

Training Manual

WHO Package of Essential NCD Interventions (PEN)

*Service delivery and program
management*



Centre for Community Medicine
All India Institute of Medical Sciences
New Delhi, India



WHO Collaborating Centre for Capacity Building and Research
in Community-based Noncommunicable Disease Prevention and Control

*New Delhi
2018*

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Service delivery and program management

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I. INTRODUCTION

I. INTRODUCTION

Noncommunicable diseases (NCDs), also known as chronic diseases, tend to be of long duration and are the result of a combination of genetic, physiological, environmental and behaviours factors. The main types of NCDs are cardiovascular diseases (like heart attacks and stroke), cancers, chronic respiratory diseases (such as chronic obstructive pulmonary disease and asthma) and diabetes.

Noncommunicable diseases (NCDs) kill 40 million people each year, equivalent to 70% of all deaths globally. Each year, 15 million people die from a NCD between the ages of 30 and 69 years; over 80% of these "premature" deaths occur in low- and middle-income countries. Cardiovascular diseases account for most NCD deaths, or 17.7 million people annually, followed by cancers (8.8 million), respiratory diseases (3.9million), and diabetes (1.6 million).These 4 groups of diseases account for over 80% of all premature NCD deaths.

Tobacco use, physical inactivity, the harmful use of alcohol and unhealthy diets all increase the risk of dying from NCD. Detection, screening and treatment of NCDs, as well as palliative care, are key components of the response to NCDs.

The first version of the WHO Package of Essential Noncommunicable Disease Interventions (WHO PEN) for primary care in low-resource settings was launched in 2010 as an innovative and action-oriented set of cost-effective interventions that can be delivered to an acceptable quality of care, even in resource-poor settings. WHO PEN has tools to enable early detection and management of cardiovascular diseases, diabetes, chronic respiratory diseases and cancer to prevent life threatening complications (e.g. heart attacks, stroke, kidney failure, amputations, blindness). The package is expanded with additional guidance and tools in 2018 as PEN 2.0. Health services can develop a set of NCD treatment interventions by adapting the WHO PEN 2.0. This will also help in creating benefit packages for Universal Health Coverage in countries.

Building capacity is essential for NCD treatment service strengthening. This training manual provides a session by session guide to a short course for programme managers. Primary objective is to inform the scope and needs of NCD management, elements of a service delivery model and to help in strengthening services in the local context. Additional training and skill building will be needed for service providers and this can be undertaken through national experts and using local clinical scenarios.

Introduction to the training manual

This training is aimed at national/province/state/district health service managers, NCD program managers, personnel in charge of Primary health centres and related areas who will serve as trainers.

Scope

This training is to be organized after the agreement from the Ministry of Health and other stakeholders. Preliminary meetings should be held with health ministry officials responsible for NCDs, primary health care, information systems, access to medicines, medical technology and health services. Organizations of doctors and paramedical professionals, professional societies and major NGOs working in the country in NCD management should also be consulted. Appropriate communication from the senior officials should go to all relevant officers and staff to be trained.

Purpose

This training is to be organized at national or subnational level with the following purpose:

- To learn about the cost-effective interventions for NCDs,
- To understand the health system requirements for an effective delivery of services and
- To supervise and mentor the progress of the programme and outputs.

Organizational details

Duration of the training

Three days

Faculty

Facilitators who are oriented to NCD management in primary health care services with a good understanding of WHO-PEN. Local experts in NCD management and other resources persons may also be considered for specific topics.

Resources

In addition to this manual, all participants will have a copy of WHO PEN 2.0 and USB with the following additional resources:

- NCD profile of the country, latest NCD risk factor survey, health system assessment, current national NCD programmes, national guidelines for NCD management, current service delivery model, availability of medicines, major stakeholders.

Method of delivery

This training can be delivered as per the structure provided. For every session, there will be standard slide set, group work questions and methods and learning objectives. This short course should also generate the model for improving NCD services in primary health care.

Venue

- Venue of the training should be such that a site visit to the primary health facility can be arranged for half a day.
- There should be a lecture hall where participants can sit as groups of 6 and each training can have a maximum of 30 participants. There should also be space for group work.

Materials

Computer, projector and screen, 5-6 flip charts and marker pens, post-its, one hand book and WHO PEN publication for each participant. One USB for all participants.

Additional tips for facilitators

- Keep the sessions interactive and interesting
- Using the slides provided and adapting them with local examples, make an interactive presentation allowing for questions and answers
- Provide healthier dietary options, avoid sugary drinks and incorporate physical activity in between sessions.
- Start the morning session with a recap of salient points of the previous day's discussions

Important note

- This is an area where no one has all answers. The implementation of WHO-PEN will depend substantially on the context, resources and service delivery options available in the country.
- Adaptation is critical as *one size will not fit all*
- For clinical management protocols, please work with local experts and arrive at protocols which are feasible in your local context

Tips for participants

- Interact and discuss with each other and keep the sessions alive
- During group work, please focus on practical issues that you face in your day-to-day practice
- Share your “best practices”. Others may learn from your experiences

Questions and Answers

1. *How is NCD management different from Communicable diseases?*
 - a. NCDs need long term care with unique Identification number
 - b. Lack of symptoms
 - c. Difficulty to adhere to medications
 - d. Med not available free & often can't be purchased by patients
 - e. Lack of understanding about complications of uncontrolled BP
 - f. Lack of awareness for checking of complications

2. *How can detection of NCDs be improved?*
 - a. Check BP, smoking status and BMI if patient appears to be overweight for all adults coming to the health facility
 - b. Use opportunities like patients coming for treatment with TB HIV antenatal care & other conditions.
 - c. Use the opportunity to check for BP for all and diabetes whenever indicated

3. *How can lifestyle modification advice be provided ?*
 - a. While the messages appear simple they are behaviour changes and will take time an effort to achieve. Constant communication without blaming the person and thru a positive messaging can help.
 - b. Try to identify a carer or family member who can support the person in adhering to lifestyle modification Important thing is "DON'T BLAME" the patient .

4. *What changes in system are needed to improve NCD management ?*
 - a. A well defined service delivery model with clarity on roles and responsibilities
 - b. Administrative orders or similar approvals from higher authorities are essential to ensure that staff can perform new tasks needed for NCDs

5. *How do we know that the system is improving ?*
 - a. Give the chronic nature of the diseases, regular clinical audits can help to improve the skills and capacity and address challenges in services .
 - b. It is preferable to have a computer where an Excel based worksheet can be used to enter data from the treatment and follow-up card once a month. The number of patients may not be too many and hence it is manageable to have once a month data entry.

6. *What is WHO-PEN ?*

WHO PEN is the minimum standard for NCDs to strengthen national capacity to integrate and scale up care of heart disease, stroke, cardiovascular risk, diabetes, cancer, asthma and chronic obstructive pulmonary disease in primary health care.

7. *What are the components of WHO PEN?*

Treatment protocols and essential technologies for management of of heart disease, stroke, cardiovascular risk, diabetes, cancer, asthma and chronic obstructive pulmonary disease.

8. *What are the countries where NCD management has been improved by PEN?*

Bhutan, Iran, Philippines, Barbados, Nepal, Tajikistan are some of the countries which have successfully implemented PEN

II. GUIDE FOR A THREE DAY PROGRAMME

II. GUIDE FOR A THREE DAY PROGRAMME

Proposed structure for a three-day course			
Session	Day 1	Day 2	Day 3
Morning Pre break	Session 1: Introduction <ul style="list-style-type: none"> • Introduction of participants • Scope and purpose of the training • Importance of NCD and Universal health coverage 	Session 4: Organising NCD services in a PHC Part 1: Service delivery model Part 2: Tools for data collection and reporting Part 3: Supervision	Session 7: Orientation to PEN protocols for management <ul style="list-style-type: none"> • Orientation to clinical management protocols • Challenges of protocol-based management
Mobility break			
Morning Post break	Session 2: Orientation to WHO - PEN and its components	Session 5: Monitoring of NCD management	Session 8 : Forecasting demand for medicines
Lunch			
Afternoon Pre break	Session 3: Visit to a nearby Primary Health Centre to assess current service delivery model -Health facility assessment tool	Session 6: Development of a service delivery model - Group work Develop service delivery models	Session 9 : Team based care Session 10 : Counselling and care in the community
Mobility break			
Afternoon Post break	Discussion at the site of visit itself	Session 6 : (contd) - Presentation of group work and discussion-market place model	Session 11: Closing Feedback & Discussion Closing.

SESSION 1: Introduction to NCD Management

Background:

Non-communicable diseases – including cardiovascular diseases, cancer, chronic respiratory diseases and diabetes – kill 40 million people every year. While prevention of NCDs is important, investing in better management is the other key component of the NCD response. Management of NCDs includes the detection, screening and treatment of NCDs as well as palliative care. Such interventions are essential for achieving the global target of a 25% relative reduction in the risk of premature mortality from NCDs.

Challenges of providing NCD services in primary health care:

NCD management in developing countries face major challenges: First, many of these countries have a double burden of infectious and chronic diseases. This dual burden weakens the already stretched health systems with limited resources. Secondly, apart from the lack of resources, there are many high technology facilities which are required for diagnosis and treatment may preclude the delivery of such interventions in primary care. Third, the health financing schemes available may not be able to cover all NCD interventions. Fourth, the skills needed for delivery of all NCD interventions are too complex to be learnt by the primary care workforce. Finally, as there are many competing priority conditions that countries need to address at the primary care level, it is unrealistic to expect low-income countries to integrate care of all NCDs into primary care at once.

Through the comprehensive management of NCDs, and its integration into primary health care and universal health coverage, a majority of premature deaths and disability can be avoided.

SESSION 1: Introduction to NCD Management

Key messages for this session

1. NCD care can be delivered equitably only through health systems based on primary health care
2. The WHO PEN is a mechanism of organizing NCD service delivery with an aim of addressing Universal Health Coverage

Discussion points

- Start by asking participants about the current scenario of NCD management in primary health care in their own settings.
- Tell them to list the major problems and challenges in providing NCD care
- When you are taking this session, in addition to the challenges given in the slides, use their local examples whenever possible to enable them to relate with familiar problems in their own context.

Presentation

1.1

Capacity building for strengthening NCD management in primary health care through the WHO Package of Essential NCD interventions (WHO-PEN).

**Session 1:
Importance of NCD and Universal health coverage (UHC)**

1.2

What are NCDs?

There are four types of common NCDs which are largely preventable by effective interventions that tackle shared modifiable risk factors

		Causative risk factors			
		Tobacco use	Unhealthy diets	Physical inactivity	Harmful use of alcohol
Non-communicable diseases	Heart disease and stroke	✓	✓	✓	✓
	Diabetes	✓	✓	✓	✓
	Cancer	✓	✓	✓	✓
	Chronic lung disease	✓			

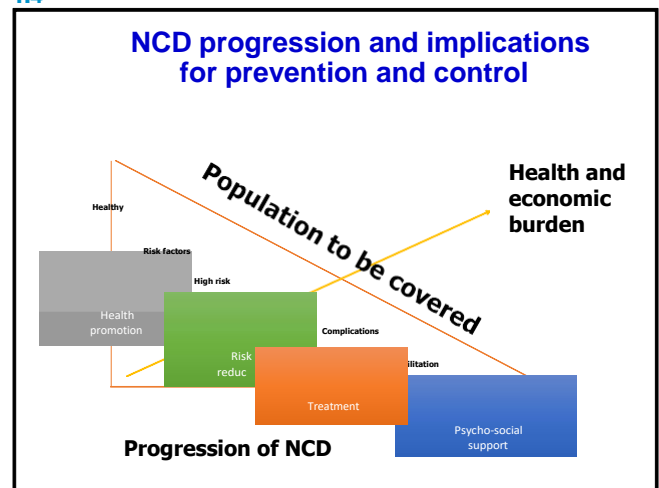
1.3

Premature deaths from NCDs between the ages of 30 and 69 (2015)

WHO region	Men	Women	Total	Percentage
AFR	0.7 million	0.6 million	1.3 million	9%
AMR	1.1 million	0.8 million	1.9 million	13%
EMR	0.6 million	0.5 million	1.0 million	7%
EUR	1.5 million	0.8 million	2.4 million	15%
SEA	2.6 million	1.8 million	4.4 million	29%
WP	2.4 million	1.6 million	4.0 million	27%
Total	8.9 million	6.2 million	15.0 million	100%

Source: Global Burden of Disease (2015)
http://www.who.int/healthinfo/global_burden_disease/estimates/en/index1.html

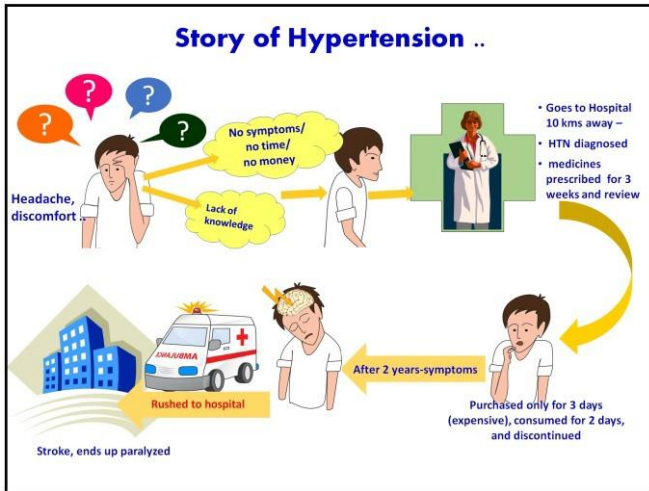
1.4



A focus on prevention, especially on the four common risk factors is a cornerstone of NCD control. Prevention of premature deaths is the goal of NCD control program.

SESSION 1: Introduction to NCD Management
Slides (continued..)

1.5



1.6

What were the factors leading to stroke ?

- Lack of knowledge
- Lack of health services nearby
- Couldn't Afford to buy drugs
- **What else? Add more**

1.7

Challenges of providing NCD services -Patient's side

- No acute symptoms, so no need to visit doctor
- Would like to go to the clinic in the evening after work, but no one in the clinic, Weekend??
- Clinic visit not useful as the doctor will anyway refer me to the private hospital
- Expensive drugs will be prescribed -cannot afford, will wait and see
- Have insurance, but they do not cover regular medication
- Will try some other remedies
- If it is cancer, there is no hope!!

