Module 1.2

PHC approach to delivering essential NCD services
WHAT’S INSIDE

Introduction
Learning outcomes
Topics covered
Competency
Teaching and learning activities
Background information
INTRODUCTION

Most health-care systems have developed in response to acute problems, but health care for chronic noncommunicable diseases is different from health care for acute problems. Because the management of chronic conditions requires lifestyle/behaviour change, emphasis must be upon the patient’s central role and responsibility in self-care. Focusing on the patient in this way constitutes an important shift in current clinical practice. This module covers rationale of implementing the Package of Essential Noncommunicable disease (PEN) interventions and how to integrate interventions for noncommunicable diseases (NCDs) at the primary health care (PHC) level.

LEARNING OUTCOMES

At the end of the session, participants will be able to do the following:

- Comprehend the contribution of the PHC approach to NCD prevention and control.
- Explain the concept of a people-centred chronic care model.
- Describe the rationale of implementing PEN at the PHC level.
- Integrate NCD interventions at the first point of contact, i.e. PHC level.

TOPICS COVERED

- Functions of comprehensive PHC.
- Chronic care model.
- Screening/early detection of NCDs at the PHC level.
- Rationale of PEN implementation.

COMPETENCY

- Apply skills to integrate essential NCD services in the PHC setting.
TEACHING AND LEARNING ACTIVITIES

Total session time: 60 minutes

Activity 1. NCDs and chronic care: 30 minutes

Step 1. Divide participants into convenient groups.

Step 2. Ask the participants to review the following issues: (if possible, use morbidity data of a PHC centre)

- What kind of care is usually provided in clinics or health centres?
- Is it mostly acute care or chronic care?
- Is it mostly for communicable diseases or NCDs?
- Is screening for or early diagnosis of NCDs done routinely?
- What are the bottlenecks in the clinic to acute care and chronic care management? How can these bottlenecks be addressed?

Step 3. Ask each group to summarize the discussion in 2–3 minutes.

Step 4. Sum up the discussion by presenting the powerpoint with the following contents:

- approaches to NCD prevention and control
- characteristics of acute and chronic care
- comprehensive primary care involves care of acute and chronic cases
- barriers to and facilitators of chronic care
- chronic care model
- vision of NCD care in PHC.

Activity 2. Contribution of PHC approaches to NCD goals: 30 minutes

Step 1. Present powerpoint slides with following contents:

- Sustainable Development Goals (SDGs)
- healthy living and well-being: universal health care
- NCD targets.
Step 2. Ask participants’ views on the following issues and list responses on a flip chart/white board.

How can the PHC system play a role in achieving the 2030 NCD targets agreed upon by countries?
  - What are the bottlenecks to implementing essential NCD services in PHC in countries?
  - What solutions can address these bottlenecks?

Step 3. Present the powerpoint slides with the following contents:

  - rationale of PEN
  - goals and objectives of PEN
  - PEN protocols
  - examples of PEN implementation in the WHO South-East Asia Region
  - linkages of PEN to health system building blocks
  - screening/early detection.
1. Which one of the following UN Sustainable Development Goals is related to Universal Health Coverage by 2030?
   a. climate action
   b. good health and well-being
   c. no poverty
   d. gender equality.

2. The reasons for focusing on integrated NCD care at the PHC level are all except
   a. utilization of limited resources
   b. set of core interventions
   c. promotes community participation
   d. promotes social equity?

3. Failure of individual treatment in primary care can lead to more
   a. amputations in diabetics
   b. myocardial infarction
   c. tuberculosis
   d. chronic renal failure?

4. Which of the following is a modifiable risk factor for cardiovascular disease?
   a. age
   b. gender
   c. heredity
   d. hypertension.

5. The following are the goals of PEN except:
   a. achieving universal access to high-quality diagnosis and patient-centred treatment
   b. reducing the suffering and socioeconomic burden associated with major NCDs
   c. improving vertical health programmes
   d. protecting poor and vulnerable populations from heart disease, stroke, hypertension, cancer, diabetes, asthma and chronic respiratory disease.
BACKGROUND INFORMATION

Most PHC centres provide acute care such as for common cold, fever, diarrhoea, etc. Most healthcare systems have developed in response to acute problems; they are designed to address urgent health-care needs, relieve symptoms and anticipate a cure.

