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MINISTRY OF
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NATIONAL PROGRAMME FOR

NON-COMMUNICABLE DISEASES (NP-NCD)

TRAINING MODULE FOR PROGRAM MANAGERS

National Programme for

Non-Communicable Diseases (NP-NCD)

Training Module for Program Managers

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FOREWORD

Non-Communicable Diseases (NCDs) pose a public health challenge for the country. The growing risk-factor driven by lifestyle changes, demographic transitions, and environmental exposures underscores the urgency of strengthening programme implementation at all levels.

In this context, the National Programme for Prevention and Control of Non-Communicable Diseases (NP-NCD) is being implemented with the objective of providing comprehensive preventive, promotive, curative, and rehabilitative services. Effective programme delivery requires strong managerial capacities at the State and District levels, given that NCD Cells serve as the nodal structures for planning, implementation, supervision, and monitoring of NCD-related activities. These Cells are also responsible for coordinating with other national programmes under the National Health Mission, guiding population-based screening efforts through frontline workers, and ensuring continuity of care through the primary health care system.

To strengthen managerial and supervisory capacities at the State and District levels, this revised Training Module for Programme Managers has been prepared to provide updated guidance on key components of programme implementation, including human resource and supply chain planning, supportive supervision, monitoring and evaluation, digital reporting, intersectoral coordination, and communication and community engagement. The module aims to equip Programme Managers with the knowledge and tools required to respond effectively to the growing NCD burden and to ensure high-quality, coordinated, and accountable programme implementation nationwide.

I hope that Programme Managers at the State and District NCD Cells will find this manual useful in enhancing their competencies in programme management and in strengthening the overall implementation of NCD initiatives across the country.

Punya Salila

Date : 20.11.25
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Message

Non-Communicable Diseases (NCDs) continue to pose a significant public health challenge, contributing substantially to morbidity, mortality, and the long-term burden on the health system across the country. Since its inception, the National Programme for Prevention and Control of Non-Communicable Diseases (NP-NCD) has remained a cornerstone of India's commitment to address the increasing prevalence of diabetes, hypertension, cardiovascular diseases, stroke, and cancers through an integrated and comprehensive service delivery framework.

Over the years, notable progress has been achieved in strengthening infrastructure, expanding NCD Clinics, and establishing State and District NCD Cells to support programme implementation, monitoring and reporting. There is an ongoing need to strengthen the capacity of programme managers to effectively plan, implement, monitor, and optimize the use of available physical and human resources, thereby ensuring the achievement of optimal programme outcomes.

In this context, capacity building for programme managers is essential for improving the quality and consistency of NCD service delivery nationwide. This revised Training Module for Programme Managers has been developed to serve as a structured and practical resource, addressing key competencies related to programme planning, supervision, data management, communication, stakeholder coordination, and monitoring of field activities. It is designed to equip programme managers with the necessary tools and insights to strengthen managerial efficiency and facilitate the smooth and effective implementation of NP-NCD interventions at all healthcare levels.

I am confident that this module will serve as a valuable guide for programme managers working at the State, District, and Block levels. By enhancing managerial capacity and strengthening operational systems, we can collectively advance national efforts to reduce the burden of NCDs and ensure accessible, equitable, and high-quality care for all.

(Sunita Sharma)

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MESSAGE

Non-Communicable Diseases account for a substantial share of morbidity and premature mortality in the country, requiring organised and sustained action at all levels. Since its launch in 2010, the National Programme for Prevention and Control of Non-Communicable Diseases (NP-NCD) has broadened its scope to include additional conditions such as COPD, chronic kidney disease, NAFLD, obesity and stroke, reflecting the evolving healthcare needs of the population. As the programme continues to expand, strengthening systems for early detection, continuity of care and long-term follow-up has become increasingly important.

To strengthen access to services, efforts are being made to decentralise cancer care and reinforce screening, diagnostics, drug availability and digital reporting. These developments have helped improve the reach and continuity of NCD services across States and Districts. States are also encouraged to establish clear hub-and-spoke pathways to enable timely and effective management, particularly for conditions requiring coordinated care across facilities.

Programme Managers play a key role in coordinating these activities. High-quality training remains essential, and this revised module provides practical guidance on planning, supervision, reporting, supply chain management, strengthening referral pathways and improving convergence with related national health initiatives.

Effective management at State and District NCD Cells is central to improving service delivery. By promoting data-driven decision-making, regular monitoring and timely follow-up, Programme Managers can significantly enhance the efficiency and impact of NCD interventions.

These collective efforts support India's commitment to reducing premature mortality from NCDs in line with the Sustainable Development Goals. It is hoped that this module will strengthen programme implementation and help improve outcomes for individuals and communities across the country.

Dated: 24th Nov., 2025

(Aradhana Patnaik)

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ABBREVIATIONS

AAM	Ayushman Arogya Mandir
AMRIT	Affordable Medicines and Reliable Implants for Treatment
ANM	Auxiliary Nurse Midwives
ASHA	Accredited Social Health Activist
AYUSH	Alternative Systems of Medicine
BC	Breast cancer
BCC	Behavioural Change Communication
BPL	Below Poverty Line
CBAC	Community Based Assessment Checklist
CCRAS	Central Council for Research in Ayurvedic Sciences
CCRH	Central Council for Research in Homoeopathy
CCRUM	Central Council for Research in Unani Medicine
CCU	Critical Care Unit
CHC	Community Health Center
CKD	Chronic Kidney Diseases
COPD	Chronic Obstructive Pulmonary Diseases
CPHC	Comprehensive Primary Health Care
CVD	Cardiovascular Disease
DH	District Hospital

DHAP	District Health Action Plan
DHS	District Health Society
DM	Diabetes Mellitus
DPI	Dry Powder Inhalers
DPMU	District Program Management Unit
DPO	District Program Officer
ECG	Electrocardiogram
ESRD	End Stage Renal Disease
FC-XV	Fifteenth Finance Commission
FMG	Financial management groups
FMR	Financial Monitoring Report
GD	Gestational Diabetes
GFR	Glomerular Filtration Rate
GoI	Government of India
GOLD	Global Initiative for Chronic Obstructive Lung Disease
GTT	Glucose Tolerance Test
HD	Haemodialysis
HPV	Human Papillomavirus
HRH	Human Resource for Health
HTN	Hypertension
HWC	Health & Wellness Centre
ICMR-INDIAB	Indian Council of Medical Research–India Diabetes