1.8

Challenges of providing NCD services - Health system side

- Infrastructure**
 - Lack of diagnostics/drugs
 - No tracking of patients
 - Not enough to manage chronic conditions
- Service delivery**
 - Acute, episodic
 - Responding to outbreaks
 - No care continuum
 - No systematic referrals
- Work force**
 - Trained in CD
 - Not adequate to manage CD and MCH
- Complex**
 - No standardized protocols
 - No simplified treatment plan

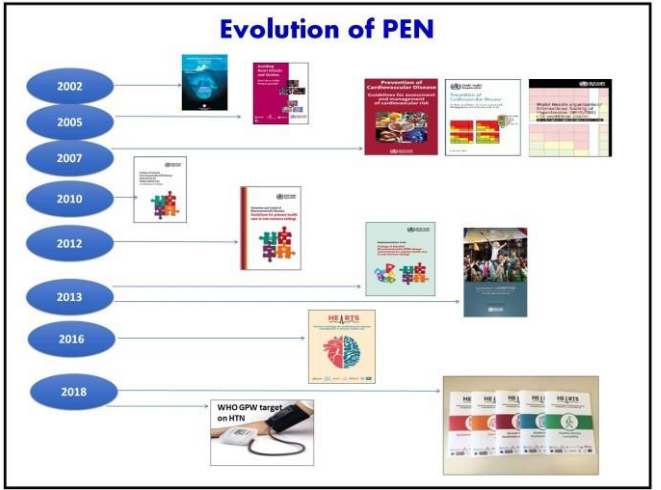
1.9

What is WHO PEN?

- Integrated clinical protocol and other tools for addressing cardiovascular risk, diabetes and prevention of renal disease in low resource settings through a PHCApproach
- Clinical protocols for management of bronchial asthma and COPD in low resource settings through a PHC approach
- Protocol for early referral of individuals suspected of cancer in low resource settings
- Tool for rapid assessment of capacity in primary care
- Tools for costing primary care programs
- Evidence based guidance on self care of NCDs

Implementation tools
Package of Essential Noncommunicable (PEN) disease interventions for primary health care in low-resource settings

1.10



Think about the challenges you encounter in implementing NCD program in your area.
Can these be addressed by strengthening primary health care?

SESSION 1: Introduction to NCD Management

Slides (continued..)

1.11

WHO PEN : Objectives

The objectives of WHO-PEN are to

- Assist low resource settings to address NCDs in health system strengthening in an affordable and sustainable manner
- Assist low resource settings to address NCDs through a Primary Health Care approach

1.12

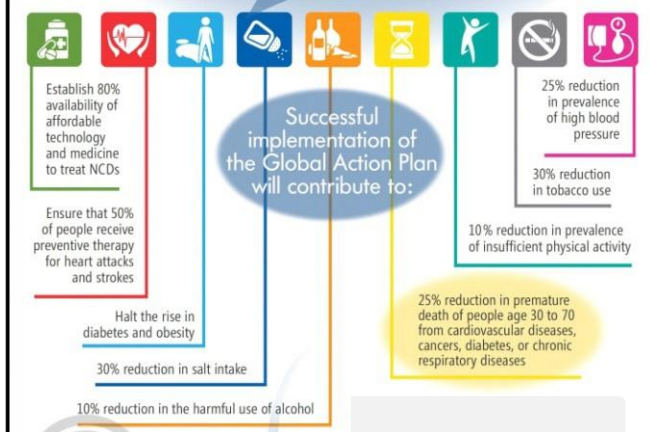
NCDs as National health priority

- Incorporate NCD management as an integral part of the National NCD response plan
- NCD should be Integrated in Primary health care
- Identify components as per national context
- Cardiovascular diseases including Diabetes Mellitus and Hypertension
- Cancer (common cancer cervical and breast)
- COPD/Asthma



1.13

Nine Targets for 2025



1.14

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.

1.15

Universal Health Coverage and NCDs

- People with NCDs require long-term care that is proactive, patient centered, community based and sustainable.
- Such care can be delivered equitably only through health systems based on primary health care (PHC).
- The WHO PEN aligns with these objectives and is a mechanism of organizing NCD service delivery with an aim of addressing UHC.

1.16

Key learnings

In this session you have learnt about

- Importance of NCD management and its contribution to national targets
- Universal health coverage (UHC) and NCDs

Treatment of NCDs in earlier stages is more feasible, less expensive and can be taken up at lower levels of health care. Universal health coverage is needed to deliver NCD control

Notes:

SESSION 2: Orientation to WHO Package of Essential NCD Interventions (WHO PEN) and its components

What is WHO Package of Essential NCD (WHO PEN)?

Major NCDs (heart disease, stroke, cancer, asthma, chronic obstructive pulmonary disease [COPD], diabetes, hypertension and other cardiovascular risk factors including tobacco) can be addressed in primary care using cost effective interventions.

WHO Package of Essential NCD (WHO PEN) interventions is a minimum set of interventions that are feasible for implementation even in low-resource settings with a modest increase in investment.

They can be delivered by primary care physicians and non-physician health workers in primary care.

The interventions are for detection, prevention, treatment and care of CVD and risk factors (heart disease, stroke, hypertension) diabetes, chronic respiratory disease (asthma and COPD) and cancer.

WHO PEN should be an integral component of primary health care programmes targeting vulnerable and disadvantaged groups. It should not be considered as yet another package of basic services but, rather, an important first step for integration of NCD into PHC

Case study

[Bhutan making its people healthier, happier by beating noncommunicable diseases](http://www.who.int/features/2017/bhutan-noncommunicable-diseases/en/)



In Bhutan, protecting people from cardiovascular and lung diseases, cancers, and diabetes is a national priority. It has put in place a national plan, linking all sectors, from health to finance and education, to prevent and control these noncommunicable diseases (NCDs).

It is also the first country in the WHO South-East Asian Region to implement WHO's package of essential noncommunicable (WHO PEN) disease interventions for primary health care in low-resource settings nationwide.

Source : <http://www.who.int/features/2017/bhutan-noncommunicable-diseases/en/>

SESSION 2: Orientation to WHO Package of Essential NCD Interventions (WHO PEN) and its components

Key messages for this session

1. The WHO PEN for primary care is a set of interventions for management of NCDs in primary health care.
2. WHO PEN provides clinical protocols for management of heart disease, stroke, cardiovascular risk, diabetes, cancer, asthma and chronic obstructive pulmonary disease in primary health care.

Discussion points

- ❓ What services will be required for NCD management in your PHC? e.g hypertension, diabetes, COPD, Cancer etc
- ❓ NCD services may be different depending on local epidemiology
- ❓ After this session, reflect whether WHO-PEN would be able to address NCD problems in your area

Presentation

2.1

Capacitybuilding for strengthening NCD management in primary health care through the WHO Package of Essential NCD interventions (WHO-PEN).

Session 2: Orientation to WHO PEN and its components

2.2

WHO PEN : Objectives

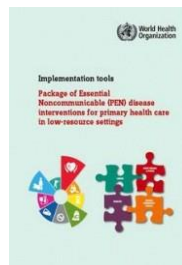
The objectives of WHO-PEN are to

- Assist low resource settings to address NCDs in health system strengthening in an affordable and sustainable manner
- Assist low resource settings to address NCDs through a Primary Health Care approach

2.3

What is WHO PEN ?

- Integrated clinical protocol and other tools for addressing cardiovascular risk, diabetes and prevention of renal disease in low resource settings through a PHC approach
- Clinical protocols for management of bronchial asthma and COPD in low resource settings through a PHC approach
- Protocol for early referral of individuals suspected of cancer in low resource settings
- Essential medicine and technology
- Tools for costing primary care programs
- Evidence based guidance on self care of NCDs



2.4

WHO PEN: evidence based protocols

- Integrated clinical protocol and other tools for addressing cardiovascular risk, diabetes and prevention of renal disease
- Clinical protocols for management of bronchial asthma and COPD
- Protocol for early referral of individuals suspected of breast and cervical cancer
- Protocol for counselling
- Guidance on self care of NCDs



SESSION 2: Orientation to WHO-PEN

Slides (continued..)

2.5

WHO -PEN: Overview of Protocols

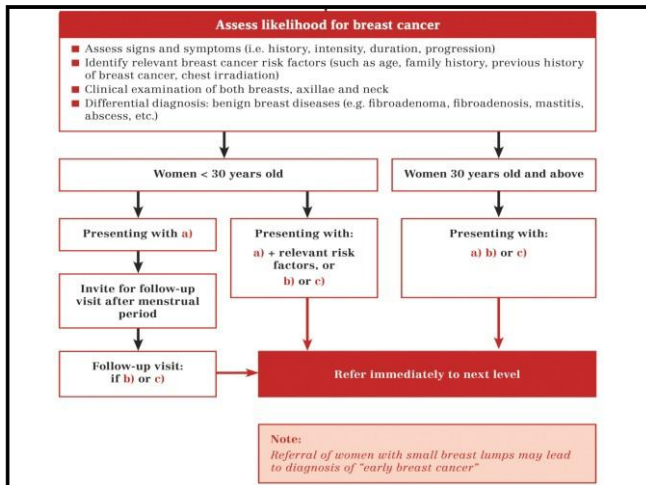
- Illustrative examples of standard protocols are provided in the following slides
- Details about management of each disease will be discussed on the sessions on Clinical protocol
- All protocols have to be adopted to the national context

2.6

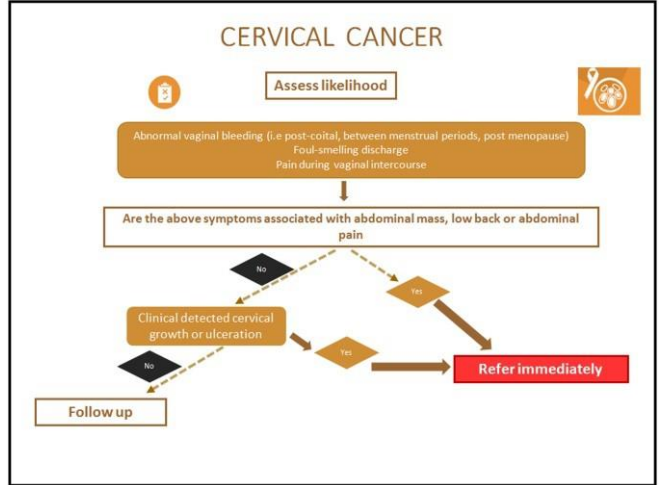
Cancer early diagnosis

- At primary health care centre, people with signs and symptoms of breast and cervical cancer can be identified and referred.
- PEN offers a protocol to undertake this

2.7



2.8



2.9

Essential Medicines for WHO -PEN NCD Interventions

Medicines *	
Thiazide diuretic	Aspirin
Calcium channel blocker (amlodipine)	Paracetamol
Beta-blocker (atenolol)	Ibuprofen
Angiotensin inhibitor (enalapril)	Codeine
Statin (simvastatin)	Morphine
Insulin	Penicillin
Metformin	Erythromycin
Glibenclamide	Amoxicillin
Isosorbide dinitrate	Hydrocortisone
Glyceryl trinitrate	Epinephrine
Furosemide	Heparin
Salbutamol	Diazepam
Prednisolone	Sodium chloride infusion

* Indicative list

2.10

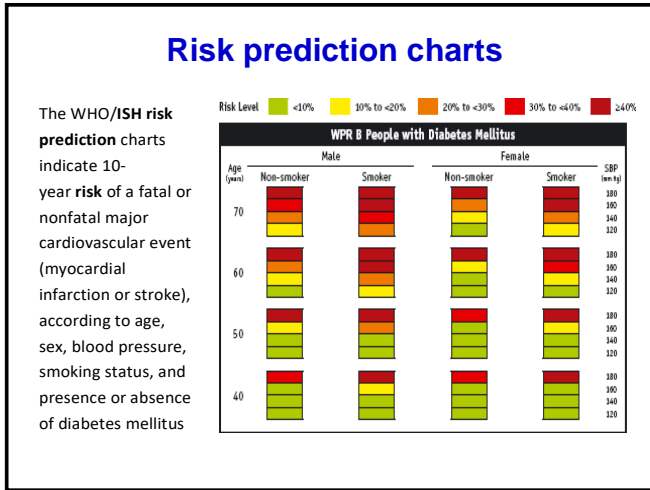
Essential Technologies and Tools for WHO -PEN NCD Interventions

Technologies *	Tools
<ul style="list-style-type: none"> • Thermometer • Stethoscope • Blood pressure measuring device • Measurement tape • Weighing machine • Peak flow meter • Spacers for inhalers • Glucometer • Nebulizer • Pulse oximeter • Blood cholesterol assay • Lipid profile 	<ul style="list-style-type: none"> • WHO/ISH risk prediction charts • Evidence based clinical protocols • Flow charts with referral criteria • Patient clinical record • Medical information register • Audit tools

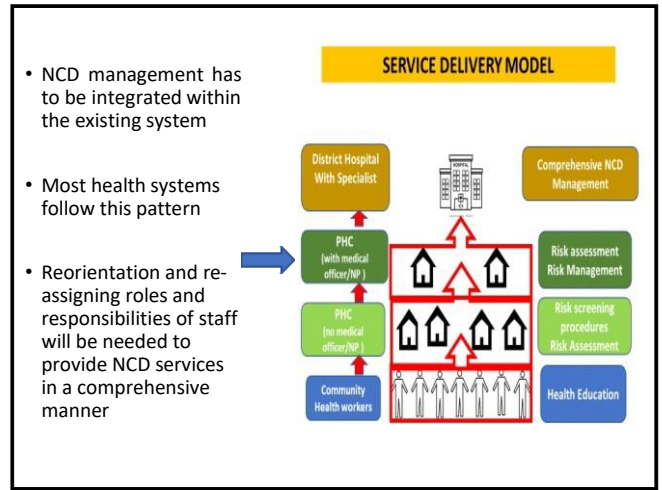
SESSION 2: Orientation to WHO-PEN

Slides (continued..)

2.11



2.12



2.13



2.14

Key learnings

In the end of this session you have learnt about

1. WHO Package of Essential NCD interventions (WHO-PEN)
2. Overview of WHO-PEN clinical protocols

DAY 1

Notes:

Lined area for notes, consisting of 28 horizontal lines.