Health care for chronic conditions is different from health care for acute problems. Chronic care is health care that manages cases with long-term conditions. The most prevalent health problems such as hypertension, diabetes, chronic obstructive pulmonary disease, asthma, heart disease and depression require extended and regular health-care contact. The aim of chronic care is to control symptoms, prevent disease progression and complications, and maintain a good quality of life.

<table>
<thead>
<tr>
<th>Classification</th>
<th>Definition</th>
<th>Examples</th>
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</thead>
<tbody>
<tr>
<td>Acute</td>
<td>Lasts for a short duration of time and can be cured</td>
<td>Common cold, diarrhoea, etc.</td>
</tr>
<tr>
<td>Chronic</td>
<td>Lasts for a longer duration and often cannot be cured, requiring lifelong management</td>
<td>Diabetes, high blood pressure, etc.</td>
</tr>
<tr>
<td>Communicable diseases</td>
<td>Can spread from one person to another either directly or indirectly</td>
<td>HIV, common cold, malaria, dengue fever, etc.</td>
</tr>
<tr>
<td>Noncommunicable diseases</td>
<td>Cannot be spread from one person to another and have complex underlying mechanisms</td>
<td>Cardiovascular disease (CVD), cancer, diabetes, COPD, asthma and allergies, mental and neurodegenerative disorders, musculoskeletal diseases, etc.</td>
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**Chronic disease management at the PHC level**

Because the management of chronic conditions requires lifestyle/behaviour change, emphasis must be upon the patient’s central role and responsibility in self-care. Focusing on the patient in this way constitutes an important shift in current clinical practice.

Good chronic care recognizes the fact that the patient must understand and learn to manage his or her own chronic condition. Chronic diseases require much education and support to provide patients the skills for self-care. Although the clinical team and others at home and in the community can help, it is the patient who needs to learn to cope with their disease, practise healthy living to limit disease progression, and understand disease management and what to do in case it worsens.
The following principles can be used in managing many chronic diseases or risk conditions.

- Develop a treatment partnership with your patient.
- Focus on your patient’s concerns and priorities.
- Use the 5 A’s: Assess, Advise, Agree, Assist and Arrange.
- Support patient self-care and family support.
- Organize proactive follow up.
- Involve “expert patients”, peer educators and support staff in your health facility.
- Link the patient to community-based resources and support.
- Use written information – registers, treatment plan, treatment cards and written information for patients – to document, monitor and remind.
- Work as a clinical team.
- Assure continuity of care.

**Prevention and control of NCDs**

One of the UN SDGs calls for achieving good health and well-being by 2030. Hence, countries have initiated steps to improve the coverage of health care at health centres and at hospitals comprehensively for both acute and chronic conditions covering infectious/communicable diseases and NCDs and injuries in a coordinated manner.

NCDs are described as diseases that cannot spread from one person to another unlike infectious diseases. However, it can be said that risk factors of chronic NCDs can be “communicated”, e.g. through advertisements for cigarettes or through commercial promotion of unhealthy foods or beverages, which underlies the fact that NCDs can also occur as “epidemics”, with upward and downward trends in different populations.

NCDs can be prevented and controlled by implementation of a combination of populationwide public health approaches and individual-level primary care approaches.

**Why focus on integrated NCD care at the PHC level?**

Care for major NCDs (hypertension, heart disease, stroke, diabetes, cancer, asthma, and chronic obstructive pulmonary disease [COPD]) can be integrated in primary care settings using cost-effective interventions.

An integrated approach is particularly important for low-resource settings so that limited resources are used efficiently. Bringing about the paradigm shift from a vertical to an integrated approach involves the selection of a set of core interventions that can be integrated with the PHC services.

Integration of NCDs into PHC in low-resource settings is an area where evidence is evolving. The implementation of a package involves adaptation and use of plans and models to suit local contexts.

The PHC approach provides the best chance of providing integrated NCD services at the right place, at the right time and to the right people. Providing NCD services through a PHC approach not only ensures people-centric care, but it also enhances health coverage, makes more effective use of health resources and promotes social equity.
### Package of Essential NCD interventions (PEN)

The aim of PEN is to provide an equitable framework for scale up as countries strive to achieve universal access to health care. PEN is a flexible, innovative, action-oriented health systems approach. PEN is aimed towards “closing the gap between what is needed and what is currently available” to achieve higher coverage of essential NCD interventions in PHC.