IDDM	Insulin-Dependent Diabetes Mellitus
IEC	Information, Education & Communication
IGT	Impaired Glucose Tolerance
IHCI	India Hypertension Control Initiative
IPC	Interpersonal Communication
KT	Kidney transplant
LEEP	Loop Electro Surgical Excision Procedure
MC	Medical College
MI	Myocardial Infarction
MO	Medical Officer
MoHFW	Ministry of Health & Family Welfare
NAFL	Non-Alcoholic Fatty Liver
NAFLD	Non- Alcoholic Fatty Liver Disease
NAP	National Alcohol Policy
NASH	Non-Alcoholic Steatohepatitis
NCD	Non-Communicable Diseases
NHM	National Health Mission
NHP	National Health Policy
NIDDM	Non- Insulin-Dependent Diabetes Mellitus
NMAP	National Multisectoral Action Plan
NMHP	National Mental Health Program
NMAP	National Multisectoral Action Plan for Prevention

NOHP	National Oral Health Program
NPCB&VI	National Programme for Control of Blindness and Visual Impairment
NPCC	National Programme Coordination Committee
NPCDCS	National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases and Stroke
NPHCE	National Program for Healthcare of Elderly
NP-NCD	National Programme for Prevention and Control of Non-Communicable Diseases
NPPC	National Programme for Palliative care
NTCP	National Tobacco Control Program
NTEP	National Tuberculosis Elimination Program
NUHM	National Urban Health Mission
OPD	Out-Patient Department
OVE	Oral Visual Examination
PBS	Population Based Screening
PCI	Percutaneous Coronary Intervention
PD	Peritoneal Dialysis
PHC	Primary Health Centre
PIP	Programme Implementation Plan
PMBJP	Pradhan Mantri Bhartiya Janaushadhi Pariyojana
PMJAY	Pradhan Mantri Jan Arogya Yojana
PMNDP	Pradhan Mantri National Dialysis Programme

PTA	Parent Teacher Association
RAN	Rastriya Arogya Nidhi
RBSK	Rashtriya Bal Swasthya Karyakram
RKSK	Rashtriya Kishor Swasthya Karyakram (RKSK)
RMNCAH+N	Reproductive Maternal Newborn & Child Adolescent Health and Nutrition
RoP	Record of Proceedings
RRT	Renal Replacement Therapy
SC	Sub- Centre
SHC	Sub Health Centre
SHS	State Health Society
SNO	State Nodal Officer
SoE	Statement of Expenditure
SPMU	State Program Management Unit
SPO	State Program Officer
STEMI	ST-Elevated Myocardial Infarction
TB	Tuberculosis
TCCC	Tertiary Cancer Care Centre
TIA	Transient Ischemic Attack
UC	Utilization Certificate
VHSNC	Village Health Sanitation & Nutrition Committee
WHO	World Health Organization

MODULE

01

INTRODUCTION

Learning Objectives:

At the end of this module, you will be able to answer the following questions:

1. What is the burden of Non-Communicable Diseases – Global and Indian Scenario?
2. What are the risk factors associated with Non-Communicable Diseases?
3. What is the National Programme for Prevention & Control of Non-Communicable Diseases, its evolution, and its components?

1.1 Introduction:

Non-Communicable Diseases (NCDs) are chronic diseases that are not transmissible from one person to another. Taking this definition into account, NCDs may thus include wide spectrum of medical disorders both acute and chronic like Cancers, Diabetes, Hypertension, Cardiovascular Diseases and Stroke, Chronic Kidney Diseases (CKDs), Chronic Obstructive Pulmonary Diseases (COPDs) and Asthma, Non- Alcoholic Fatty Liver Disease (NAFLD), and a range of other diseases[1] .

NCDs cause significant morbidity and mortality, both in urban and rural populations and across all socio-economic strata, with considerable loss in potentially productive years of life[1]. NCDs also result in substantial out-of-pocket healthcare expenditures[2]. In India alone, the economic impact of NCDs (excluding mental conditions) is estimated to be $3.55 trillion from 2012 to 2030[3].

1. World Health Organization. Non-Communicable Diseases. (2022). Available from: who.int/news- room/factsheets/detail/noncommunicable-diseases [Accessed 16th Sep 2023].
2. World Health Organization. Impact of out-of-pocket payments for treatment of NCDs in developing countries: a review of literature. (2011). Available from: https://www.who.int/publications/i/item/impact-of-out-of-pocket-payments-for-treatment-of-non-communicable-diseases-in-developing-countries-a-review-of-literature [Accessed 16th September 2023].
3. Economics of Non-Communicable Diseases in India. A report by the World Economic Forum and the Harvard School of Public Health. (2014). Available from: https://www3.weforum.org/docs/WEF_EconomicNonCommunicableDiseasesIndia_Report_2014.pdf [Accessed 16th September 2023].

1.2 Burden of Non-Communicable Diseases:

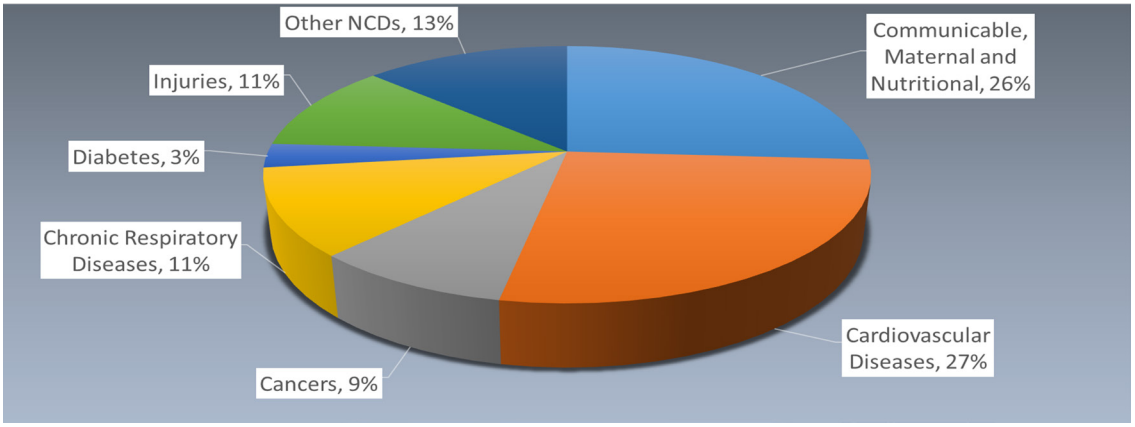

Figure 1: Burden of NCDs and proportional mortality in India

Global Scenario:

According to the World Health Organization (WHO), NCDs account for over 74 percent of global deaths, including heart disease, stroke, cancer, chronic respiratory diseases, and diabetes[1]. Cardiovascular diseases account for most NCD deaths annually (17.9 million) followed by cancers (9.3 million), chronic respiratory diseases (4.1 million), and diabetes (2.0 million, including kidney disease deaths caused by diabetes)[4].

Indian Scenario:

As per the WHO – NCD India profile - 2022, NCDs are estimated to account for 66% of all deaths in country of which the cardiovascular diseases lead with 28% overall mortality cause followed by chronic respiratory diseases (12%), cancers (10%), diabetes (4%) and others (12%) (Figure 1)[5] .