SESSION 3: Visit to a nearby Primary Health Centre to assess current service delivery model

Key messages for this session

1. Is the PHC ready to respond to the increasing burden of noncommunicable diseases?
2. Are basic packages of essential health services available?
3. What are the strengths and weaknesses in the delivery of NCD in the PHC

Tips for facilitators

- ☑ Ensure that prior permission has been taken from responsible authorities.
- ☑ Make sure that the PHC in charge is informed about the visit.
- ☑ Arrangements for transport and logistics should be done well ahead
- ☑ Explain to the participants about the site visit and plans for group work

Activities in the PHC

- ☑ Participants will be asked to interact with PHC staff and focus on different domains of health using the facility assessment tool given
- ☑ Allow 45 minutes for the groups to discuss the details of their observations
- ☑ Use the template provided as a guide. Participants should not restrict their observations to this guide, but they can add more points for discussion depending on their observation.
- ☑ While in the health centre itself, discussions of the observations will be done in the end of the visit.
- ☑ Identify the strengths and challenges in the PHC itself and make a summary observation

Why do we need a health facility assessment?

A health facility assessment is needed to assess service availability, such as the availability of key human and infrastructure resources, and the readiness of health facilities to provide basic health-care interventions for management of noncommunicable diseases at the primary care level

SESSION 3 : Visit to a nearby PHC Presentation

3.1

Things to be done in the PHC visit

- Using the facility assessment tool given, make a quick assessment
- Use the template provided as a guide.
- Do not restrict your observations to this guide, but can add more points for discussion depending on their observation.
- While in the health centre itself, discussions of the observations will be done in the end of the visit.
- Identify the strengths and challenges in the PHC itself and make a summary observation

3.2

Health facility assessment tool

Domain	Observation points	Comments
How is NCDs managed now? What NCDs are covered?	Flow of patients in the facility, where is BP taken, how is NCD managed?	
Patient care services	Is there a separate NCD clinic ? NCD treatment guidelines available?	
Staff	Dedicated staff for NCD ? Staff trained in NCD diagnosis and treatment ?	
Equipment	BP apparatus Glucometer Weighing machine Height measuring tape	
Laboratory services	Urine for albumin, sugar, ketones Blood sugar, cholesterol	

3.3

Summary of PHC visit

What works? (what are the strengths)

What doesn't work? (what are the challenges)

What should be done next?
(How can NCD services be improved)

Notes :

Health facility assessment tool

Note : Please use this observation checklist as a guide and don't restrict your observations to the points below.
Feel free to add more depending on your observations

Domain	Observation points	Comments
How are NCDs managed now? What NCDs are covered?	Flow of patients in the facility, where is BP taken, how are NCD managed?	
Patient care services	Is there a separate NCD clinic ? NCD treatment guidelines available?	
Staff	Dedicated staff for NCD ? Staff trained in NCD diagnosis and treatment ?	
Equipment	BP apparatus Glucometer Weighing machine Height measuring tape	
Laboratory services	Urine for albumin, sugar, ketones Blood sugar, cholesterol	
Medicines	Are essential NCD drugs available? (Metformin, amlodipine etc)	
Records and reports	Do patients have a unique ID number? Who prepares the reports? Is there a separate NCD register? computerized records?	
Referral system	Nearest referral centre (approximately in kms) -Secondary -Tertiary	

Summary of PHC visit

What works? (what are the strengths)
What doesn't work? (what are the challenges)
What should be done next? (How can NCD services be improved)

SESSION 4: Organizing NCD services in a PHC

NCD management services in a primary health care level consists of screening activities and management of diagnosed cases. As far as possible, opportunistic screening is recommended. Opportunistic screening means that all adults aged more than 40 years attending the primary health centre need to be screened for hypertension, diabetes and common cancers under PEN, irrespective of the reason for OPD visit.

Patient flow pathway (as indicated in the slides)

- Screening of adults above 40 years should be treated as a routine activity in the OPD at a PHC. For this purpose, a separate room/counter needs to be identified at the PHC. If there is no possibility for a separate room, screening needs to be set up in the existing OPD room
- Flow of patients for screening at the PHC needs to be decided and followed.
- As shown in the slides. an indicative plan is given for organising opportunistic screening activities and management of diagnosed patients at the PHC along with persons responsible for the task.
- Administrative orders will be needed to reassign the staff as per availability.
- All patients diagnosed with hypertension and diabetes need to be managed as per standard protocols

Recording and reporting

- An identity card along with a treatment card will be issued for all patients.
- Each patient will be given a Unique ID number to avoid duplication during multiple visits.
- A record of patients' BP, height weight, blood sugar if indicated etc will be recorded in the treatment card.
- Patients should deposit the treatment card in the PHC. This will enable patient tracking, follow up and identification of drop-outs and patients lost to follow up.
- Patient identity card will be retained by the patient. On producing the Identity card on follow up visits, the treatment card will be issued to the patient.

Data recording

- Once or twice a month the patients' details will be entered from the treatment card into an Excel spreadsheet
- Reports according to a standard format can be generated monthly, quarterly or annually as per requirement

SESSION 4: Organizing NCD services in a PHC

Part 1: Service delivery models

Part 2: Recording and reporting

Part 3: Supervision

Key messages for this session

Organization of health services includes

1. Planning of health service delivery
2. Estimation of resources required, establishing a good referral system
3. Good reporting and recording system
4. Supportive supervision especially in the initial stages of implementation

Discussion points

In this session, think of the patient flow pathway in your health centre

Is there a system for screening all adult patients for NCD?

How are patients managed? How are records kept?

Presentation

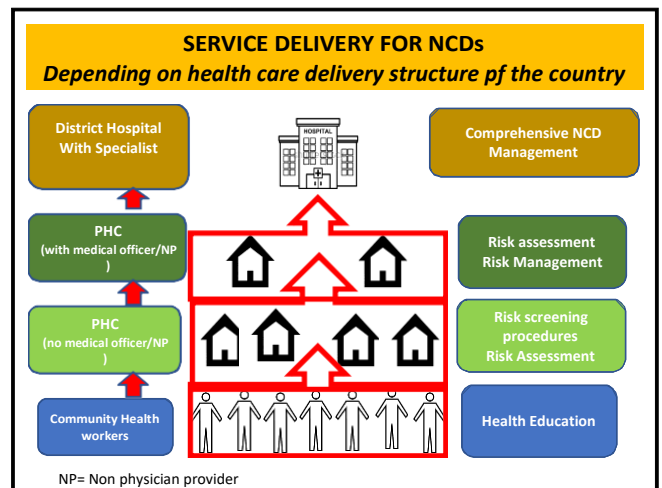
4.1

Capacity building for strengthening NCD management in primary health care through the WHO Package of Essential NCD interventions (WHO PEN).

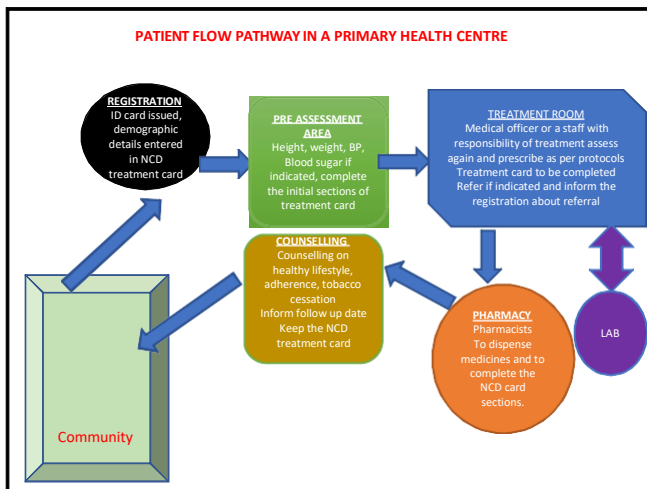
Session 4: Organising NCD services in a PHC

Part 1: Service delivery models
Part 2: Recording and reporting
Part 3: Supervision

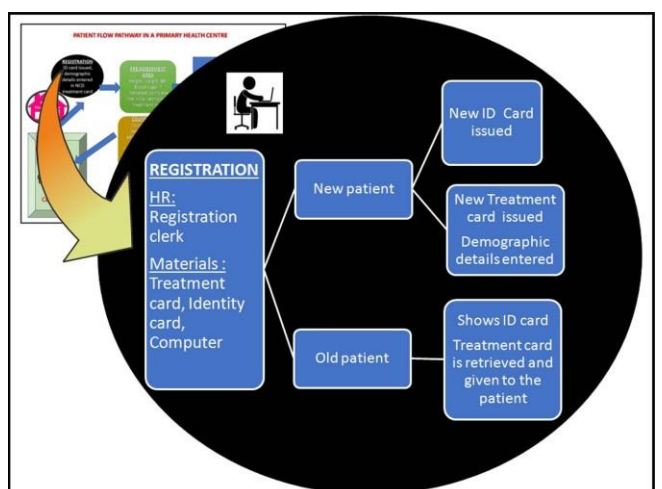
4.2



4.3



4.4



This proposed model is provided to help you to understand the relevant activities that are expected in providing NCD care in a PHC. However you are free to modify and adapt according to your own settings.

SESSION 4: Organizing NCD services in a PHC
Slides (continued..)

4.5

PRE ASSESSMENT AREA

HR: Nurse / Health worker

Equipment: BP instrument, Glucometer, Height & Weight measuring instrument

Activities : Measurement of Height, weight, BP, Blood sugar if indicated, complete the initial sections of treatment card

4.6

TREATMENT ROOM

HR: Medical officer or a non physician staff trained with responsibility of treatment

Equipment : BP machine, stethoscope, protocols

Activities :

- Reassess BP/BG, investigation reports
- Manage as per protocols
- Treatment card to be completed
- Send to counsellor
- Refer if indicated and inform the registration about referral
- Inform the date of next follow up visit

4.7

PHARMACY/ DRUG DISPENSING AREA

HR: Pharmacist/ trained staff

Activities :

- Dispense medicines
- Complete the NCD card
- Explain about appropriate dose, timing, side effects
- Emphasize importance of adherence
- Inform when to come next for follow up

4.8

HR : Lab technician/ trained attendant

Activities

- Blood glucose
- Lipid profile
- Urine protein
- Urine ketones
- Lipid profile
- Kidney function test

4.9

COUNSELLING

HR: Counsellor/Health worker

Activities :

- Counselling on healthy lifestyle, tobacco cessation
- Emphasize on adherence
- Inform follow up date
- Check the patient's understanding before the patient leaves the health centre.

TREATMENT CARD SHOULD BE KEPT IN THE PHC

4.10

Establish a good Referral system

Flowchart showing levels: CHW, PHC without physician, PHC with physician, District Hospital.

IMPORTANT !

All PHCs should have a list of referral centres with their address, contact details of responsible persons, phone numbers and relevant instructions

This proposed model is provided to help you to understand the relevant activities that are expected in providing NCD care in a PHC. However you are free to modify and adapt according to your own settings.

SESSION 4: Organizing NCD services in a PHC**Slides (continued..)**

4.11

Program managerial activities

As a program manager, you will be expected to plan, forecast and place demands for resources to implement NCD activities

- Ensure availability of equipment and materials for diagnosis
- Availability of medicines
- Availability of equipment
- Establish referral chain
- Health information system
- Training and supervision

4.12

Estimate requirement of resources

- Firstly, look at the patient profile attending your health centres in the previous years to estimate the number of patients who will need treatment.
- Secondly, additional number of patients should be added to the previous year's numbers.
- If you are planning special activities in the coming year remember to include the requirements likely to be needed.

4.13

Estimate requirement of Infrastructure

- Identify existing and additional infrastructure required
- If NCD activities can be carried out within the existing health centre, no additional infrastructure will be required.
- However if there is any additional requirement, for example, a separate room for screening or counselling, it should be included in the plan.

4.14

Estimate requirement of Equipment and supplies including medicines

- Prepare a list of supplies and medicines needed
- Check the amount received in the previous year, identify surpluses and shortages.
- Then according to your estimate of the patient load for the coming year, you can calculate your requirement accordingly.
- Remember to follow the drugs recommended in the PEN protocol guidelines diabetes, hypertension, COPD /asthma.

4.15

Estimate requirement of Health workforce

- Prepare a list of manpower required and identify any shortage
- Look at the qualifications/ work experience of the health personnel available and identify gaps
- Working pattern- is there a need to change the work pattern e,g re-assigning work
- Consider new ways of working
- New positions can be created if feasible
- Administrative orders will be needed if you are assigning new roles and responsibilities to the staff

4.16

Training

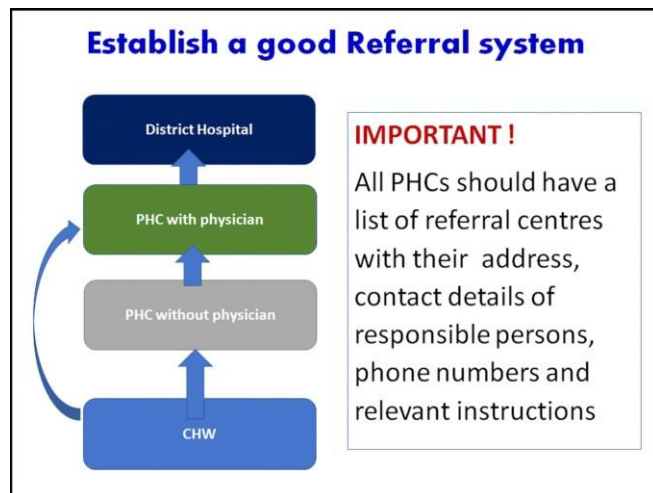
- Training of specialists, general physicians, nurses, other paramedical staff and CHW
- Health workers need to be prepared to assess, diagnose, manage and refer patients appropriately using standard protocols
- Guidance on counselling activities
- Training on recording and reporting of data.

As a program manager, you are expected to plan be able to estimate the requirement of resources and forecast the required amount of drugs and supplies for the coming year

SESSION 4: Organizing NCD services in a PHC

Slides (continued..)

4.17



4.18

Integrating NCD In Other Programs

- NCDs can be integrated with other clinic schedules
- Utilize the existing resource, infrastructure and manpower
- Clinic timings should suit NCD patients who are usually working and may not be available in the morning hours.

4.19

How can you integrate NCD services with existing PHC services ?

OPTIONS	DESCRIPTION	ADVANTAGES	DISADVANTAGES
OPTION 1	No separate NCD clinic. All patients will be seen together in General OPD with existing staff	-Patients can be seen anytime - More convenient for patients	-Difficult to estimate daily requirement of medicines & logistics
OPTION 2	Separate NCD staff & Separate NCD clinic (daily or separate day)	-Services can be organised better (manpower, resources) -Group IEC activities can be conducted	Patients who miss a visit will have to wait longer for follow up and refill of drugs - May reduce drug adherence
OPTION 3	First start with OPTION 1 then move on to OPTION 2 when NCD services are established	PHC will be geared to provide NCD services and establish systems before scaling up	May cause confusion to patients and staff

Along with PHC services, consider having community support to increase compliance and regular follow -up.