#### Overview of WHO PEN

<table>
<thead>
<tr>
<th>Vision</th>
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<tbody>
<tr>
<td>● Effective and equitable prevention and care for people with NCDs</td>
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<table>
<thead>
<tr>
<th>Goals</th>
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<tr>
<td>● To close the gap between what is needed and what is currently available to reduce the burden, health-care costs and human suffering due to major NCDs by achieving higher coverage of essential interventions in low- and middle-income countries</td>
</tr>
<tr>
<td>● To achieve universal access to high-quality diagnosis and patient-centred treatment</td>
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<tr>
<td>● To reduce the suffering and socioeconomic burden associated with major NCDs</td>
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<tr>
<td>● To protect poor and vulnerable populations from heart disease, stroke, hypertension, cancer, diabetes, asthma and chronic respiratory disease</td>
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<tr>
<td>● To provide effective and affordable prevention and treatment through primary care</td>
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<tr>
<td>● To support early detection, community engagement and self-care</td>
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<table>
<thead>
<tr>
<th>Objectives</th>
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<tbody>
<tr>
<td><strong>Equity and efficiency objectives</strong></td>
</tr>
<tr>
<td>Improve the efficiency of care of major NCDs in primary care through:</td>
</tr>
<tr>
<td>● enhanced implementation of human rights standards;</td>
</tr>
<tr>
<td>● provision of cost-effective interventions based on need rather than ability to pay;</td>
</tr>
<tr>
<td>● targeting limited resources to those who are most likely to benefit due to high risk;</td>
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<tr>
<td>● standardization of diagnostic and investigation procedures and drug prescription;</td>
</tr>
<tr>
<td>● formulation of referral criteria for further assessment or hospitalization;</td>
</tr>
<tr>
<td>● definition of parameters for planning and budget;</td>
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<tr>
<td>● selection of monitoring and evaluation indicators.</td>
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<table>
<thead>
<tr>
<th>Quality-of-care objectives</th>
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</thead>
<tbody>
<tr>
<td>Improve the quality of care of major NCDs in primary care through:</td>
</tr>
<tr>
<td>● appropriate referral and follow up;</td>
</tr>
<tr>
<td>● prevention, early detection and cost-effective case management;</td>
</tr>
<tr>
<td>● management of exacerbations and emergencies;</td>
</tr>
<tr>
<td>● follow up of long-term treatment prescribed by the specialist.</td>
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</table>
**Health impact objectives**

*Have a beneficial impact on health through:*

- reducing tobacco consumption in patients with NCDs;
- reducing the average delay in the diagnosis of NCDs by the health services;
- reducing the risk of heart attack, stroke, amputation and kidney failure;
- reducing the case fatality of major NCDs;
- preventing acute events and complications;
- prolonging the duration of stable clinical periods for patients with CVDs, diabetes, asthma and COPD.

**Contribution of PEN to health systems strengthening**

Properly functioning health systems are vital for the prevention and control of NCDs. As a health systems approach, PEN interventions contribute to strengthening health systems.

<table>
<thead>
<tr>
<th>Leadership/ governance</th>
<th>Assessed needs and gaps, and facilitate the use of available resources for the prevention and control of NCDs efficiently and equitably.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Support government efforts to drive the agenda towards universal coverage.</td>
</tr>
<tr>
<td>Financing</td>
<td>Prioritize NCD interventions to support the raising of adequate funds for universal coverage.</td>
</tr>
<tr>
<td></td>
<td>Facilitate phased-out provision of financial protection for NCDs.</td>
</tr>
<tr>
<td>Medical products and technologies</td>
<td>Define prerequisites for integrating a core set of essential NCD interventions into primary care.</td>
</tr>
<tr>
<td></td>
<td>Develop an affordable list of essential medicines and appropriate technologies.</td>
</tr>
<tr>
<td></td>
<td>Improve access to essential medicines.</td>
</tr>
<tr>
<td>Health information system</td>
<td>Provide templates to gather reliable health information of people</td>
</tr>
<tr>
<td>Health workforce</td>
<td>Provide training material to enhance knowledge and skills for NCD prevention and control.</td>
</tr>
<tr>
<td></td>
<td>Audit performance.</td>
</tr>
</tbody>
</table>
Service delivery
- Improve access to essential preventive and curative NCD interventions.
- Provide equitable opportunities for early detection.
- Define a core set of cost-effective NCD interventions.
- Provide tools for their implementation.
- Improve the quality of care.
- Improve the gatekeeper function of primary care.
- Reduce costs due to hospital admissions and complications.