As per the recently published Indian Council of Medical Research–India Diabetes (ICMR-INDIAB) study, the national prevalence of hypertension is 35.5%, generalized obesity is 28.6%, abdominal obesity is 39.5% and dyslipidemia is 81.2 %[6].

4. World Health Organization. Non-Communicable Diseases factsheets; (2022)., https://www.who.int/news-room/fact-sheets/detail/noncommunicable-diseases
5. Non-Communicable Diseases Country Profiles 2018. Available from: file:///C:/Users/Rituperna. Ghosh/Downloads/9789241514620-eng%20(6).pdf [Accessed 16th September 2023].
6. Anjana, Ranjit Mohan, Viswanathan et al: Metabolic non-communicable disease health report of India: the ICMR-INDIAB national cross-sectional study (ICMR-INDIAB-17); The Lancet Diabetes & Endocrinology, Volume 11, Issue 7, 474 - 489

As per India State-Level Disease Burden Initiative CVD Collaborators- 2016, there were 54.5 million cases of cardiovascular diseases, 23.8 million cases of ischemic heart diseases, 6.5 million cases of stroke, 55 million cases of COPD, 38 million cases of asthma and 65 million cases of diabetes[7]. In 2016, cardiovascular diseases were responsible for 28.1 percent deaths, while chronic respiratory diseases contributed to 10.9% deaths and cancers contributed to 8.3 percent deaths[7]. Four common NCDs (Cardiovascular Diseases, Cancers, Chronic Respiratory Diseases and Diabetes) account for 23 percent of the total premature mortality in 30-70 years age group[1].

As per the report of National Cancer Registry Program, 2020, the incidence of cancer in India is 15.34 lakhs. Among males, cancers of lung, mouth, esophagus, and stomach are the leading sites across most of the registries. Among females, breast cancer is the commonest cancer followed by cervical cancer[8].

1.3 Risk Factors for NCDs:

Most NCDs are strongly associated with major risk factors such as:

1. Use of tobacco (Smoking and Smokeless) (32.8%)[9]
2. Alcohol intake (15.9%)[9]
3. Unhealthy diet/ Inadequate intake of fruits and/or vegetables (98.4%)[9]
4. Insufficient Physical Activity (41.3%)[9]
5. Overweight (including obesity) (26.1%)[9]
6. Raised blood glucose (9.3%)[9]
7. Air Pollution (Indoor & Outdoor)

If the above risk factors are not managed /modified, they may lead to the following biological risk factors:

1. Overweight/ Obesity
2. Raised blood pressure.
3. Raised blood sugar.
4. Raised total cholesterol/lipids.

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7. India: Health of the Nation's States, The India State-Level Disease Burden Initiative. (2017). Available from: https://www.healthdata.org/sites/default/files/files/2017_India_State-Level_Disease_ Burden_ Initiative_-_Full_Report%5B1%5D.pdf [Accessed 24th September 2022].
8. Report of National Cancer Registry Programme (2020). Available from: https://ncdirindia.org/All_ Reports/Report_2020/resources/NCRP_2020_2012_16.pdf [Accessed 16th September 2023].
9. National Non-communicable Disease Monitoring Survey (NNMS) 2017-18 https://www.ncdirindia.org/ nnms/resources/NNMS%202017-18%20-%20Report.pdf

Non-modifiable risk factors for NCDs include:

1. Age
2. Family history
3. Gender
4. Genetic predisposition

Overweight and obesity is a major risk factor for many NCDs such as coronary heart disease, hypertension, stroke, certain types of cancer, fatty liver, type 2 diabetes, gallbladder disease, dyslipidemia, osteoarthritis and gout, and pulmonary diseases, etc. Obesity can develop because of the unhealthy diet, lack of physical activity, poor sleep, stress and epigenetics. As per National Family Health Survey-5 (NFHS-5), one in every four Indians is now having obesity. It has been reported that being overweight and obese is a significant problem among different socio-economic spectrums of men and women in India, especially among the elderly, people residing in urban regions, and diverse socio-economic strata.

Body mass index (BMI) is a surrogate marker of adiposity calculated by dividing the weight of a person in kilograms by the square of the height in meters (kg/m^2). In the case of adults, a person with a BMI >/=30 is considered obese and a BMI >/= 25 is considered overweight. There is an urgent need to identify obesity as a chronic disease requiring immediate attention, mandating timely screening, timely treatment, and economical ways of achieving and managing weight loss across the country).

1.4 Evolution of National Programme for Prevention & Control of Non-Communicable Diseases (NP NCD):

To combat the rise in NCDs, the Government of India started responding to NCD Challenges through various vertical programmes in 1975. Health systems in India are evolving in alignment with shifting health needs and disease burden with expanded emphasis on Non-Communicable Diseases.

Sustainable Development Goals: The 2030 Agenda for Sustainable Development adopted by the United Nations in 2015 recognized NCDs as a major public health challenge and included SDG target 3.4 to reduce premature mortality from NCDs by one-third.

National Health Policy (NHP), 2017: recognizes the pivotal importance of SDGs and highlights the need to halt and reverse the growing incidence of chronic diseases including NCDs. The NHP 2017 defined this objective as “Improve health status through concerted policy action in all sectors and expand preventive, promotive, curative, palliative and rehabilitative services provided through the public health sector with focus on quality.”

National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases and Stroke (NPCDCS), 2010: Launched in 2010 in 100 districts across 21 states, scaled up in a phased manner and now covers all the districts across the country.

The focus of NPCDCS was to enable opportunistic screening for common NCDs at District Hospital and Community Health Centres level, through the setting up of NCD clinics.

Population Based Screening (PBS): Launched in 2016 and includes screening of individuals of 30 years and above age group for five common NCDs i.e., Hypertension, Diabetes, Cancers of the oral cavity, cervix, and breast. The key components of this initiative include population enumeration, assessment of risk factors, mobilizing communities for screening at Sub- Centres (SC), Primary Health Centres (PHC) in rural and urban areas, health promotion, initiation of treatment at a PHC, referral to higher centers for further treatment, if required. Both upward and downward referral, follow up is provided under the programme to ensure continuum of care.

National Multisectoral Action Plan (NMAP): From 2016 onwards, NMAP is introduced to offer roadmap and policy options to guide multisectoral efforts involving other Ministries/ Departments.

Comprehensive Primary Health Care (CPHC): Under government's flagship programme Ayushman Bharat, launched in 2018 there are two components – **Ayushman Arogya Mandir** and Ayushman Bharat – **Pradhan Mantri Jan Aarogya Yojana (PM-JAY).** This ensures Comprehensive Primary Health Care at the primary level and provision of financial protection for accessing curative care at the secondary and tertiary levels through engagement with both public and private sector.

Other new initiatives: There are several other disease interventions such as Chronic Obstructive Pulmonary Diseases (COPD) and Asthma, Chronic Kidney Diseases (CKD), Pradhan Mantri National Dialysis Programme (PMNDP), Stroke, Non-Alcoholic Fatty Liver Disease (NAFLD) and ST-Elevated Myocardial Infarction (STEMI), which were included in phased manner under the programme.