4.20

Existing Programs Which Can Contribute To NCD Prevention

Tuberculosis control program TB and Diabetes comorbidity COPD/Asthma	Expanded Program on Immunization HPV vaccination for cervical cancer Hepatitis B vaccination for liver cancer	Mental health program Mental health disorders , depression Substance abuse and alcohol harm reduction	Maternal health program Gestational diabetes Maternal nutrition	Nutrition program Salt, sugar and fat Promotion of fruit and vegetable consumption
---	--	--	--	---

4.21

Phased implementation

§It may not be possible to start all activities at once . Prepare a phased implementation plan

§Start with what is easiest and most feasible and which has the greatest impact e.g

- §reorganising your health centre and train your staff in CVD risk assessment .
- §Start a patient recording system with unique numbers

§Move onto the next step once the first is in place and working well.

§Add additional components as resources allow and work force develops

4.22

Key learnings

- In this session you have learnt about
- Models of health care delivery
- Health system requirements for PEN implementation in a PHC

NCD services cannot be provided as a stand alone clinic.
NCD should be integrated with existing services

SESSION 4: Organizing NCD services in a PHC

Slides (continued..)

4.23

Part 2: Tools for data collection and reporting

- Treatment card
- Identity card
- NCD register (Excel sheet preferable)
- Monthly Report
- Quarterly report
- Annual report

4.24

Models of record keeping

Data collection and recording could be

Paper- based

- This is based on a system of paper-based individual health records, registers, and data collection forms.

Hybrid (paper & electronic)

- A data collection model using a longitudinal register (paper-based or electronic)

Electronic

- The electronic system should collect and aggregate the facility data exactly as the paper based system

As far as possible the health facility should have a electronic data management system

4.25

Unique Identification number

- Unique ID number is very important in data management of chronic diseases.
- Prevents duplicate counting of the same patient

NCD TREATMENT CARD	
A: Patient identification information	D: Diagnosis
Patient ID number: <input type="text"/>	HYPERTENSION: <input type="checkbox"/> Yes; treatment DIABETES: <input type="checkbox"/> Yes; treatment DIABETES & HYPERTENSION: <input type="checkbox"/> Yes; treatment
Full name: _____	
Gender: <input type="checkbox"/> Male <input type="checkbox"/> Female <input type="checkbox"/> Other Age: <input type="text"/> DOB: <input type="text"/>	
Address: _____ House number/name _____	

4.26

Patient Identity Card

- When a patient is registered at the health facility, in addition to the Patient Treatment Card, a Patient Identification Card is also issued, which is given to the patient.
- The patient is advised to bring their ID card every time he/she visits the health facility for follow-up.
- The purpose of the ID card is to retrieve the patient treatment card using the unique patient treatment number recorded in the ID card.

Patient Identity Card	
Unique Number: _____	Date of registration: _____
Patient's name: _____	
Age: _____ Sex: _____	
Address: _____	
Diagnosis: _____	
Medication: _____	
Lifestyle advice	
<ul style="list-style-type: none"> • Avoid tobacco • Avoid alcohol • Use a bicycle • Avoid processed food • Avoid added salt • Avoid added sugar • Eat less than 5 grams (one teaspoon) of salt daily • Avoid paper, plastic, or other products • Use hand soap • Don't use alcohol • Use AlgaBij tablets everyday for 30 days a week 	

4.27

Patient treatment card

- Use a patient treatment card
- Follow up record should be maintained
- If paper based records are used, maintain an NCD register
- Preferably data should be entered in a computerised system
- From the treatment card enter the data once or twice a month

Non-communicable diseases (NCDs) treatment and follow-up card	
NCD treatment ID: _____	Date of registration: _____
A. Patient identification information	
1. Full name: _____	
2. Gender: <input type="checkbox"/> Male <input type="checkbox"/> Female <input type="checkbox"/> Transgender	
3. Age (years): _____	
4. Address (House No./ Block No./ Area/ City): _____	
B. Diagnosis and treatment of NCDs	
1. HYPERTENSION: <input type="checkbox"/> Yes, treatment initiated <input type="checkbox"/> Yes, already on treatment <input type="checkbox"/> Not having HTN a. Medication: _____ dose _____ b. Medication: _____ dose _____ c. Medication: _____ dose _____ d. Medication: _____ dose _____	
2. DIABETES MELLITUS: <input type="checkbox"/> Yes, treatment initiated <input type="checkbox"/> Yes, already on treatment <input type="checkbox"/> Not having DM a. Medication: _____ dose _____ b. Medication: _____ dose _____	
3. COPD/ ASTHMA: <input type="checkbox"/> Yes, treatment initiated <input type="checkbox"/> Yes, already on treatment <input type="checkbox"/> Not having COPD/ Asthma a. Medication: _____ dose _____ b. Medication: _____ dose _____	
Other Comorbidity	
1. Prior myocardial infarction (MI) <input type="checkbox"/> Yes <input type="checkbox"/> No	
2. If yes, was there MI in the past 5 years? <input type="checkbox"/> Yes <input type="checkbox"/> No	
3. Prior stroke <input type="checkbox"/> Yes <input type="checkbox"/> No	
4. Chronic kidney disease <input type="checkbox"/> Yes <input type="checkbox"/> No	
5. HIV infection <input type="checkbox"/> Yes <input type="checkbox"/> No	
6. Treatment provided <input type="checkbox"/> Yes <input type="checkbox"/> No	
<input type="checkbox"/> Life style modification alone <input type="checkbox"/> both lifestyle modification & medication	

4.28

Capturing information

- Patient treatment card will be retained in the health facility
- Data from the patient's card will be entered into a Excel sheet once a month
- It is preferable to have a computerised system as the patients will need to be followed for a long period of time and records should be maintained safely.
- The Excel sheet will be a useful source for compiling reports and calculating indicators

Unique Identification number is very important for tracking chronic NCD cases
 A good recording and reporting system is essential for monitoring activities

SESSION 4: Organizing NCD services in a PHC

Slides (continued..)

4.29

Reporting

- It is important to compile reports regularly and timely
- Designated persons should be given responsibility of compiling and submitting reports
- Medical officer in charge should check the report thoroughly before sending to higher levels
- A preliminary analysis at the PHC can be done in the PHC itself
 - Compare the report of the corresponding month in the previous year.
 - Look at the month-wise indicators e.g number of cases reported in previous months, and see if there is any abnormal pattern

4.30

Health facility report

HEALTH FACILITY REPORT		
Sections A and B will be filled at health facilities where HTV Facility Register is placed		
Sections C and D will be filled by all health facilities		
Name of health facility:	Name of district:	
Name of state:	Date of reporting (day/month/year):	
Quarter for which you are making the report:	Quarter:	Year:
This is the 'Reporting Quarter'. Usually this is the most recent quarter that has just finished.		
Section A: Quarterly treatment enrollment and outcomes	Number of patients	
A1: Number of patients registered two quarters earlier:		
A2: Out of (A1), number of patients whose BP was documented to be <140/90 mmHg in the Reporting Quarter:		
Section B: Annual treatment enrollment and outcomes	Number of patients	
(To be filled in only once a year, with Quarter 1 report)		
B1: Number of patients whose BP is documented as <140/90 mmHg during Quarter 1. (If the patient made more than one visit in the quarter, use most recent reading.)		
B2: Estimated number of people with hypertension in the catchment population (only for district level).		
Section C: Drug consumption and availability		
Quarterly consumption of drugs (Give number of tablets)	Quantity of drugs available at the health facility (Give number of tablets)	Quantity of drugs requested for treatment quarter (Give number of tablets)
calcium dihydrate bisphosphate		
angiotensin receptor blocker		
angiotensin converting enzyme inhibitor		
statins		
beta blocker		
Section D: Quarterly supervision		
Was there a supervision visit to this health facility by district staff during the reporting quarter?	Yes	No

4.31

Key messages

- A good recording and reporting system is very important to monitor the activities
- Assign unique ID, developed for NCD specifically
- Responsibility for data entry and record keeping should be fixed– by whom , how often etc needs to be clear
- As far as possible the health facility should have a electronic data management system
- Compiling reports should be done as required by the health system- monthly, quarterly, annually

4.32

Part 3: Supervision

What is supervision ?

- A way of supporting the staff and ensuring the quality of the health services they provide
- Ensures smooth implementation and continuous program improvement

Challenges to supervision

- Challenges to Travel expense and logistics
- Supervisors are really not “supervisors”
- Supervisors do not have appropriate tools and support to conduct supervision

4.33

Inputs for Supervision

- Supervisory visits need certain logistics, including time and transport

Prepare a supervisory schedule that lists who will visit which worker on which days, what are the transport needs, etc.

4.34

Types of Supervision:

Concurrent supervision (supportive supervision)

- Observe the worker while he or she carries out activities.
- Use a short checklist to observe the work and evaluate the quality of work on critical indicators only.
- Need to capture other relevant issues and best practices also

Record review

- Review reports and documents for correctness and timeliness.
- For example, check the monthly reports, OPD records, registers, forms etc. that are maintained in the centre.

SESSION 4: Organizing NCD services in a PHC

Slides (continued..)

4.35

Supervision: Feedback

- Ensures a constant improvement in the system
- The staff/worker should not feel threatened
- Complement on meeting the performance standards
- Highlight any deficiency detected and suggest ways of improvement.

Your Feedback Matters
BUT
Do It Right

4.36

Checklist for supportive supervision (sample)

Logistics (Medicines, supplies & equipment)	Observation of the supervisor Y=Yes, N=No, DN=Don't know	Comments
Are the essential medicines required for treatment of hypertension, available in the stock to last for at least 2 months?	Y N DN	
Are the essential medicines required for treatment of diabetes, available in the stock to last for at least 2 months?		
Are the essential medicines required for treatment of COPD/Asthma available in the stock to last for at least 2 months?		
Is the blood glucometer in use?	Y N DN	
Are weighing scale and measuring tape available at the OPD?	Y N DN	
Are weight, height are conducted routinely on patients?	Y N DN	
Record keeping		
Is the NCD register/ excel sheet updated?	Y N DN	
Is the NCD dashboard displayed with updated information	Y N DN	

4.37

Key learnings

- Supportive supervision is crucial especially in the initial stages of program implementation
- Supervision should not be not fault finding
- Feedback should always be given after a supervision

Notes:

SESSION 5 : Monitoring of NCD management

Monitoring

Monitoring is the ongoing collection, management and use of information to assess whether an activity or program is proceeding according to plan and/or achieving defined targets.

The purpose of a PEN monitoring system is to support continuous improvement of services. The monitoring system should assess the performance of the PHC service delivery system. e.g It is important to measure whether the goal of preventing heart attacks and strokes is being achieved. However, the actual reduction in heart attacks and strokes will usually require a special study. This module, therefore, focuses on measuring the performance of the PHC service delivery system.

Types of monitoring

There are two types NCD management indicators:

Individual patient monitoring

Individual patient monitoring involves monitoring of the health status and the management of a single patient over time, using an individual patient record. Examples are : treatment initiation rate, control rate, complications rate .

Programme monitoring

Programme monitoring looks at different programme aspects: output monitoring assesses the number of patients screened and treated, quality of care looks at whether the treatment guidelines have been followed and outcome monitoring assesses whether patients on treatment are controlled . Examples are : screening coverage in a population, hypertension control rate in the population.

It is important to note that the indicators given in the slides are indicative and actual indicators for each health centre should be decided depending on the local services provided. As NCDs are chronic diseases, use of a unique ID for each patient is crucial to avoid duplication. A patient monitoring mechanism needs to be developed and proper records to be maintained for follow up. An example of a patient monitoring spreadsheet is provided which should be adapted in the local context. This will aid in calculation of indicators like control rate, drop-out rate and complications

Points to consider while choosing indicators :

The objective of having developing monitoring system is to optimize rather than cause duplication and burdening of the health system. Hence, certain points need to be taken into consideration while choosing indicators.

- A review of prevailing service delivery practice
- Decision on data collection points
- Method of record keeping (whether manual or computerized)
- Frequency of reporting

SESSION 5 : Monitoring of NCD management

Case study

Islamic Republic of Iran on a fast-track to beating noncommunicable diseases

Since the 1960s, the Islamic Republic of Iran's urban population has tripled and life expectancies have risen. This, however, has increased people's exposure to tobacco, unhealthy diets, and physical inactivity – among the main risk factors for NCDs.

IraPEN is part of the national health transformation plan, launched in 2014 by the Ministry of Health and Medical Education, to provide universal health coverage, including access to NCD prevention and care, and mental health services. Health workers show Iranians how to deal with NCDs, provide access to affordable medicines and guidance on practicing healthy habits, like regular exercise and healthy diet.

IraPEN has been successfully piloted in Iran's four main districts and its nationwide scale-up has begun. Across Iran, and thanks to the health transformation plan, the 11 key essential medicines for treating NCDs are available in the public health system.



SESSION 5 : Monitoring of NCD management

Key messages for this session

1. A good health program should have an inbuilt system of monitoring
2. Monitoring assesses whether program activities are proceeding according to plan.
3. Review of records and personal interaction can be effective ways of monitoring
4. Simple actionable indicators should be calculated in the primary care level

Discussion points

- Why is monitoring important ?
- Think of other programs where monitoring is done.
- What would you require to monitor health programs

Presentation

5.1

Capacity building for strengthening NCD management in primary health care through the WHO Package of Essential NCD interventions (WHO PEN).

Session 5: Monitoring of NCD management

5.2

Monitoring

- Ongoing collection and use of information to assess whether an activity or program is proceeding according to plan and achieving defined targets.

5.3

NCD management monitoring- what , why and how?

- NCDs are chronic conditions over lasting decades.
- **Different from communicable disease** where episodes are counted and **no long term follow up** is needed.
- Each person has to be identified using a unique mechanism.

5.4

Levels of monitoring

Health facility monitoring

Population level monitoring

SESSION 5 Monitoring of NCD management

Slides (continued..)