People
- Develop tools for community engagement and empowerment of people for self-care.
- Improve health outcomes.

Planning and implementation of PEN at the PHC level can contribute to health systems strengthening and achievement of universal health coverage as is envisaged in SDG-3. Pilot implementation of PEN in Bhutan and the Democratic People’s Republic of Korea has shown a decline in the risk factors of NCDs among patients seeking care at primary health care facilities.

**Additional reading resources**


PHC approach to delivering essential NCD services

Activity 1: Step 4

NCD prevention and control approaches

- Individual prevention and treatment (primary care approach)
- Population-wide prevention (public health approach).
**Characteristics of acute & chronic care**

<table>
<thead>
<tr>
<th>Character</th>
<th>Acute disease (eg communicable disease)</th>
<th>Chronic disease (eg NCD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Onset</td>
<td>Sudden</td>
<td>Gradual</td>
</tr>
<tr>
<td>Duration</td>
<td>Short/acute</td>
<td>Long term/chronic</td>
</tr>
<tr>
<td>Cause</td>
<td>Single</td>
<td>Multiple</td>
</tr>
<tr>
<td>Prevention</td>
<td>Primarily by health sector</td>
<td>Policy change in multiple sectors</td>
</tr>
</tbody>
</table>
| Goal of treatment | Cure-return to normal life | - Adapt to changed life  
                      |                           | - Manage day-to-day symptoms |
                      |                           | - Palliative care         |
| Patient’s role | Comply with treatment plan  | Self care & lifestyle changes |
| Staff’s role   | Provide medical care                    | - Provide medical care    |
|               |                                         | - Prepare patients to self-manage |

**Barriers & facilitators of chronic care**

**Barriers**
- Physician-centred practice
- Disease episode management
- Lack of clinical information system
- Resistance to change

**Facilitators**
- Patient-centred practice
- Case management
- System support (patient registers/cards for follow up)
- Innovative leadership

**Comprehensive primary health care**

**Health promotion**
- Promoting healthy environment and behaviors

**Disease prevention**
- Detecting/Screening & managing the risks

**Early diagnosis & treatment**
- Diagnosing, managing the disease including referrals
Aim: long term care for NCDs near the patient’s home; referral if needed

Frontline health facility
- Assess and initiate treatment without referral
- or
- Refer if indicated by agreed protocols
- Treat according to the treatment plan
- Regular follow up

Hospital
- Diagnose and develop treatment plan
- Refer back to frontline care
- Manage severe exacerbations; hospitalize when needed

Activity 2: Step 1

Sustainable Development Goals and NCD targets

PHC approach to delivering essential NCD services
**Universal health coverage (UHC)**

- UHC means that all individuals and communities receive the health services they need without suffering financial hardship. It includes the full spectrum of essential, quality health services, from health promotion to prevention, treatment, rehabilitation, and palliative care.
- Indicators for UHC
- Category 1: Reproductive, maternal, newborn and child health:
  - family planning
  - antenatal and delivery care
  - full child immunization
  - health-seeking behaviour for pneumonia.

**Activity 2: Step 3**
WHO-PEN rationale

Cost-effective high impact interventions for major NCDs
Implementable in primary health care by physician/non
physician health worker teams using affordable appropriate
technology & medicines.

Integration of service delivery for screening, diagnosis,
treatment, health education/counselling and follow-up etc.
Community-based self-care in home/family
Contribute to health system development for universal
coverage.

Package of essential NCD (PEN) interventions
for primary health care

Goals
- Achieve universal access to high quality diagnosis &
patient-centred care
- Reduce suffering & socio-economic burden of
major NCDs
- Protect poor & vulnerable populations from major
NCDs
- Provide effective & affordable prevention &
treatment through PHC approach
- Support early detection, community engagement
and self-care

Objectives
- Improve the efficiency of care of
major NCDs in PHC
- Improve quality of care in PHC
- Beneficial impact on health

Invert the pyramid

Hospitals are taking a
high load of complicated NCDs
MI, strokes, dialysis cases

Primary health care is not
proactive in early detection

Vision

Primary health care is proactive in early detection

PHC approach to delivering essential NCD services
Individual prevention and treatment of NCDs in PHC

- Early cases are asymptomatic
- Early detection is vital
- Proactive case detection needs to be done close to the community
- Prioritization of NCDs that can be addressed in PHC.