In 2023, the name of the programme is changed from NPCDCS to **National Programme for Prevention and Control of Non-Communicable Diseases (NP-NCD)** to cover all the newly added diseases to the program.

75 by 25 initiative[10]: The initiative to bring 75 million people with hypertension and diabetes under Standard Care by 2025 was launched on World Hypertension Day, 17th May 2023 by MoHFW.

[11]To achieve these targets the following were the objectives:

- Increase in number of **Screening and registration** of Hypertension and Diabetes patients
- Increase in patient **diagnosis, treatment, follow-up and Control** Rate

10. DO letter No T-20021/02/2023-SAS-1 dated 26th September 2023 by Joint Secretary (Policy & NCD), MoHFW, GoI
11. https://pib.gov.in/PressReleaseIframePage.aspx?PRID=1924730

- Health system strengthening for **continuum of care** for NCD patients, leveraging the Ayushman Arogya Mandir (AAM)

The strategies for achieving these targets were:

- Capacity building and training
- Strengthening PBS and Patient adherence by CHO, ANM and ASHA
- Strengthening supply chain Management of NCD drugs
- Supervision and Monitoring
- NCD Portal utilization, data analysis and feedback
- Community Health Camps
- Linkages with other health Programs
- Engaging Partners as per NCD National Multisectoral Action Plan (NMAP)

Major operational strategies under NP- NCD

- Health Promotion and Awareness activities for NCDs
- Population Based Screening for common NCDs for all population above 30 years of age.
- Ensuring timely management of Hypertension, Diabetes, Oral, Breast and Cervical Cancers, COPD, CKD, STEMI, Stroke and NAFLD at District / CHC level
- Ensuring Continuum of Care for NCDs at all levels
- Strengthening National NCD Portal – data recording and reporting
- Collaboration with other sectors through National Multisectoral Action Plan (Whole of Government and Whole of Society Approach)
- Linkages with other Initiatives such as Eat Right Movement, Fit India Movement

MODULE

02

RISK FACTORS FOR COMMON NCDS WITH SCREENING & DIAGNOSTIC CRITERIA

Learning Objectives:

At the end of this module, you will be able to answer the following questions:

1. What are the common Non-Communicable Diseases include under NP-NCD and the burden of these diseases?
2. What are the risk factors for these Non-Communicable Diseases?
3. What are the criteria for screening and diagnosis for these Non-Communicable Diseases?
4. How to manage Non-Communicable Diseases?
5. What are the referral pathways and follow-up processes for Non-Communicable Diseases?

2.1 Introduction:

The common Non-Communicable Diseases (NCDs), including Cardiovascular Diseases (CVDs), Cancers, Diabetes, and Chronic Respiratory Diseases, all share common modifiable behavioural risk factors such as tobacco usage, unhealthy dietary habits, insufficient physical activity, and alcohol consumption. Additionally, air pollution is recognized as a significant contributor to NCD risk. These risk factors result in conditions like overweight and obesity, and elevated blood pressure, blood sugar and cholesterol levels in the body, which, in turn, can significantly contribute to the development of NCDs. It is important to note that a substantial proportion of NCDs are preventable[12].

2.2 Diabetes:

Diabetes is a chronic disease in which the body does not produce or properly use the hormone insulin, which is required to convert sugar, starches and other foods into energy. The condition leads to abnormally elevated levels of glucose in blood. In addition to being a chronic disease on its own, diabetes is also a major risk factor for other chronic diseases. In 2019, diabetes was the direct cause of 1.5 million deaths and has a prevalence of 9% among adults 18 years and above[13].

12. Operational guidelines for prevention and control of non-communicable diseases (2023-2030)
13. World Health Organization. Diabetes. (2023). Available from: https://www.who.int/newsroom/fact-sheets/detail/diabetes#:~:text=In%202019%2C%20diabetes%20was%20the,of%20cardiovascular%20deaths%20(1) [Accessed 16th September 2023]

2.2.1 Types of Diabetes[11]:

Diabetes is classified into three types,

- **Type 1 diabetes (T1DM)** results from the pancreas's failure to produce enough insulin in the body. The condition was previously referred to as "Insulin-Dependent Diabetes Mellitus" (IDDM) or "Juvenile Diabetes".
- **Type 2 diabetes (T2DM)** is the most common type of diabetes. The disease is characterised by insulin resistance, a condition in which cells fail to respond to insulin properly. This form was previously referred to as "Non-Insulin-Dependent Diabetes Mellitus" (NIDDM) or "Adult-onset Diabetes". Type 2 diabetes results primarily due to lifestyle factors, obesity, metabolic syndrome, and genetics.
- **Gestational Diabetes (GD)** mellitus resembles Type 2 diabetes in several aspects, with the exception that it occurs during pregnancy. It may occur in about 2–10% of all pregnant women and may also improve or resolve after childbirth. Careful medical supervision throughout the pregnancy can completely treat the disease.

2.2.2 Risk Factors for Diabetes[14]:

The main cause of diabetes and hence those at risk, varies by the type of diabetes. However, both type 1 and type 2 diabetes may be caused by a combination of lifestyle, environmental and genetic factors. Major risk factors for the disease include:

- Being above the age of 30 years
- Being overweight or obese (BMI is greater than 25 Kg/m2).
- Not being physically active
- Having high blood pressure
- Being a smoker and/or alcoholic
- Having prediabetes/impaired glucose tolerance (IGT)
- Having higher than normal levels of triglyceride and/or cholesterol
- Having a family history of type 2 diabetes
- Having delivered a baby with birth weight greater than 4 kgs, in case of women
- Having diabetes or even mild elevation of blood sugars during pregnancy, in case of pregnant women.

2.2.3 Criterion for diagnosis[13]:

Early diagnosis of diabetes can be done through blood sugar testing for measuring blood sugar levels (fasting blood sugar test after overnight fasting and glucose tolerance test

14. ICMR Guidelines for Management Of Type 2 Diabetes 2018

(GTT) two hours after eating and drinking), and average blood glucose (sugar) levels or HbA1c.

A fasting blood sugar level greater than 126 mg/dl is considered diabetic. Similarly, a blood sugar level of 200 mg/dl or higher measured during GTT is an indication of diabetes.

In a normal person, the HbA1c level is less than 6%. However, in the case of diabetes, the HbA1c levels are greater than 6.5%. HbA1c levels between 5.7% and 6.4% indicate the person may be prediabetic.