5.5

Health facility monitoring

This can be done by

- Concurrent supervision (already described)
- Applying standard checklist to assess adequacy of resources
- Clinical audit
- Analysis of records and reports

5.6

Health facility assessment

- Applying standard checklist to assess adequacy of resources
 - Identify staff shortage, lack of drugs, shortage of equipment etc
- Same checklist used in the first day of training can be used here

5.7

Example of health facility assessment tool for PHC

Domain	Observation points	Comments
How is NCDs managed now?	Flow of patients in the facility, where is BP taken, how is NCD managed?	
What NCDs are covered?		
Patient care services	Is there a separate NCD clinic ? NCD treatment guidelines available?	
Staff	Dedicated staff for NCD ? Staff trained in NCD diagnosis and treatment ?	
Equipment	BP apparatus Glucometer Weighing machine Height measuring tape	
Laboratory services	Urine for albumin, sugar, ketones Blood sugar, cholesterol	
Medicines	Are essential NCD drugs available? (Metformin, amlodipine etc)	
Records and reports	Do patients have a unique ID number? Who prepares the reports? Is there a separate NCD register? computerized records?	
Referral system	Nearest referral centre (approximately in kms) -Secondary -Tertiary	

5.8

Clinical audit

- Review of patient clinical data
- Key informant interview

5.9

Clinical audit: Patient Clinical Data

- Clinical records of all patients attending NCD clinics/ health facilities can be reviewed
- Patient clinical data collected through review of patient treatment card and medical prescription.
- Observations on counselling services entered in a structured tool.

5.10

Clinical audit: Key informant interview

- Conducted with District health officials and NCD focal persons in the selected health facilities
- Designated focal points included one of the following: Medical Officer in-charge, Clinical Officer or Health Assistants.

SESSION 5 Monitoring of NCD management
Slides (continued..)

5.11

Clinical audit tool

A. Treatment supervision/audit form		B. Patient interviews	
Facility name: _____	District name: _____	Date: _____	
Name of supervisor: _____	Name of medical officer: _____		
Has the facility started the hypertension treatment programme? Circle, as appropriate: Yes / No			
Indicator		Circle and	
1. Screening and BP measurement			
1.1	Is opportunistic screening done for all adults?	Y N NA	
1.2	Is the BP measurement protocol displayed on the wall/desk?	Y N NA	
1.3	Is there at least one functioning BP instrument in the facility?	Y N NA	
1.4	Are all patients with BP >140/90 referred to the medical officer for treatment?	Y N NA	
1.5	For how many patients was BP measured correctly? (Observe 5 of each staff who measure BP.)	0 1 2 3 4 5	
2. Treatment			
2.1	Is the treatment algorithm displayed on the wall/desk?	Y N NA	
	Randomly audit 10 patient treatment cards from Patient case audit form J. Write for what proportion of patients:	Proportion	
2.2	BP was recorded at every visit for the last three visits		
2.3	Initial antihypertensive medication was given as per protocol		
2.4	Medication was intensified or added as per protocol if BP >140/90 (write NA if not applicable)		
2.5	Aspirin was given if patient had prior CVD (write NA if applicable)		

C. Summary of supervision visits	
Problem identified	Recommendations
1. Screening and BP measurement	
2. Treatment	
3. Counselling and follow-up	
4. Storage and supply (including cost to patient)	
5. Drug inventory	
6. Recording and reporting	
7. Any other	

5.12

Analysis of records and reports

Check registers and reports for

- Completeness and regular updates of records
- Timely submission of reports to the higher level
- Identify shortcomings and find out reasons e.g.
 - No trained staff for data entry
 - Non availability of computers
- Calculate indicators
 - Treatment rate
 - Control rate
 - Complications rate

5.13

Indicators

What is an indicator?

- An indicator is a variable that measures one aspect of a program that is directly linked to what the program intends to achieve.

Why do we use indicators?

- Indicators are used to show changes over time, to make comparisons among places or populations and to assess performance through comparisons with program targets, standards or benchmarks.

5.14

Choosing indicators

- Indicators are the foundation of a monitoring system.
- A monitoring system starts with defining the indicators
- Collecting and analysing data to calculate indicators involves time and resources.
- Any system will have limits on the amount of data it can obtain in a way that is timely and useful and that assures good data quality.
- A limited number of **carefully selected indicators** that are related to action and that can be relatively easily collected and integrated into existing country health management information systems (HMIS) is preferable
- A large number of indicators may end up being inconsistently collected, of poor quality, or not used.

5.15

Types of monitoring

- **Patient monitoring** Routine collection, compilation and analysis of data on patients over time and across service delivery points, using information taken from patient records, registers and reports (paper-based or entered directly into a computer).
- **Program monitoring** Routine tracking of priority information about a program including its outputs (e.g. number of people served), quality, gaps and outcomes.

5.16

Cross-sectional report HTN control rate

- **Purpose**
- The cross-sectional report is generated six monthly (or more frequently depending on a country or facility's information needs).
- It is designed to report on a snapshot of patients who are:
 - New patients + old patients in the last 6 months (or more frequent) period
- The report includes information on diabetes, hypertension and high cardiovascular risk care at a single health facility.
- These numbers are important for monitoring programme coverage and uptake.

Cohort monitoring for Hypertension control

Purpose

- The cohort monitoring report captures program outcomes
- It allows the facility to compare the success of their care of patients on treatment yearly against baseline data and with earlier or later cohorts, other districts or facilities.
- Like the cross-sectional report, data for compiling the cohort report comes from the register/ excel sheet.

Indicators of NCD management

Process indicators

1. DM - Cumulative number of patients who received treatment in the past 6 months
2. HT - Cumulative Number of patients who received treatment in the past 6 months
3. Asthma - Cumulative Number of patients who received treatment in the past 6 months
4. Availability of core cardiovascular disease/diabetes / COPD/Asthma drugs in the past 6 months

Outcome indicators

5. HTN – BP control among patients on treatment every six months - cross sectional (June & Dec)
6. HTN – Control of HTN in patients 6 months after initiation of treatment cohort monitoring
7. DM – Number of DM- related complications* in one year

The above are examples of indicators .

If feel your facility has more resources or requires more and frequent monitoring, please adapt as per local needs

*retinopathy, leg amputation etc

5.19

Population level monitoring

- Population-based indicators are a reflection of all interventions and programmes in the catchment area.
- Over time, they can provide trends and will serve as an overall indicator of the effectiveness and coverage of the programme.

5.20

Population level monitoring : sources of information

- Population level information can be obtained from large population surveys like WHO STEPS survey, Find out if similar surveys from your country/state/ district are available which provide population level data on NCD
- Need not be done every year
- Usually 3-5 years interval are sufficient since the changes in levels of NCD or risk factors are not expected to change rapidly

5.21

Points to consider while choosing indicators :

- A review of prevailing service delivery practice
- Decision on data collection points,
- Method of record keeping (whether manual or computerized)
- Frequency of reporting etc.

The objective of having developing monitoring system is to optimize rather than cause duplication and burdening of the health system.

Example of a patient treatment card (front side)

	Non-communicable diseases (NCD) treatment and follow-up card NCD treatment ID: _____ Date of registration: _____
--	--

A. Patient identification information	
1. Full name: _____	
2. Gender: <input type="checkbox"/> Male <input type="checkbox"/> Female	3. Age (years): _____
4. Address: (House No./ Block No./ Area/ City) _____	

B. Diagnosis & treatment of NCDs	
1. HYPERTENSION:	
<input type="checkbox"/> Yes, treatment initiated <input type="checkbox"/> Yes, was already on treatment <input type="checkbox"/> Not having HTN	
a. Medication _____ dose _____	b. Medication _____ dose _____
c. Medication _____ dose _____	d. Medication _____ dose _____
2. DIABETES MELLITUS:	
<input type="checkbox"/> Yes, treatment initiated <input type="checkbox"/> Yes, was already on treatment <input type="checkbox"/> Not having DM	
a. Medication _____ dose _____	b. Medication _____ dose _____
3. COPD/ ASTHMA:	
<input type="checkbox"/> Yes, treatment initiated <input type="checkbox"/> Yes, was already on treatment <input type="checkbox"/> Not having COPD/ Asthma	
a. Medication _____ dose _____	b. Medication _____ dose _____
Other Co-morbidity	
1. Prior myocardial infarction (MI) : <input type="checkbox"/> Yes <input type="checkbox"/> No	
2. If yes, was there MI in the past 3 years? <input type="checkbox"/> Yes <input type="checkbox"/> No	
3. Prior stroke: <input type="checkbox"/> Yes <input type="checkbox"/> No	
4. Chronic kidney disease: <input type="checkbox"/> Yes <input type="checkbox"/> No	
5. H/O smoking: <input type="checkbox"/> Yes <input type="checkbox"/> No	
6. Treatment provided:	
<input type="checkbox"/> life style modification alone <input type="checkbox"/> both lifestyle modification & medication	

Example of a patient treatment card (back side)

C. Initial and follow-up Visit (Write only one latest reading every month)													
Write dose when at 1 st visit and when the dose is titrated. If the same dose is continued, tick <input type="checkbox"/> . If discontinued, write D													
S. No.	At Rx start	Visit	Visit	Visit	Visit	Visit	Visit	Visit	Visit	Visit	Visit	Visit	Visit
1	Date attended												
2	Systolic BP												
3	Diastolic BP												
4	Fasting blood sugar												
5	Amlodipine												
	Atenolol												
	Enalapril												
	Hydrochlorothiazide												
	Metformin												
	Glimipride												
	Salbutamol												
	Deriphylline												
	Referred to specialist (Y/N)												
	Date of next visit												
	Signature of doctor												

Additional investigations (Once in an year)			New complications apart from primary diagnoses	
Finding	Normal Range	Date		Date of diagnosis
1. Serum potassium			1. DM	
2. Serum creatinine			2. Hypertension	
3. Total cholesterol			3. MI	
4. Urine protein			4. Stroke	
5. Fundus examination			5. Renal failure	
6. Foot examination			6. Lower limb amputation	
7. HbA1c			7. Hospitalization due to asthma	
8. Other			8. Others	
9. Other				

HEALTH FACILITY REPORT

Sections A and B will be filled at health facilities where HTN Facility Register is placed.

Sections C and D will be filled by all health facilities

Name of health facility:	Name of district:
Name of state:	Date of reporting (day/month/year)
Quarter for which you are making the report:	Quarter: Year:
	<i>This is the 'Reporting Quarter'. Usually this is the most recent quarter that has just finished.</i>

Section A: Quarterly treatment enrolment and outcomes	Number of patients
A1: Number of patients registered two quarters earlier	
A2: Out of (A1), number of patients whose BP was documented to be <140/90 mmHg in the Reporting Quarter	
Section B: Annual treatment enrolment and outcomes <i>(To be filled in only once a year, with Quarter 1 report)</i>	Number of patients
B1: Number of patients whose BP is documented as <140/90 mmHg during Quarter 1. <i>(If the patient made more than one visit in the quarter, use most recent reading.)</i>	
B2: Estimated number of people with hypertension in the catchment population <i>(only for district level).</i>	

Section C: Drug consumption and availability		
Quarterly consumption of drugs <i>(Give number of tablets)</i>	Quantity of drugs available at the health facility <i>(Give number of tablets)</i>	Quantity of drugs requested for the next quarter <i>(Give number of tablets)</i>
calcium channel blocker		
angiotensin receptor blocker		
angiotensin converting enzyme inhibitor		
thiazide/thiazide like diuretic		
statin		
aspirin		
beta blocker		

Section D: Quarterly supervision		
Was there a supervision visit to this health facility by district staff during the reporting quarter?	Yes	No

TREATMENT SUPERVISION/AUDIT FORM

Facility name:		District name:		Date:
Name of supervisor:		Name of medical officer:		
Has the facility started the hypertension treatment programme? Circle, as appropriate:				y N NA
No	Indicator			Circle any
1	Screening and BP measurement			
1.1	Is opportunistic screening done for all adults?			y N
1.2	Is the BP measurement protocol displayed on the wall/desk?			y N NA
1.3	Is there at least one functioning BP instrument in the facility?			y N NA
1.4	Are all patients with BP 140/90 referred to the medical officer for treatment?			y N NA
1.5	For how many patients was BP measured correctly? (Observe 5, >2 of each staff who measure BP.)			0 1 2 3 4 5
2	Treatment			
2.1	Is the treatment algorithm displayed on the wall/desk?			y N NA
	Randomly audit 10 patient treatment cards (see Patient card audit form). Write for what proportion of patients:			Proportion:
2.2	BP was recorded at every visit for the last three visits			
2.3	Initial antihypertensive medication was given as per protocol			
2.4	Medication was intensified or added as per protocol if BP 140/ 90 (write NA if not applicable)			
2.5	Aspirin was given if patient had prior CVD (write NA if not applicable)			
2.6	Statin was given if patient >40 yrs with diabetes or if patient had prior CVD (NA if not applicable)			
2.7	Referral to a specialist was made if BP 140/ 90 after treating with three drugs (NA if not applicable)			
2.8	BP was <140/90 at last visit			
3	Counselling and follow-up			
3.1	Is there a staff assigned for patient counselling?			y N NA
3.2	Are patient counselling tools /materials available?			y N NA
3.3	Is there a system for counselling patients individually or as a group?			y N NA
3.4	Is there a system for tracking initial defaulters?			y N NA
3.5	Is there a functional system for patient reminder and follow-up?			y N NA
4	Service delivery. Interview 5 patients and validate (see Patient interview report card). Circle number of positive responses			
4.1	Was BP measured at every visit?			0 1 2 3 4 5
4.2	Did the patient receive all prescribed medicines at this visit?			0 1 2 3 4 5
4.3	Did the patient ever have to pay for medicines in the past?			0 1 2 3 4 5
4.4	Does the patient have correct understanding of how to take medicines?			0 1 2 3 4 5
4.5	Does the patient know his/her BP reading at this visit?			0 1 2 3 4 5
4.6	Does the patient know the target BP?			0 1 2 3 4 5
5	Drug inventory system			
5.1	Is there a functioning drug inventory system in place?			y N NA
5.2	Was there a stock-out of core drugs in the past quarter?			y N NA
5.3	If there was a stock-out this quarter, which drugs were not available?			y N NA
5.4	Is there enough buffer stock of core drugs for the next quarter?			y N NA
6	Patient recording and reporting system			
6.1	Is there a functioning recording and reporting system in place?			y N NA
6.2	Are there sufficient patient cards for next three months?			y N NA
6.3	Is the facility register for follow-up available?			y N NA
6.4	Is there a place to arrange/store patient cards?			y N NA
6.5	Are the cards organized by serial number or other system so easily retrievable			y N NA
6.6	Was last quarter's report sent on time?			y N NA
6.7	Does the clinic in charge know the percentage of patients with BP <140/90 at the facility?			y N NA
6.8	Is last quarter's 6-month BP control rate reported accurately? (check register from last quarter)			y N NA

PATIENT INTERVIEW REPORT CARD

Interview 5 patients and write yes or no for each question.