Implication of delayed or ineffective primary health care

- Amputations in diabetics
- Blindness in diabetics
- Myocardial infarction
- Strokes
- Chronic renal failure
- Late stage cancers.

WHO PEN Protocols

- Prevention of heart attacks, strokes and kidney disease through integrated management of diabetes and hypertension
- Management of asthma and chronic obstructive pulmonary disease
- Health education & counselling on healthy behaviours
- Assessment & referral of women with suspected breast cancer, cervical cancer and oral cancer
- Palliative care.
Impact of WHO PEN implementation in DPR Korea

PEN contributes towards strengthening health systems

- Leadership/governance
  - Assess needs/gaps in NCD services
  - Facilitate use of available resources for NCDs/P&E efficiently and equitably

- Financing
  - Prioritize NCD interventions to support scaling of adequate funds for universal coverage

- Medical products & technologies
  - Define prerequisites for integrating a core set of essential NCD interventions into primary care
  - Develop an affordable list of essential medicines and appropriate technologies

- Health information system
  - Provide templates (paper-based or electronic) to gather reliable information of people

- Health workforce
  - Provide training material to enhance knowledge and skills for NCDs/P&E
  - Audit performance

- Service delivery
  - Improve access to essential preventive and curative NCD medicine
  - Provide equitable opportunities for early detection
  - Define core set of cost-effective NCD interventions
  - Provide tools for implementation of NCD interventions
  - Improve quality of care
  - Improve gate keeper function of primary care
  - Reduce cost due to hospital admissions and complications

- People
  - Develop tools for community engagement and empowerment of people for self-care
  - Improve health outcomes

Detecting and treating NCDs: where are we now?
Diabetes

Screening and early detection

- Screening refers to the application of a test to a population which has no overt signs or symptoms of the disease in question, to detect disease at a stage when treatment is more effective.
- The screening test is used to identify people who require further investigation to determine the presence or absence of disease and is not primarily a diagnostic test.

Screening criteria

- The condition should be an important health problem.
- There should be sufficient direct evidence that early detection improves health outcomes, and that the benefits of screening outweigh any potential harms and accepted treatment for patients with recognized disease.
- Facilities for diagnosis and treatment should be available.
- There should be a recognizable latent or early symptomatic stage.
- There should be a suitable test or examination that has high level of accuracy.
Screening criteria

- The test should be acceptable to the population
- The natural history of the condition, including development from latent to declared disease, should be adequately understood
- There should be an agreed policy on whom to treat as patients
- There must be an effective treatment for the disease when detected at an early stage – and there has to be scientific proof that that treatment is more effective when started before symptoms arise
- The cost of case finding (including diagnosis and treatment of patients diagnosed) should be economically balanced in relation to possible expenditure on medical care as a whole
- Case finding should be a continuing process and not a ‘once and for all’ project.

Types of screening

- Organized screening programmes/mass screening
- Opportunistic screening programmes
- High risk or selective screening
- Multiphasic screening
- Multipurpose screening.

NCD prevention and control puts new demands on frontline services and health workers, in many health systems

Questions
1. How to detect NCDs in people who may be symptom-free, and who can be any age – young or old?
2. Once detected, how to maintain care long-term?
3. How to better organize services for people who commonly have multiple health problems at the same time?
4. The equity question: how can health services deliver continuing, care to everyone who needs it?
### Accelerating frontline NCD service delivery in context of SDGs: some messages

- The key to NCD control is well-functioning frontline services
- Mid-level health workers can safely deliver most essential NCD interventions, if properly trained and supported
- Training is necessary but not sufficient. Other actions are needed, some of which are beyond remit of programmes
- ‘Integrated’ approaches to expand range and quality of frontline services appear to be more successful than standalone NCD services
- Medicines availability in frontline services is possible with good coordination and strong political commitment
- Better data, evidence needed to know if ‘on track’ and what works.