2.2.4 Therapeutic choices in Type 2 Diabetes Mellitus[13]:

Most treatment plans include a combination of medical nutrition therapy (lifestyle management) and medication including oral drugs (metformin and sulphonylurea). Once the diagnosis of diabetes is established, the patient must be provided at least a month's supply of drugs. Additionally, insulin can be used as a short-term treatment to help quickly bring down blood sugar levels. Short-acting (lowers blood glucose levels within 30-60 minutes, peak activity in 2-3 hours, and lasts for 6 to 8 hours) and long-acting (takes 2-4 hours to reach bloodstream, does not exhibit peak activity, and can last for an entire day) insulin can be used.

2.2.5 Referral and Follow-up for Diabetes[11]:

Primary care physicians should follow-up regularly with patients detected with diabetes, initially after 4 weeks of stabilization of treatment, post which the follow-ups can be done once every three months. Additionally, annual assessment of the patients can be carried out at a Community Health Center (CHC) or other secondary care health facility. In case of complicated cases of diabetes, the patient should be referred to secondary/tertiary care health facilities such as CHCs/ Urban CHCs/District hospitals for consultation with a specialist and further management, and subsequent follow-up should be carried out once every year or sooner, if required. Diabetic individuals under treatment/referred from Primary Health Centre-AAM (PHC-AAM)/Urban PHC-AAM for management at CHC may be referred to respective PHC-AAM)/UPHC-AAM) once their blood sugar levels are under control.

2.3 Hypertension[15]:

Hypertension (HTN) is a pathological condition characterized by abnormally elevated blood pressure levels, which increases the workload on the cardiovascular system. Hypertension is often referred to as the "silent killer", as it can exist without any warning

15. Operational Guidelines. National Programme for Prevention and Control of Non-Communicable Diseases. 2023-2030. Government of India

signs or symptoms. Age-standardized prevalence of hypertension among adults aged 30–79 years (2019) as per the Hypertension India 2023 country profile by WHO is 1.88 Crores[16].

Hypertension is of two types:

- **Primary/Essential:** No known cause
- **Secondary:** Caused as a result of other medical conditions (eg. kidney diseases, hormonal disorders, sleep disorders, blood vessel disorders)

An estimated 1.28 billion adults aged 30–79 years have hypertension. Globally, prevalence of hypertension among adults aged 30-79 years is around 33% (References?)

2.3.1 Risk factors for Hypertension:

Factors that increase the risk of having high blood pressure include:

- Advancing Age - the risk of high blood pressure increases with age
- Having a family history of HTN
- Being overweight or obese
- Consuming an unhealthy diet
- Lack of physical activity (or sedentary lifestyle)
- Tobacco use in any form (smoking and/or chewing tobacco) and exposure to second-hand smoke
- Excessive alcohol consumption
- Stress
- Certain chronic conditions such as kidney and hormone problems, diabetes etc.

2.3.2 Criteria for Diagnosis of Hypertension:

Hypertension is diagnosed in case of consistent elevation of blood pressure (systolic blood pressure is ≥140 mmHg and/or diastolic blood pressure is ≥90 mmHg) during two or more properly measured blood pressure readings in sitting position.

16. Hypertension India Profile 2019. Country Profile

Table 1: Criterion for HTN

Category	Systolic Blood Pressure (mm Hg)	Diastolic Blood Pressure (mm Hg)
Normal	<120	<80
Prehypertension	120-139	80-89
High Blood Pressure/HTN	≥140	≥90

2.3.3 Diagnosing Hypertension[17] :

When considering a diagnosis of hypertension, measure blood pressure in both arms:

- If the difference in readings between arms is more than 15 mmHg, repeat the measurements.
- If the difference in readings between arms remains more than 15 mmHg on the second measurement, measure subsequent blood pressures in the arm with the higher reading.

If blood pressure measured in the clinic is 140/90 mmHg or higher:

- Take a second measurement during the consultation.
- If the second measurement is substantially different from the first, take a third measurement.

Record the lower of the last 2 measurements as the clinic blood pressure.

If clinic blood pressure is between 140/90 mmHg and 180/120 mmHg, offer ambulatory blood pressure monitoring (ABPM) to confirm the diagnosis of hypertension. See the section on identifying who to refer for people with a clinic blood pressure 180/120 mmHg or higher.

If ABPM is unsuitable or the person is unable to tolerate it, offer home blood pressure monitoring (HBPM) to confirm the diagnosis of hypertension.

While waiting for confirmation of a diagnosis of hypertension, carry out:

- investigations for target organ damage:
- test for the presence of protein in the urine by sending a urine sample for estimation of the albumin:creatinine ratio and test for haematuria using a reagent strip

17. Source: Recommendations | Hypertension in adults: diagnosis and management | Guidance | NICE

- take a blood sample to measure glycated haemoglobin (HbA1C), electrolytes, creatinine, estimated glomerular filtration rate, total cholesterol and HDL cholesterol
- examine the fundi for the presence of hypertensive retinopathy
- arrange for a 12 lead electrocardiograph to be performed.
- formal assessment of cardiovascular risk using a cardiovascular risk assessment tool (see the section on full formal risk assessment in NICE's guideline on cardiovascular disease).

When using ABPM to confirm a diagnosis of hypertension, ensure that at least 2 measurements per hour are taken during the person's usual waking hours (for example, between 08:00 and 22:00). Use the average value of at least 14 measurements taken during the person's usual waking hours to confirm a diagnosis of hypertension.

When using HBPM to confirm a diagnosis of hypertension, ensure that:

- for each blood pressure recording, 2 consecutive measurements are taken, at least 1 minute apart and with the person seated and
- blood pressure is recorded twice daily, ideally in the morning and evening and
- blood pressure recording continues for at least 4 days, ideally for 7 days.

Discard the measurements taken on the first day and use the average value of all the remaining measurements to confirm a diagnosis of hypertension.

Confirm diagnosis of hypertension in people with a:

- clinic blood pressure of 140/90 mmHg or higher and
- ABPM daytime average or HBPM average of 135/85 mmHg or higher.

2.3.4 Management of Hypertension:

Hypertension can be managed with drugs and maintaining a healthy lifestyle. Non-pharmacological treatment of the condition involves maintaining a healthy lifestyle, including weight loss, healthy diet, reduced intake of dietary salt, enhanced intake of dietary potassium. The DASH (Dietary Approaches to Stop Hypertension) diet for hypertension is recommended which is a healthy eating plan primarily designed to help lower blood pressure, emphasizing fruits, vegetables, whole grains, lean proteins, and low-fat dairy while limiting sodium, saturated fat, and added sugars [18].

Drug therapy should be started in individuals at the time of diagnosis in case of blood pressure >140/90 mmHg (despite non-pharmacological interventions). Drug therapy or pharmacological treatment may involve the administration of a single or combination drug. Common drugs used in treatment of HTN include Amlodipine (calcium channel blocker), Telmisartan (angiotensin receptor blockers) and Chlorthalidone (thiazide like

18. https://www.nhlbi.nih.gov/education/dash-eating-plan

diuretics). Once the diagnosis of HTN is established, the patient must be provided at least a month's supply of drugs from the PHC.