To calculate the total, simply tally the number of yeses in each row. Copy the total into the clinical audit tool.

No	Items	Pt 1	Pt 2	Pt 3	Pt 4	Pt 5	Total
1	Did the patient receive all prescribed medicines at this visit?						
2	Did the patient ever have to pay for medicines in the past 6 months?						
3	Does the patient have correct understanding of how to take medicines?						
4	Did the patient know whether their BP was under control at the last visit?						
5	Does the patient know the target BP?						

SUMMARY OF SUPERVISION VISITS

Problem identified		Recommendations
1	Screening and BP measurement	
2	Treatment	
3	Counselling and follow-up	
4	Service delivery including costs to patient	
5	Drug inventory	
6	Recording and reporting	
7	Any other	

Excel Sheet for Patient Monitoring

A	B	C	F	G	H	I	J	K	L	M	N	R	S	T
Total number registered till														
Total number registered till June														
Total number registered till														
Name of health facility			Patients registered from Jan 2017	Monthly follow up		3 month BP control		Yearly follow up details - Jan to Dec 2017						
S. No.	Date of registration	Unique patient treatment number	Age at the time of registration	Village/Town	Hypertension (1-Yes/2-No)	Diabetes (1-Yes/2-No)	SBP-Feb 17	DBP-Feb 17	SBP-Mar 17	DBP-Mar 17	Control status (N-not controlled, Y-controlled)	Latest HbA1c till Dec 2017	HbA1c control status	Coronary artery disease (1-Yes/2-No)
1		1561			1		999	999	999	999	N	Uncontrolled	Uncontrolled	
2		1575			1		125	69	116	80	Y	Uncontrolled	Uncontrolled	
3		1581			1		Proxy	138	97	97	N	Uncontrolled	Uncontrolled	
4		1604			1		133	82	999	999	N	Uncontrolled	Uncontrolled	
5		1564			1		114	60	130	90	N	Uncontrolled	Uncontrolled	
6		1590			1		150	95	126	80	Y	Uncontrolled	Uncontrolled	
7		1618			1		120	90	120	80	Y	Uncontrolled	Uncontrolled	

Sample reports

E	F	G
SIX MONTHLY REPORTS - HTN control rates		
Six monthly report of Jan to March 2018 cohort		Control rate
Total number registered between Jan to March 2018	46	
Total number with documented control 6-9 months after registration	41	89.1
		Loss to follow up rate
Total number of loss to follow up	1	2.2
Six monthly report of Apr to Jun 2018 cohort		Control rate
Total number registered between April to June 2018	37	
Total number with documented control 6-9 months after registration	29	78.4
		Loss to follow up rate
Total number of loss to follow up	2	5.4
Six monthly report of Jul to Sep 2018 cohort		Control rate
I	J	K
CUMULATIVE REPORTS - 2018		
Cumulative six monthly report - Dec 2018 - Hyperetension		Control rate
Total HTN patients registered between January to December 2018	155	
Total HTN patients with documented control of hypertension	131	84.5
Cumulative annual report of year 2018 - diabetes mellitus		Control rate
Total DM patients registered between January to December 2018	57	
Total DM patients with documented control of diabetes mellitus	51	89.5
Annual foot examination rate - 2018		
Total DM patients registered between January to December 2018	57	
Total DM patients who had foot examination	34	59.6
Annual fundus examination rate - 2018		
Total NCD patients registered between January to December 2018	159	
Total NCD patients who had fundus examination	101	63.5

Example of a Patient Identity card - Front and Back

Patient Identity card	Lifestyle advice
<p>Name of PHC _____ </p> <p>Date of registration _____</p> <p>Unique ID Number _____</p> <p>Patient's name _____</p> <p>Age _____ Sex _____</p> <p>Address _____ _____ _____</p> <p>Mobile no _____</p> <p>Mobile no of a contact person _____ _____</p> <p>Diagnosis _____ _____</p> <p>Date of initiation of treatment _____</p>	<ul style="list-style-type: none"> Take your medicines regularly Check your blood pressure and blood sugar regularly Be physically active. More than 150 minutes a week – running walking cycling swimming Eat a balanced diet Don't extra salt or extra sugar in your food Say NO to tobacco Restrict excessive consumption of alcohol Manage your stress If you are overweight, loose weight <div style="display: flex; justify-content: space-between; align-items: flex-end; margin-top: 10px;"> </div> <div style="display: flex; justify-content: space-between; align-items: flex-end; margin-top: 10px;"> </div> <div style="display: flex; justify-content: space-between; align-items: flex-end; margin-top: 10px;"> </div>

Notes:

SESSION 6 : Development of a service delivery model

1. In this session, participants will be divided into groups of 5-6
2. Using flip charts and colored post-its, prepare service delivery models for NCD management in PHC

Presentation

6.1

Session 6: Development of a service delivery model

Group work MARKET PLACE ACTIVITY

6.2

Prepare a service delivery model under the following six points

1. Person pathway
 - a. Who can do what (depend on country team based care)
 - b. Develop a NCD team
 - c. Medical treatment- to be provided by medical officer / nurse
 - d. Patient follow up system
2. Standardised protocols – simple standardised country specific/ WHO protocols
3. Technology
 - a. Equipment diagnostics -Glucometer, weighing machine , height, BMI chart
 - b. Medicines –requirement should be estimated, stock records
4. Management Information - recording & reporting
5. Supportive supervision
6. Community engagement

6.3

Market place activity

Your selected advocacy audience is coming to an NCD PHC Marketplace. You and the other teams will be competing for their NCD PHC investment dollars. Each team is considered an advocacy team .

- Using the results from the previous exercises, **develop a flow chart to show the service delivery model** from community to primary health care and referral care. You will promote this to your NCD audience, who are the NCD buyers or investors.
- Sales teams have 5 minutes to pitch them to the team of NCD PHC buyers/investors. You can use any audio -visual means of communication to get your advocacy message across clearly and compellingly.

6.4

Instructions for market place

- NCD buyers/investors have a fixed amount of money to invest in any and all NCD interventions that catch their interest.
- The buyers' team will go around the room together to listen to all sales teams.
- At the end of all the teams' advocacy presentations, buyers will individually decide how much of their money they will want to invest in any of the NCD intervention.
- A poster for each advocacy team will be set up in the investment area.
- The buyers will individually affix their investment dollars to the teams that they have selected.

6.5

Criteria for buyers

- Which service delivery model caught your attention?
- Which service delivery model sustained your attention?
- Which service delivery model presented compelling evidence for urgent action?
- Which service delivery model convinced you that investment would result in significant gains?
- Which model would you invest money on?

SESSION 6 : Development of a service delivery model

Prepare a service delivery model under the following six points

1. Person pathway
 - a. Who can do what (depend on country team based care)
 - b. Develop an NCD team
 - c. Medical treatment- to be provided by medical officer / nurse
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2. Standardised protocols – simple standardised country specific/ WHO protocols
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 - a. Equipment diagnostics -Glucometer, weighing machine , height, BMI chart
 - b. Medicines –requirement should be estimated, stock records
4. Management Information - recording & reporting
5. Supportive supervision
6. Community engagement

SESSION 7 Orientation to PEN protocols for management

Need for evidence based protocols

In many low- and middle-income countries, there is a wide gap between evidence- based recommendations and current practice and only a minority of patients who are treated reach their target levels for blood pressure, blood sugar and blood cholesterol. In other areas, overtreatment can occur with the use of non-evidence-based protocols. The aim of using standard treatment protocols is to improve the quality of clinical care, reduce clinical variability and simplify the treatment options, particularly in primary health care.

Standard treatment protocols can be developed by preparing new national treatment guidelines or by adapting or adopting international guidelines.

Developing Protocols for management

- Countries can develop, adapt, or adopt international guidelines:
- DEVELOP de novo guidelines: create new guidelines, which can be expensive and time-consuming,
- ADAPT guidelines: engage in a standardized process as described in this tool and modify guidelines to address local settings or,
- ADOPT guidelines: use recommendations as is and implement them with no change.
- WHO-PEN and HEARTS packages provide protocols and these may be adapted to the local context and endorsed by the national and local health authorities

SESSION 7 Orientation to PEN protocols for management

Key messages for this session

1. Protocol based management leads to standardized treatment across different populations
2. Improve treatment outcomes
3. Helps in estimating logistics, drug inventory, drug forecasting and quality monitoring

Discussion points

- Think of any other health program besides NCD where protocols are used.
- What are the advantages and disadvantages of protocol-based management?

Presentation

7.1

Capacity building for strengthening NCD management in primary health care through the WHO Package of Essential NCD interventions (WHO-PEN).

Session 7: Orientation to PEN protocols for management

7.2

Why do we need evidence based protocols?

- Improving the uniformity of practice;
- Improving the efficiency of service delivery;
- Reducing the probability of errors and increasing patient safety
- Delivering greater value (improving patient outcomes and reducing costs);
- Providing a means to compare outcomes and efficiency of healthcare services over time and across healthcare organizations;
- Providing greater opportunities for healthcare professionals within and between organizations to learn from each other; and
- Driving changes in clinical practice within healthcare organizations.

7.3

Use of a standardized algorithms

- Improve treatment outcomes
- Increases ease of logistics in terms of drug inventory, drug forecasting, and quality monitoring
- Enables large reductions in cost of medication as it helps to forecast requirements
- Use of good quality generic medicines can be used as part of protocol
- Enables evaluation of impact
- Enables task-sharing, with the entire health care team able to support patients

7.4

Developing protocols for management

- Countries can develop, adapt, or adopt international guidelines:
 - DEVELOP de novo guidelines: create new guidelines, which can be expensive and time-consuming;⁶
 - ADAPT guidelines: engage in a standardized process as described in this tool and modify guidelines to address local settings; ⁶or,
 - ADOPT guidelines: use recommendations as is and implement them with no change.
- WHO-PEN and HEARTS packages provide protocols and these may be adapted to the local context and endorsed by the national and local health authorities

SESSION 7 Orientation to PEN protocols for management

Slides (continued..)

7.5

Chronic respiratory diseases


CHRONIC RESPIRATORY DISEASES

ASTHMA

- Relief of symptoms: Oral or inhaled short-acting B2 agonists
- Inhaled steroids for moderate/severe asthma to improve lung function, reduce asthma mortality and frequency and severity of exacerbations

COPD

- Smoking cessation in COPD patients



RELIEF OF BREATHLESSNESS AND IMPROVEMENT IN EXERCISE TOLERANCE

- Short-acting bronchodilators

IMPROVEMENT OF LUNG FUNCTION

7.6

MANAGEMENT OF ASTHMA

ASK
Is the asthma well controlled?

Ask if the patient exhibits ALL of the following:

- exhibits daytime asthma symptoms and uses a beta agonist two or fewer times a week;
- exhibits night time asthma symptoms two or fewer times per month;
- puts no or only minimal limitations on daily activities;
- has had no severe exacerbation (i.e. requiring oral steroids or admission to hospital within a month);
- a PEFr, if available, above 80% predicted.

NO → Increase or decrease treatment according to how well asthma is controlled using stepwise approach → **MANAGE**

1 Inhaled salbutamol prn

YES

7.7

MANAGEMENT OF COPD

ASSESS SEVERITY
Measure PEFr and oxygen saturation, if possible.

MODERATE
If breathless with normal activity

SEVERE
If breathless at rest

MANAGE

1 Inhaled salbutamol up to four times a day

EXACERBATION OF COPD
Antibiotics should be given for all exacerbations

7.8

Cancer early diagnosis

- At primary health care centre, people with signs and symptoms of breast and cervical cancer can be identified and referred.
- PEN offers a protocol to under take this

7.9

BREAST CANCER

Assess likelihood

A - Breast lump, or any change in the shape or consistency
 B - Breast lump that enlarges and/or is fixed and hard
 C - Other breast problems (i.e. eczematous skin changes, nipple retraction, peau d'orange, ulceration, lump in axilla)

Age of woman

<30 >30

Presenting with symptoms?

Yes → Refer immediately

No → Follow up

7.10

CERVICAL CANCER

Assess likelihood

Abnormal vaginal bleeding (i.e post-coital, between menstrual periods, post menopause)
 Foul-smelling discharge
 Pain during vaginal intercourse

Are the above symptoms associated with abdominal mass, low back or abdominal pain?

No → Clinical detected cervical growth or ulceration → Yes → Refer immediately

No → Follow up

SESSION 8 : Forecasting demand for medicines

Key messages

- This session provides a step-by-step approach for health facilities to decide when to order and how much to order.
- There should be a balanced approach to prevent the overstocking of medicines that could expire before they are used
- Methods of forecasting of medicine requirement

Discussion points

- What is the mechanism of drug procurement in your country?
- Discuss the problems challenges and potential solutions to tackle the problems of supplies in your health centre

Step 1: Compile a list of essential medicines and technologies relevant to the NCD management in your country

- Compile a list of medicines supplied by the central/district agency in charge of medicines supply. Quantities cannot be calculated until you know which products are to be ordered.
- Develop a detailed list of products, including the following information.
 - product generic name, or INN
 - dosage form (tablet, dispersible tablet, test strip)
 - strength or concentration
 - basic units (tablet, pack)
 - pack sizes available/to be stocked

Step 2: Determine how often your health care facility receives deliveries

- The delivery or collection of supplies may not be regular, but somewhat ad-hoc. Capture the most likely interval.
- In most cases a monthly delivery or collection schedule is recommended, as it achieves a good balance between not having to order too far into the future and not making too frequent collection/delivery trips.
- The reorder factor is a number that will help you calculate how much of each item you need to order. It includes the requirement to hold enough stock to cover demand up to your next reordering, and an additional buffer to protect against

Step 3: Estimate the quantity of medicines needed to start NCD services

- Effective forecasting for NCD medicines and technologies starts with the number of current patients on treatment for a given condition and projected patients to be enrolled.
- If your facility is starting NCD services, quantities of medications are determined by the recommended treatment guidelines for the agreed initial number of patients likely to come to your health care facility.

