estimated 17.5 million people die each year from CVD (2012).
- CVD accounts for 11.89% of global DALYs. Stroke is a leading cause of serious long-term disability.
- At least 80% of premature deaths from heart disease and stroke could be avoided if the main risk factors, tobacco, unhealthy diet and physical inactivity, were controlled.

## ★ What can rehabilitation do?

Different examples of rehabilitation in the care continuum

### Prevention

- Improvement of physical activity both for primary and secondary prevention of CVD.
- Prevention of further CVD and other comorbidities since restricted mobility can be an activity limitation associated with stroke and heart disease.

### Care and support

- Cardiac rehabilitation – including exercise training, education on heart healthy living, and counseling – to recover after a significant cardiac event such as a heart attack.
- Mobility device provision for long term impairment following a stroke.
- Education and advice for care givers of persons with CVD for chronic care management.

### Diagnosis

- Initial detection and stroke assessment.

### Data collection

Appropriate data collection on CVD related impairments in order to:

- Give more visibility to the rehabilitation needs and also the consequences on quality of lives and economic impact;
- Lobby the responsible duty bearers.

### Treatment

- Early post stroke rehabilitation to ensure maximum functional gain or recovery.
- Appropriate therapy interventions by multi disciplinary teams to enable recovery of movement, communication, cognition and function following a stroke.
- Gradual education and training related to general life skills and tasks in order to increase stamina, return to familiar routines or learn new skills when previous skills no longer are an option.

## 🔍 Case study: stroke in Nepal



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Nearly a year ago, Dambar Kumari, 79, had a stroke that resulted in hemiplegia affecting her right arm and leg. Following her accident, Dambar was sent to hospital, where the doctors told her she needed rehabilitation to stimulate her paralysed limbs and to give her the strength she needs to walk again.

She receives regular visits from a community worker from a neighbouring rehabilitation centre supported by Humanity & Inclusion. Laxmi, the community worker, says: *“I give technical advice and help Dambar do her exercises, but I’m also here if she needs to talk to someone about her day-to-day problems. However old you are, it’s always very hard to see your physical abilities decline. It’s traumatic and it’s really important to talk to someone. So you need to get close to them and win their trust.”*

Dambar can’t do without Laxmi’s visits. Her son acts as a care-giver and helps her a lot, but he doesn’t always know which exercises she needs to do. *“Laxmi’s visits give me a real boost because I know that every week I need to show her how much progress I’ve made since her last visit.”*

## 🏛️ Global policy and guidance on CVD and rehabilitation

United Nations Sustainable Development Agenda SDG 3 (2015) – target 3.4 | UN (2013): Global NCD Action Plan 2013-2020 | NICE (2013): Stroke rehabilitation: Long term rehabilitation after stroke.