2.3.5 Referral and Follow-up for Hypertension:

In case of complicated cases of HTN, the patient should be referred to secondary/tertiary care health facilities such as CHCs/Urban CHCs/District hospitals for consultation with a specialist and further management, and subsequent follow-up should be carried out once every year or sooner, if required. Individuals with HTN, under treatment/referred from PHC-AAM/UPHC-AAM for management at CHC may be referred to respective PHC-AAM/ UPHC-AAM once their blood pressure levels are under control. Decentralization of care up-to SHC-AAM is key for ensuring continuum of care; back referrals of stable patient is done to the SHC-AAM for their follow-ups, regular monitoring and dispensing of medicines as prescribed as per the operational guidelines for NP-NCD.

2.4 Common Cancers:

Cancer is a growing public health problem of concern in India. As per National Cancer Registry Program, the prevalence of cancer is estimated to be around 3.6 millionwith nearly 800,000 cancer related deaths every year in the country[19]. The most common cancers are oral cancer, breast cancer, and cervical cancer, accounting for approximately 34% of all cancers, in the country[20].

2.4.1 Oral Cancer[1,21]:

Oral cancer includes cancers of the lip, other parts of the mouth and the oropharynx and is ranked as the sixth most common cancer worldwide. India records more than 1,00,000 cases of oral cavity cancers every year. India has the highest prevalence of oral cancer in the world (19/100, 000 population). It is the most common cancer in men and the third most common cancer in women, and constitutes 13%–16% of all cancers. Of all the oral cancers, 95% are related to the use of tobacco products. The 5-year survival rate of oral cancer treated patients is approximately 50%.

19. India: Health of the Nation's States, The India State-Level Disease Burden Initiative. (2017). Available from: https://www.healthdata.org/sites/default/files/files/2017_India_State-Level_Disease_Burden_Initiative_-_Full_Report%5B1%5D.pdf [Accessed 16th September 2023]
20. Ferlay J, Soerjomataram I, Ervik M, et al. GLOBOCAN 2012 v1.0, Cancer Incidence and Mortality Worldwide: IARC Cancer Base No.11.Lyon, France: International Agency for Research on Cancer, 2013. http://globocan.iarc.fr
21. https://www.indiancancersociety.org/oral-cancer/

2.4.1.1 Risk factors for Oral Cancer:

Most incidences of oral cancers result due to chronic exposure to risk factors including

- Tobacco chewing, the single most important risk factor/ smoking
- Alcohol use
- Betel nut chewing
- Chronic trauma to oral mucosa by sharp tooth or ill-fitting dentures

Long-term exposure to risk factors may lead to formation of pre-cancerous lesions including leucoplakia, erythroplakia, palatal changes (associated with smoking/reverse smoking), sub-mucous fibrosis, and generalized pre-cancerous conditions (Plumer Vinson Syn, Syphilis and Erosive lichen planus), which may lead to malignancy.

2.4.1.2 Signs and Symptoms of Oral Cancer[22]:

Symptoms of oral cancer can affect any part of the mouth including the gums, tongue, inside the cheeks, or lips and include,

- Non healing ulcer/ sore in the mouth especially in a tobacco chewer or smoker Neck mass
- Difficulty in opening mouth
- Difficulty in protrusion of tongue
- Pain referred to ear
- Oral premalignant disorders (OPMD): leukoplakia/ erythroplakia/sub mucous fibrosis, lichen planus

2.4.1.3 Screening and Referral for Oral Cancer[11]:

Oral cancers are preceded by disorders that can be readily detected in the oral cavity because of easy access to the site. Early detection of these lesions is possible during routine general health check-ups/screening by service provider/health workers or by self-examination. Early detection and management of oral cancer can lead to reduced mortality and morbidity, reduced cost of treatment and improved quality of life for the patients. In case a patient (aged 30-65 years) tests positive for oral cancer during Oral Visual Examination (OVE), the individual should be referred to a Surgeon/Dentist/ENT Specialist or to a Medical Officer at CHC/District Hospital for confirmation and biopsy.

22. ICMR Standard Treatment Workflow (STW) LIP AND ORAL CANCER ICD-10-C 06.9 Accessed from: https://main.icmr.nic.in/sites/default/files/STWsDownload/Oncology/LIP_AND_ORAL_CANCER.pdf

2.4.1.4 Diagnosis and Management[11] :

For confirmation of diagnosis, the biopsy specimen should be sent either to the nearest Medical college or to the nearest NABL certified laboratory, under the NHM's Free Diagnostics initiative. The treatment usually includes surgery, radiotherapy and/or chemotherapy and provided at medical college or tertiary cancer centres.

2.4.2 Breast Cancer:

Breast cancer (BC) is the commonest malignancy among women globally. It has now surpassed lung cancer as the leading cause of global cancer incidence in 2020, with an estimated 2.3 million new cases, representing 11.7% of all cancer cases[23]. As per the Globocan data 2020, in India, breast cancer accounted for 13.5% (178,361) of all cancer cases and 10.6% (90,408) of all deaths. In India, it is the most common cancer in women, followed by cervical cancer[24].

2.4.2.1 Risk factors for Breast Cancer[25] :

Female gender is the strongest breast cancer risk factor. In women, reproductive and hormonal factors that increase risk of breast cancer include higher age at first childbirth, early menarche (< 12 years), late menopause (>55 years) and undergoing menopausal hormone therapy (estrogen and progesterone for ≥ 5 years). However, other factors that also increase the risk for incidence of breast cancer may be obesity after menopause, physical inactivity, and alcohol intake.

Women in high-risk groups include those with personal history of breast cancer, those with family history of breast/ovarian/colon cancer, and those with chronic benign breast cancer.

2.4.2.2 Signs and Symptoms of Breast Cancer[21] :

Breast cancer can have combinations of symptoms, especially when it is more advanced. Most people will not experience any symptoms when the cancer is still early.

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23. Sung H, Ferlay J, Siegel RL, Laversanne M, Soerjomataram I, Jemal A, Bray F. Global Cancer Statistics 2020: GLOBOCAN Estimates of Incidence and Mortality Worldwide for 36 Cancers in 185 Countries. CA Cancer J Clin. 2021;71:209–249
24. Mehrotra R, Yadav K. Breast cancer in India: Present scenario and the challenges ahead. World J Clin Oncol. 2022 Mar 24;13(3):209-218. doi: 10.5306/wjco.v13.i3.209. PMID: 35433294; PMCID: PMC8966510.
25. Consensus Document for Management of Breast Cancer. Available from: https://main.icmr.nic.in/guidelines?field_select_disease_tid=91

Symptoms of breast cancer can include:

- Asymmetry of breast or nipple areola or axilla
- Breast lump, bulge, blood vessels prominent
- Colour change of skin or nipple areola
- Deformed breast / nipple areola (nipple retraction), dimpling of skin,
- Discharge from nipple, Direct spread-skin (satellite nodule, ulcer, skin oedema), chest wallDistant spread - headache, jaundice, dyspnoea, bone pains, ascites

Signs of breast cancer include:

A. Breast changes

- Asymmetry in shape/size of breast or nipple areola complex
- Breast lump
- Nipple retraction/ulcer
- Change in skin - puckering, dimpling, thickening, ulcer, redness, edema & satellite nodules

B. Lymph node

- lymph node(s) in axilla or supra-clavicular fossa

C. Systemic changes

- Enlarged liver, ascites, bony tenderness, dyspnoea, pleural effusion

2.4.2.3 Screening and Referral for Breast Cancer? [1] :

Routine screening for breast cancer helps early detection and increases chance of survival. Prompt diagnosis of breast cancer at an early stage is important for improving the outcome.