SESSION 8 : Forecasting demand for medicines

Presentation

8.1

Session 8: Forecasting & demand for medicines

8.2

Forecasting and demand for medicines

- Ensuring that a health facility is adequately stocked with medicines and health technologies needs must be balanced with preventing the overstocking of medicines that could expire before they are used.
- This session provides a step-by-step approach for health facilities to decide when to order and how much to order.
- **Step 1: Compile a list of essential medicines and technologies relevant to the treatment protocols**
- **Step 2: Determine how often your health care facility receives deliveries**
- **Step 3: Estimate the quantity of medicines needed to start NCD services**

8.3

Forecasting drugs consumption- Consumption method

Consumption method uses past consumption of individual medicines or products (adjusted for stock-outs and projected changes in use) to project future need.

Disadvantages

- When there are significant shortages/stock-outs, or medicines are not dispensed as per treatment guidelines, this method may significantly underestimate or overestimate need.
- The consumption -based approach has the potential to perpetuate the problems of the past into the future.
- Also, for new products and programmes there is no data on past consumption.

8.4

Forecasting drugs consumption- Morbidity method

Morbidity method – estimates the need for specific medicines or products, based on

- disease incidence (using surveillance and demographic data)
- expected number of health care facility attendances (using service delivery data),
- standard treatment patterns for the disease (STGs).

Disadvantages:

- Morbidity-based quantification is a complex and time-consuming method.
- In many countries, obtaining prevalence/incidence data by region is quite challenging.
- This method also assumes standard dispensing protocols.

8.5

Step 1: Compile a list of essential medicines and technologies

- Compile a list of medicines supplied by the central/district agency in charge of medicines supply.
- Obtain a copy of the National Essential Medicines List (NEML) and the supply catalogue of the supply agency
- Use the drugs according to your national protocols
- Make a detailed list of products with the following information
 - product generic name, or INN
 - dosage form (tablet, dispersible tablet, test strip)
 - strength or concentration
 - basic units (tablet, pack)
 - pack sizes available/to be stocked.
- *Indicative list of drugs – thiazide, CCB, beta-blocker, ACE inhibitor, statin, insulin, metformin, glibenclamide, aspirin.*

8.6

Step 2: Determine how often your health care facility receives deliveries

- If your source of supply (central/regional store, district hospital, other source) routinely delivers supplies to your health facility, then how often do they deliver: monthly / 3-monthly?
- If someone from your health facility travels to the regional/district to obtain supplies, how often do they go to collect supplies? weekly / monthly / every 2 months / every 3 months?
- In most cases a **monthly** delivery or collection schedule is recommended, as it achieves a good balance between not having to order too far into the future and not making too frequent collection/delivery trips.

SESSION 8 : Forecasting demand for medicines

Slides (continued..)

8.7

Reorder factor

- The reorder factor is a number that will help you calculate how much of each item you need to order.
- It includes the requirement to hold enough stock to cover demand up to your next reordering, and an additional buffer to protect against higher and anticipated demand or delays in delivery/pickup

Reorder factor

The reorder factor is 2 if supplies are delivered once a month ($1 \times 2 = 2$)

The reorder factor is 6 if supplies are delivered every 3 months ($3 \times 2 = 6$)

The reorder factor is 12 if supplies are delivered every 6 months ($6 \times 2 = 12$)

Remember to plan for a small supply of buffer stock in case there are delays in deliveries.

8.8

Step 3: Estimate the quantity of medicines needed to start NCD services

Example :

- The Distt NCD Clinic will start hypertension services for an initial number of **50 patients next month.**
 - 40 of them will be treated with amlodipine. They have recently been started on amlodipine (5 mg PO)
 - The remaining 10 patients have a contraindication to amlodipine and will be treated with lisinopril (20 mg PO).
- How will you calculate the requirement of amlodipine and lisiopril?

8.9

Steps for calculating drug requirement

Step 1 : For the planned 50 patients the diabetes medications for one month's treatment will be:

40 patients:

Amlodipine tabs: $40 \times 1 \text{ (tabs/day)} \times 30 \text{ (days treatment)} = 1,200 \text{ tabs}$

10 patients:

Lisinopril tabs: $10 \times 1 \text{ (tabs/day)} \times 30 \text{ (days treatment)} = 300 \text{ tabs}$

Step 2 : Amlodipine comes in boxes of 84 tabs.

For the required 1,200 tabs, you need: $1,200 \div 84 = 14.3 \sim 15 \text{ boxes}$

Lisinopril comes in boxes of 100 tabs.

For the required 300 tabs, you need: $300 \div 100 = 3 \text{ boxes.}$

Step 3: Calculate the amount to order for the first month. If you receive supplies once a month, the first time you order you will need to order for approximately 2 months. If you receive supplies every 3 months you will have to order for 6 months.

Exercise :

In your district what is the average number of patients of -

1. Diabetes Mellitus
2. Hypertension

Calculate the drug requirement for the next year for these two diseases.

SESSION 9 : Team based care

Need for Team based care

- Many low-resource settings have a shortage of physicians and health workers. In order to provide patient-centred continuous care more effectively, primary care systems can include team-based care strategies in their clinic workflows and protocols.
- Team-based care uses multidisciplinary teams (which may involve new staff, or the shifting of tasks among existing staff).
- Teams can include patients themselves, primary care physicians, and other allied health professionals, such as nurses, pharmacists, counsellors, social workers, nutritionists, community health workers, or others.

Advantages of team based care

- Teams reduce the burden on physicians by utilizing the skills of trained health workers.
- Evidence shows that team-based care is effective in improving hypertension control among patients in a cost-effective way.
- Some amount of task shifting/team-based care is already taking place in many settings; this session provides further guidance on how to maximize this approach for greater impact

Case study

Philippines embraces efforts to step up cardiovascular disease care

Manila adopted WHO-HEARTS *technical package for cardiovascular disease management in primary health care*. Starting in one area of the capital, Manila District VI, the HEARTS pilot project aims to step up prevention, detection and treatment of CVDs.

In Manila, HEARTS is focused on helping health providers implement the Philippine Package of Essential NCD Interventions for Primary Health Care (Philippine PEN). Adapted from WHO guidelines, Philippine PEN standardizes and strengthens care for NCDs, including cardiovascular diseases.

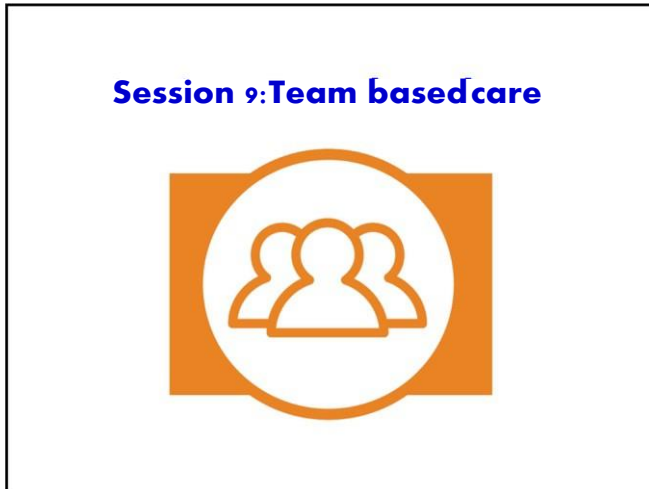


Source: <http://www.who.int/features/2017/philippines-cardiovascular-disease/en/>

SESSION 9 : Team based care

Presentation

9.1



9.2

Team-based care

- **Team-based** care is a redistribution of work among members of a practice team.
- All members of the physician-led team play an integral role in providing patient care.
- The physician (or in some circumstances a nurse practitioner or physician assistant) and a team of nurses and/or medical assistants (MAs) share responsibilities for better patient care

9.3

The NCD Chronic Care Team

The chronic care team should consist of

Minimum :

- Physician / medical officer
- Nurse/Midwife (non-physician health worker)

Desirable to include:

- Health Educator/ Counsellor
- Dietician

9.4

Roles and responsibilities of members of the NCD Chronic Care Team

Physician

- The physician serves as the team leader
- Receives the referral of NCD cases and manages using the WHO PEN protocol.
- Trains other team members in NCD management

Nurse/Midwife/ health worker

- The nurse or midwife shall be responsible for conducting the risk assessment and screening.

Health educator / counsellor

- Provides health information to the client.
- Disseminates health education messages in the community

The Dietician

- Counsels and monitors the patient's compliance to dietary management.

9.5

Task shifting

- **Task shifting** is the reassignment of clinical and non - clinical tasks from one level or type of health worker to another so that health services can be provided more efficiently or effectively.
- For example, when medical officers are in short supply, some services can be effectively shifted to equipped and well trained non physicians such as clinical officers and nurses, while maintaining quality.

9.6

Advantages of task shifting

- Expanded access to care (more hours of coverage, shorter wait times)
- Better patient support, Improved patient knowledge
- Improved patient adherence to medications
- Better follow-up
- Improved BP control and other patient outcomes (CVD morbidity and mortality)
- Time saving for patient and health care team
- Cost efficient
- Improved patient and physician satisfaction

SESSION 9 : Team based care

Slides (continued..)

9.7

Barriers

- Rapid staff turnover
- Retention of training
- Patient attitudes: perception by patients of being treated by non-physician health workers
- Physician attitude and reactions
- Legislation and policy

9.8

Requirements

- Train health care workers in new skills.
- Enable additional health workers to prescribe medications.
- Clearly define roles and responsibilities for different team members.
- Arrange close supervision, mentoring and support by experienced health centre staff.
- Schedule regular clinical team meetings and good communications between staff to discuss patient cases and issues, so that they can work together to solve problems.

9.9

Example: Distribution of staff responsibility for hypertension management

	Doctor	Hypertension specialist	Nurse	Pharmacist	Counsellor	Nutritionist	Social Worker	CHW	Clerical staff
Take patient history	ü	ü	ü						
Diagnosis	ü	ü							
Complicated cases		ü							
Counselling			ü	ü	ü	ü	ü	ü	
Check BP	ü		ü	ü					
Refill medications			ü	ü					
Follow-up					ü	ü	ü	ü	
Referral	ü	ü	ü						
Data entry			ü						ü

9.10

Case study: Hypertension care in Thailand

Roles of various team members

- **Senior nurse:** In charge of service organization (also referred to as Case Manager), prescribes continuing medicine (without change in drug/dose), counsels patients.
- **Doctor:** Makes diagnosis, prescribes medicines and tests, titrates drug/dose.
- **Nurse:** Measures height, weight, BP and takes history.
- **Counsellor:** Provides nutrition counselling and lifestyle advice.
- **Pharmacist:** Checks for adherence, dispenses medicines and advises on how to take medicines.
- **Data clerk:** Enters patient BP and treatment details into the electronic registry; generates list of defaulters and makes calls, generates list of patients for appointments on next day.
- **Nurse at HPH:** Provides refills, counsels patients and occasionally adjusts drug/dose in consultation with doctor on phone.

9.11

Case study :Team-based care for NCDs in Nepal

- **Medical Officer (MO):** In overall charge of service delivery for NCDs. MOs diagnose, manage patients and refer as needed, prescribe medicines and counsel patients.
- **Senior/Health Assistant:** In overall charge of service delivery for NCDs. They are responsible for early detection, management and counselling patients. They do not prescribe medicines but refill medicines, as prescribed by the MO.
- **Staff Nurse (PHC):** Measures height, weight and BP, counsels the patients and enters patient BP and treatment details in the NCD registry.
- **Assistant Health Worker:** Measures height, weight and BP, counsels the patients and enters patient BP and treatment details in the NCD registry.
- **Senior ANM:** Measures height, weight and BP, counsels the patients and enters patient BP and treatment details in the NCD registry.
- **Community Health Worker:** Provides counselling on lifestyle and nutrition.
- **Pharmacist (PHC):** Checks for adherence, dispenses medicines and advises on how to take medicines.

9.12

Key learnings

- Team-based care is a redistribution of work among members of a team

Task shifting will require training of health staff in new skills

DAY 3

Notes:

SESSION 10 : Counselling and care in the community

Understanding behavioural change

- Understanding behaviour change is important for primary health care providers as they usually provide the first point of contact for patients accessing the health system.
- It is therefore necessary for the primary health care worker to assess and understand the different stages of readiness of the patient to make the required change in behaviour

5As brief interventions

- Short interactions of between three and 20 minutes, called brief interventions, aim to identify a real or potential problem, provide information about it and motivate and assist the patient to do something about it.
- The 5As is a tool used for brief interventions. It summarizes what a health worker can do to help someone who is ready to change.
- This can be integrated into regular visits by health providers of any level, either at community or facility level. Risk-factor counselling should be integrated with existing programme delivery at all levels of care.

Case study

“Cardiovascular diseases and diabetes is a key priority for the Ministry of Health of Belarus”

Like many countries, Belarus faces a growing burden of noncommunicable diseases (NCDs), with cardiovascular diseases (CVDs) now the major cause of mortality. Addressing CVDs and diabetes is a key priority for the Ministry of Health of Belarus.

Belarus has embraced the four global time bound commitments including setting national NCD reduction targets and strengthening health systems to address NCDs



Source : <http://www.who.int/beat-ncds/countries/belarus/en/>

SESSION 10 : Counselling and care in the community

Key messages for this session

- Counselling provides support to patients to enable behavioural changes
- All interactions with patients should be utilised as opportunities for counselling in self care

Discussion points

- Counseling on self care should be integrated with routine services
- All health personnel involved in NCD care should be trained in counseling

Presentation

10.1

**Session 10 :
Counselling self-care and care in the community**



10.2

Counselling

- Counselling can be described as professional guidance and support to help a person to solve a problem.
- Counselling for healthy lifestyles involves guiding and supporting patients toward making changes in certain behaviours to reduce the risk of NCDs
- Primary health care workers play an important role in helping patients to change their unhealthy behaviours and maintain healthy behaviours.

10.3

**Brief interventions to encourage
behaviour change**

- Short interactions of between three and 20 minutes, called brief interventions
- Identify a real or potential problem, provide information about it and motivate and assist the patient to do something about it
- Risk-factor counselling should be integrated with existing programme delivery at all levels of care.

10.4

5As for brief interventions

- **The 5As** is a tool used for brief interventions.
- It summarizes what a health worker can do to help someone who is ready to change.
- Can be integrated into regular visits by health providers of any level, either at community or facility level.

SESSION 10 : Counselling and care in the community

Slides (continued..)

10.5

Table 1: The 5As: General theoretical framework for how to do it

5As	What to say/do and how to say/do it										
Ask	Ask the patient about the relevant risk factor(s) at every visit. Ask in a friendly way, without being judgmental. Keep the questions simple. Record the information in the patient's medical record/notes.										
Advise	Health workers have special authority because of their training. Patients usually respect this expertise. Provide information, key messages and advice in a clear, simple, and personalized manner. Link the advice to something that is relevant for the person. For example: <ul style="list-style-type: none"> a person with hypertension may be interested in the benefits of reducing salt intake people with young children may be concerned about the effects of secondhand smoke. 										
Assess	Assess the patient's readiness to start making a change by asking two questions: 1. Are you ready to have a diet that includes more healthy options? Be more physically active? Be a non-smoker? Be a lower-risk drinker? 2. Do you think you will be able to make the change?										
	<table border="1"> <tr> <td>Question 1</td> <td>Yes</td> <td>Not sure</td> <td>No</td> </tr> <tr> <td>Question 2</td> <td>Yes</td> <td>Not sure</td> <td>No</td> </tr> </table>	Question 1	Yes	Not sure	No	Question 2	Yes	Not sure	No	Any answer in the shaded area indicates that the person is not yet ready to change. In this case, effort needs to be made to increase motivation for change.	
Question 1	Yes	Not sure	No								
Question 2	Yes	Not sure	No								
	Answers in the white area suggest that you and the patient can move on to the next step.										

10.6

Assist	Help the person to develop a plan that can increase the chance of success. Provide practical counselling that focuses on: <ul style="list-style-type: none"> provision of basic information about the risk factor identification of situations that could trigger relapse ways of coping with trigger situations. Provide social support including: <ul style="list-style-type: none"> providing encouragement communicating interest and concern encouraging the person to talk about the change process with family and friends. Provide and ensure availability of health education materials and details about additional resources, such as support groups, quit lines, etc.
	Arrange a follow-up contact, by phone or in person. Discuss timing of follow-up with patients. At follow-up for all patients: <ul style="list-style-type: none"> identify problems already experienced as well as new ones that could arise remind them of the additional support that is available schedule next follow-up visit. Refer to specialist services if needed and available. For those who have made the planned changes: <ul style="list-style-type: none"> congratulate them on their success. For those who have challenges: <ul style="list-style-type: none"> remind them to view this as a learning experience review their circumstances and motivate them to re-commit link to more intensive support, if available.

10.7

Table 5: 5As brief intervention to screen for harmful use of alcohol

5As	Alcohol	
Ask	Do you ever drink alcohol?	Yes No
	If Yes:	
	<ul style="list-style-type: none"> How often do you have an alcoholic drink? How many alcoholic drinks do you have on a usual day when you are drinking? 	
Advise	For people drinking fewer than 2 units (according to local drink strengths and commonly available sizes) per day and drinking on 5 or fewer days per week, inform them of the following: <ul style="list-style-type: none"> Use of alcohol can increase the risk of having a heart attack or stroke. It also increases the risks of getting certain cancers and can cause damage to other parts of the body. Overall, the best way to avoid the health risks of alcohol use is to abstain. If you do drink alcohol, keep in mind that "less is better". Avoid having more than two units on any single day and do not drink any alcohol on at least two days per week. Do not drink alcohol for "health" reasons. Do not use alcohol when you are: <ul style="list-style-type: none"> driving operating machinery pregnant or breastfeeding taking medications that interact with alcohol. living with medical conditions that are made worse by alcohol having difficulties controlling how much you drink. 	

10.8

Advise	<ul style="list-style-type: none"> if you do drink alcohol, keep in mind that "less is better". Avoid having more than two units on any single day and do not drink any alcohol on at least two days per week. Do not drink alcohol for "health" reasons. Do not use alcohol when you are: <ul style="list-style-type: none"> driving operating machinery pregnant or breastfeeding taking medications that interact with alcohol. living with medical conditions that are made worse by alcohol having difficulties controlling how much you drink.
Assess	For people who drink two or more units per day, who drink on more than five days per week and/or have any indication that alcohol could potentially be a problem, say: "Your drinking habits could be harmful to your health. May I ask you a few more questions to have a better idea of the possible risks?"
Assist and Arrange	If No: <ul style="list-style-type: none"> Give brief advice. End the discussion positively by saying, "This can be a difficult issue to discuss but I am here to help you." Provide health education materials and information about additional resources such as help lines, counselling, support groups. At the next visit, repeat the brief intervention. If Yes: <ul style="list-style-type: none"> Give brief advice and refer for further counselling and tests (for which further training, tools and resources are required). See AUDIT test (link below). The score will determine next steps.

10.9

Self care

- All patients with NCDs perform some level of self-care.
- Counselling patients on self-care could be integrated into existing care structures
- All interactions with patients can be seen as opportunities to understand and improve the self-care strategies of patients.

10.10

SELF CARE AMONG PATIENTS WITH CVD, DIABETES OR RESPIRATORY DISEASE

Recommendation for all patients	Condition specific recommendations
Adherence <ul style="list-style-type: none"> Strategies to improve adherence Promotion of self care 	Cardio vascular diseases <ul style="list-style-type: none"> Self measurement of BP if feasible Cardiac rehabilitation in home settings
Education Group education rather than individual education if feasible	Diabetes <ul style="list-style-type: none"> Self monitoring of blood glucose levels
	Respiratory diseases <ul style="list-style-type: none"> Self monitoring of asthma & COPD Self adjustment of doses

SESSION 10 : Counselling and care in the community

Slides (continued..)

10.11

Example of WHO PEN Protocol 5:
WHO PEN Protocol 5
 Self-care among patients with cardiovascular disease, diabetes or respiratory disease.

When could this Protocol be used?

All patients with NCDs perform some level of self-care. Health workers can work to strengthen self-care strategies in these patients by following this Protocol to implement the recommendations.

Counselling patients on self-care could be integrated into existing care structures.

All interactions with patients can be seen as opportunities to understand and improve the self-care strategies of patients.

FIRST VISIT

- Using the Recommendations below, identify opportunities to improve self-care.
- Provide written or diagrammatical educational materials, and training in self-care, appropriate to the patient’s needs, preferences and capacity.
- For self-care recommendations that require an action plan, agree on and provide a written or diagrammatical action plan.

10.12

Example of WHO PEN Protocol5 (contd)

CONDITION-SPECIFIC RECOMMENDATIONS

Cardiovascular diseases

Raised blood pressure

- Self-measurement to monitor blood pressure is recommended for the management of hypertension in appropriate patients where the affordability of the technology has been established.

Heart failure

- Appropriate patients could benefit from being educated on the benefits of cardiac rehabilitation, and can be encouraged to undertake rehabilitation exercise in the home setting.

Need for anticoagulation

- Self-monitoring of blood coagulation and self-adjustment of dosage in patients receiving oral anticoagulation agents is recommended if affordable and according to an agreed action plan with a health professional.

10.13

Counselling on treatment adherence

- Teach the patient how to take the medications at home.
- Show the patient the appropriate dose.
- Explain the difference between medicines for long-term control (for example, of blood pressure) and medicines for quick relief (such as for headaches).
- Explain the reason for prescribing the medicine(s).
 - Inform patient of the complications of untreated hypertension, including stroke, heart attack, kidney failure.
 - Explain the disability and economic and family burden these preventable complications cause.

10.14

Counselling on treatment adherence

- Explain how many times a day the patient should take the medication and at what time, and adopt the following simple steps to help them to adhere to the guidelines:
 - Check the patient’s understanding before the patient leaves the health centre.
 - Explain how important it is for the patient to:
 - Keep an adequate supply of medications safely at home.
 - Take the medicines regularly as advised, even if there are no symptoms.
- Explain potential adverse effects of the medications and what to do if the patient experiences them.

Notes:

SESSION 10 : Counselling and care in the community

Slides (continued..)

10.15

Continuing Care in the Community

- NGO or Volunteers could be linked to the health system
- Social support to the affected family by way of
 - Helping with transport to hospital
 - Linking with other support groups
 - Helping to get benefits from various sources
 - Rehabilitation
 - Emotional support
- Basic nursing, Diabetic foot care
- Follow up



10.16

“Expert patient”

- The origin of the idea of the “expert patient” can be traced back to the 1980s in patient living with HIV/AIDS (PLHA)
- The main thinking behind the “expert patient” approach is that the patients with chronic conditions need not to be mere healthcare recipients, but to take greater responsibilities and work with health providers managing their conditions
- Self-management education complements traditional patient education in supporting patients to build their confidence and self-esteem, and identify and solve problems with the support of professionals

The “expert patient” approach for non-communicable disease management in low and middle income settings: When the reality confronts the rhetoric
 Author links open overlay panel YueXiao <https://doi.org/10.1016/j.cdm.2015.08.001>

10.17

Peer educators

- MoPoTsyo diabetes peer education in Cambodia*
- Peer education programs for diabetes patients in Cambodia since 2004
- Identifies a patient who has certain credibility in the community.
- The patient then establishes an education program on active urine glucose screening by teaching the other patients in his/her own community or village.
- He or she also counsels the other patients on lifestyle changes, asks them to record glucose strip testing, conducts follow-up, and reports back to the center on a regular basis

*H. Standing, A.M. Chowdhury. Producing effective knowledge agents in a pluralistic environment: what future for community health workers? Soc Sci Med, 66 (2008), pp. 2096-2107

10.18

Key learnings

In this session you have learnt that

- Counselling for adherence to medication and behavioral changes should be given to all patients
- Social support will help in treatment adherence among patients with chronic diseases.

Notes:

SESSION 11: Closing

Participants will identify certain areas where they can apply learning from the training in their own settings

Give feedback and provide suggestions for further improvement of the training

In conclusion...

- This training provided an orientation to the adaptation to WHO PEN
- More work is needed in making the services operational
- Human resources, medicines, technology & other requirements will have to be costed
- A phased implementation is preferred to know the practical challenges and the means to overcome them

Notes:

III. GUIDE TO ESTABLISHING PALLIATIVE CARE PROGRAMMES

III. GUIDE TO ESTABLISHING PALLIATIVE CARE PROGRAMMES

What is Palliative care?

- Palliative care is an approach that improves the quality of life of patients (adults and children) and their families who are facing problems associated with life-threatening illness.
- Palliative care is the prevention and relief of suffering of any kind – physical, psychological, social, or spiritual – experienced by adults and children living with life-limiting health problems.

How can palliative care be established?

Palliative care services can be established or expanded in a number of ways, depending on the local situation. For instance, a country may decide to begin by:

1. Setting up a palliative *home-care service* or integrating palliative home care into existing homecare services.
2. Establishing palliative care in a *community* setting.
3. Integrating palliative care services into a district or general *hospital*.
4. Setting up a *stand-alone* palliative care centre or hospice.
6. Taking an *integrated approach* in a district.

It is important to note that palliative care services at different levels all ultimately serve an important function as part of a comprehensive system of palliative care.

Case example: The Kerala Neighbourhood Network in Palliative Care in India

- ❑ The Kerala Neighbourhood Network in Palliative Care (NNPC) is a community-led initiative for people with chronic and incurable diseases
 - There is coverage, good access to palliative care in the home
 - Doctors and nurses provide clinical care, trained volunteers provide psychosocial support.
 - Community involvement through funding, with people donating money in collection boxes placed in shops and bus stations.
 - There is good media and political support.
- ❑ The programme is being replicated in the state of Puducherry, in some districts of West Bengal, in Imphal, Manipur and few districts in Tamil Nadu.
- ❑ In Jakarta, Indonesia, the Community Network in Palliative Care (CNPC) which started recently is also based on the NNPC model.
- ❑ The NNPC has received attention from palliative care services in the United Kingdom and the model has been adapted for use at Weston Hospice Care in Somerset.

PALLIATIVE CARE

Presentation

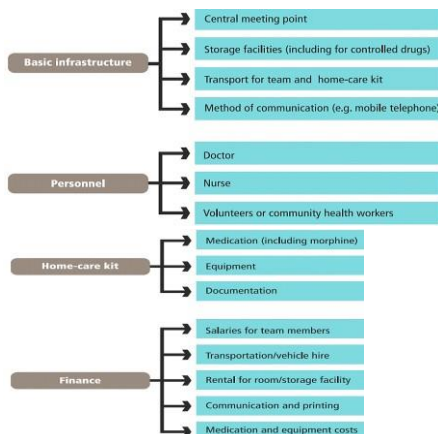
What is Palliative care?

- Palliative care is the prevention and relief of suffering of any kind – physical, psychological, social, or spiritual – experienced by people living with life-limiting health problems.
- Palliative care could be
 - Home based
 - Community based
 - Hospital based

Home-based palliative care

- Home-based palliative care provides care to people with chronic, life-limiting health problems in the home in which the patient lives.
- It is best delivered by a multidisciplinary team trained in palliative care, including doctors, nurses, community health workers
- Advantages
 - Patients feel more comfortable in their home
 - Family members are integrated into the process
 - Helps the patient and family maintain privacy and confidentiality

Minimum requirements for a home-based palliative care service



Community -based palliative care

- Community-based palliative care services are those that are run with community participation.
- Communities may be poor in financial resources, but can be rich in community resources
- Establishing a palliative care service in a community involves either integrating the care into the routine activities of an existing CHC or, where there is no CHC, setting up a new service

Process for starting a community palliative care service



Hospital -based palliative care service

- Options for a hospital-based palliative care service are
- an outpatient palliative care clinic;
 - a palliative care consultation service for hospital inpatients;
 - a palliative care day-care service;
 - an inpatient palliative care unit;
 - a palliative care outreach/home-care service.

Notes:

Notes:

IV. RESOURCES

IV. RESOURCES

Additional information can be found in the weblinks below-

Website of PEN tools - http://www.who.int/ncds/management/pen_tools/en/

HEARTS modules page - http://www.who.int/cardiovascular_diseases/global-hearts/en/

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Choi TY, Choi J, Lee JA, Jun JH, Park B, Lee MS. The quality of clinical practice guidelines in traditional medicine in Korea: appraisal using the AGREE II instrument. *ImplementSci*. 2015; (10): 104.

Nadkarni A, Hanlon C, Bhatia U, et al. The management of adult psychiatric emergencies in low-income and middle-income countries: a systematic review. *The Lancet Psychiatry* 2015; (2): 540 – 547.

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²⁴Bowen DJ, Kreuter M, Spring B, Cofta-Woerpel L, Linnan L, Weiner D, Fernandez M. How we design feasibility studies. *American Journal of Preventive Medicine* 2009; 36(5): 452–457.

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Training Manual

WHO Package of Essential NCD
Interventions (PEN)

2018