Table 2: Screening and Referral for Breast Cancer

Frequency	Age of Beneficiary	Method of Screening	If Positive
Once every 5 Years	30-65 years	Clinical Breast Examination (CBE)	Referred to Surgeon at CHC/DH for confirmation using a Breast Ultrasound Probe followed by Biopsy as appropriate

2.4.2.4 Diagnosis and Management of Breast Cancer :

For confirmation of diagnosis, biopsy is done at DH or medical college. The treatment usually includes surgery, radiotherapy and/or chemotherapy and provided at medical college or tertiary cancer centres.

2.4.3 Cervical Cancer[1,26] :

Cervical cancer or cancer of the cervix (the entrance to the uterus from the vagina), is the second most common cancer among women in India with an incidence of 15/1,00,000. Annually, India reports approximately 97,000 cases of cervical cancer that result in 60,000 deaths[27]. Compared to other developed countries, the incidence of this form of cancer is higher in India. Cervical cancer is most frequently diagnosed in women between the ages of 35 and 44 with the average age at diagnosis being 50-59 years. A considerable proportion of women get diagnosed in late stages of the disease.

2.4.3.1 Risk factors for Cervical Cancer[28] :

Several risk factors can increase the chance of developing cervical cancer. Infection by the human papillomavirus (HPV) is the most important risk factor for cervical cancer. Almost all cervical cancers are caused by HPV, a common sexually transmitted virus.

Other risk factors for cervical cancer are:

- Persistent infection of the cervix with Human Papillomavirus (HPV)
- Giving birth to many children
- Having many sexual partners
- Spouse having multiple sexual partners
- Having first sexual intercourse at a young age
- Smoking
- Due to HIV/AIDS, immunosuppressive drugs, transplant etc.

2.4.3.2 Signs and Symptoms of Cervical Cancer[29] :

Early on, cervical cancer may not cause any signs and symptoms, and by the time

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26. Consensus Document for the Management of Cancer Cervix. Available from: https://main.icmr.nic.in/guidelines?field_select_disease_tid=91
27. Bray F, Ferlay J, Soerjomataram I, Siegel RL, Torre LA, Jemal A. Global cancer statistics 2018: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. CA Cancer J Clin. 2018;68(6):394–424
28. https://cancerindia.org.in/cervical-cancer/#1715666071516-166b4812-22e2
29. https://cancerindia.org.in/cervical-cancer/#1715666077846-53f6c998-cbbb

symptoms do appear, the disease may have already spread.

- Abnormal vaginal bleeding: Bleeding and spotting between periods, unusually longer or heavier periods, bleeding after menopause
- Unusual or excessive vaginal discharge with foul smell
- Vaginal bleeding after having sexual intercourse
- Pain in the lower abdomen or pelvic pain
- Pain during sexual intercourse

2.4.3.3 Screening and Referral for Cervical Cancer[11] :

Visual inspection of the cervix with acetic acid (VIA) is an effective screening test for cervical cancer. The test involves visual inspection of the uterine cervix, after application of 3 - 5% acetic acid and can be performed by any trained paramedic. The results of VIA are immediately available (categorized as per colour changes on cervix) and do not require any laboratory or specialist support.

2.4.3.4 Diagnosis and Management for Cervical Cancer[11] :

All women testing positive for VIA should be evaluated by a Gynecologist/Lady Medical Officer at the nearest health care facility. Women who tested positive on screening are eligible for treatment including surgery/cryotherapy/thermo-coagulation.

For beneficiaries aged 30-65 years, VIA should be conducted once every five years, and in case of screening positive, the individual should be referred to a higher health facility (CHC/District Hospital) with Gynecologist/trained Medical Officer, for further evaluation and management of precancerous conditions. In case, of VIA-positive patients referred from a lower health facility, or in case of invasive precancerous lesions of the cervix found in direct walk-in patients, the DH could offer colposcopy and cryotherapy.

2.4.4 Day Care Cancer Center (DCCC):

Day Care Cancer Centres (DCCCs) operate across the District Hospitals to expand access to follow-up chemotherapy and supportive cancer care thus decentralizing cancer services. They reduce out-of-pocket expenditure, improve continuity of care, and ease the load on tertiary cancer hospitals. As per the Union Budget 2025–26 announcement, all districts are to be saturated with functional DCCCs by 2027–28.

Each DCCC is linked with a designated Mentor Institute such as State Cancer Institute, Tertiary Cancer Care Centre or Medical College to ensure treatment planning support, and referral pathways. Effective functioning requires adequate human resources, routine training, infrastructure readiness, uninterrupted drug and consumable supply, and adherence to safety standards. Routine reporting and structured review mechanisms is essential for effective operationalization under NP-NCD.

2.5 Stroke[30] :

The World Health Organization defines stroke as 'rapidly developed clinical signs of focal (or global) disturbance of cerebral function, lasting more than 24 hours or leading to death, with no apparent cause other than of vascular origin'. Transient Ischemic Attack (TIA) is a transient episode of neurological dysfunction caused by focal brain, spinal cord, or retinal ischemia without acute infarction.

After ischemic heart diseases, stroke is the biggest killer globally. By 2050, it is estimated that more than 80% of the predicted global burden of stroke, amounting to 15 million cases, will occur in low and middle-income countries. India accounts for 1.17 million cases of deaths and 7,00,000 resulting deaths every year[31].

2.5.1 Risk factors for Stroke:

For prevention, it is important to identify risk factors for stroke. For both Ischemic and haemorrhagic stroke, key non-modifiable risk factors include increasing age, gender, race/ethnicity, and genetic factors. Modifiable risk factors for ischemic stroke include obesity and body fat distribution (waist-to-hip ratio), physical inactivity, unhealthy diet and nutrition, hyperlipidemia, diabetes mellitus, excessive alcohol consumption, structured cardiac diseases (such as rheumatic valve disease), apolipoprotein B to A1. While, for haemorrhagic stroke modifiable risk factors include obesity and body fat distribution (waist-to-hip ratio), hypertension, tobacco smoking (current), alcohol consumption, unhealthy diet and nutrition.

2.5.2 Signs and Symptoms of Stroke:

Men and women who have strokes often feel similar symptoms, including

- Numbness or weakness, especially on one side of the body
- Loss of consciousness or altered consciousness
- Decreased vision in one or both eyes
- Language difficulties, either in speaking or understanding
- Difficulty walking; loss of balance or coordination
- Confusion or loss of memory
- Swallowing difficulties

30. Guidelines for Prevention and Management of Stroke, 2022.
31. The burden of neurological disorders across the states of India: the Global Burden of Disease Study 1990–2019. https://www.thelancet.com/journals/langlo/article/PIIS2214-109X(21)00164- 9/fulltext#:~:text=The%20contribution%20of%20non%2Dcommunicable,5%E2%80%930%C2%B77)

- Paralysis of any part of the body, including face
- Sudden, severe headache with no known cause
- Neck pain
- Nausea and vomiting

Warning Signs (BEFAST)

- BALANCE : Loss of balance or coordination
- EYES : Sudden blurred or double vision/ sudden, persistent vision trouble
- FACE : Deviation at the angle of the mouth
- ARM : Arm Drift
- SPEECH : Slurred speech or the inability to speak or understand
- TIME : Act fast
- Sudden new onset of headache or loss of consciousness
- Sudden giddiness, vomiting and imbalance

2.5.3 What to do with a suspected stroke patient?

The most important thing to keep in mind while responding to a patient with a suspected stroke, is timely medical intervention for diagnosis and treatment, including

- Rapid diagnosis at primary hospital
- Rapid transport and prior information to receiving/referral hospital
- Rapid confirmation of diagnosis, and
- Rapid treatment

2.5.4 Management of Stroke:

Stroke patients are treated with:

- **Antiplatelet therapy** including Aspirin, for reducing the chances of another clot forming.
- **Thrombolytics** which dissolves blood clots and restores blood flow to the brain.
- **Surgery along with physiotherapy**
- **Follow-up visits** with medical providers at regular intervals.

2.6 ST Elevation Myocardial Infarction:

Myocardial infarctions (MI) are generally clinically classified into ST elevation MI (STEMI) and non-ST elevation MI (NSTEMI), based on changes in ECG[32].

The mortality and morbidity due to MI accounts for more than 15% mortality per year among STEMI and Non-STEMI patients[33]. The ischemic heart disease/ STEMI is the highest-ranking cause of premature death in terms of number of years of life lost. In India, STEMI is estimated to account for more than 2.5 million cases annually in the country (approximately 40% of myocardial infarctions)[34]. It is estimated that STEMIs occurs about twice more often in men than in women.

2.6.1 Risk factors for STEMI:

Risk factors for STEMI can be classified as non-modifiable or modifiable (behavioural and intermediate).

Table 3: Risk factors for STEMI

Behavioral Risk Factors	Intermediate Risk Factors	Non – modifiable Risk Factors
• Harmful consumption of Alcohol • Smoking • Lack of physical activity • Unhealthy diet • Psychological Stressors	• High blood pressure/ Hypertension • High blood sugar/ diabetes • High blood cholesterol levels • Overweight/obesity	• Age (older age increases risk) • Gender (males are at comparatively greater risk) • Family history • Racial ethnicity

32. Guidelines for Management of ST-Elevated Myocardial Infarction
33. Cardiovascular diseases (CVDs) [Internet]. who.int. 2022 [cited 27 September 2022]. Available from: https://www.who.int/en/news-room/fact-sheets/detail/ cardiovascular-diseases-(cvds)
34. Salve P, Vatavati S, Hallad J. The hub-and-spoke model of national STEMI programme of India: An investigation of STEMI-Goa project. Indian Heart Journal. 2021;73(4):P424-428.

2.6.2 Diagnosis for STEMI:

ECG is used to make a diagnosis of STEMI at the health facilities. To reduce the system delays, it is important to establish early diagnosis of STEMI.

2.6.3 Management for STEMI[16]:

At all non-Percutaneous Coronary Intervention (PCI) performing healthcare facilities, key processes should include:

- Physical examination of patients with chest pain to aid in diagnosis of STEMI.
- Performing an ECG in a patient with acute chest pain suspected of STEMI.
- Transmission of ECG and vital parameters to the Centralized Command Centre.
- Act as per the interpretation/decision support based on ECG readings and other vital parameters by Centralized 24X7 Command Centre's MD Medicine/Cardiologists.
- Thrombolysis and organizing transport for further care of STEMI at higher PCI capable centre.

All efforts should focus on reducing the time taken from symptom onset to presentation, as much as possible (a 2 hour or less target may be aimed for). The patient should be transferred to a nearby appropriate hospital for further management as soon as possible.

2.6.4 Follow-up and Referral for STEMI:

The treating hospital follows-up the patients after Angioplasty/ Mechanical Thrombectomy treatment. The lower facilities also have their patient follow-up system where they inform Auxiliary Nurse Midwives (ANM) in that area to follow-up the patients treated for the STEMI.

2.7 Non-Alcoholic Fatty Liver Disease[1,35] :

Non-alcoholic fatty liver disease (NAFLD) is the buildup of extra fat in liver cells that is not caused due to alcohol consumption. In some individuals, NAFLD may further lead to liver inflammation, liver fibrosis and cirrhosis, and liver cancer. It is normal for the liver to contain some fat, however if more than 5%-10 % of the liver's weight is fat, then it is called a fatty liver (Steatosis)[36].

Globally, NAFLD is estimated to afflict approximately 1 billion individuals, 20-30 % of the general population all over the world. In India, epidemiological studies suggest the

35. Operational Guidelines for Integration of Non-Alcoholic Fatty Liver Disease (NAFLD) into NPCDS
32. Perumpail BJ, Khan MA, Yoo ER, Cholankeril G etal. Clinical epidemiology and disease burden of Non-Alcoholic fatty liver disease. World journal Gastroenterol 2017 Dec 21:23 (47): 8263-76.

prevalence of the disease to be in the range of 9%-32 % of the general population with a higher prevalence observed in individuals who are overweight or obese, and those with diabetes or pre-diabetes[37].

NAFLD can be further classified into two sub-categories, non-alcoholic fatty liver (NAFL) and non-alcoholic steatohepatitis (NASH), which are silent diseases with few or no symptoms.

2.7.1 Risk Factors for NAFLD:

Obesity and diabetes are the major risk factors for NAFLD. Several factors contribute to the development of NAFLD and subsequent hepatocellular carcinoma development. These factors include genetic risk factors including a family history of NAFLD or metabolic syndrome and environmental modifiers such as diet lifestyle, obesity and the presence of diabetes. NAFLD is part of the metabolic syndrome characterized by diabetes or pre-diabetes (insulin resistance), being overweight or obese, elevated blood lipids such as cholesterol and triglyceride as well as high blood pressure. Cardiovascular disease is the most common cause of death in NAFLD.

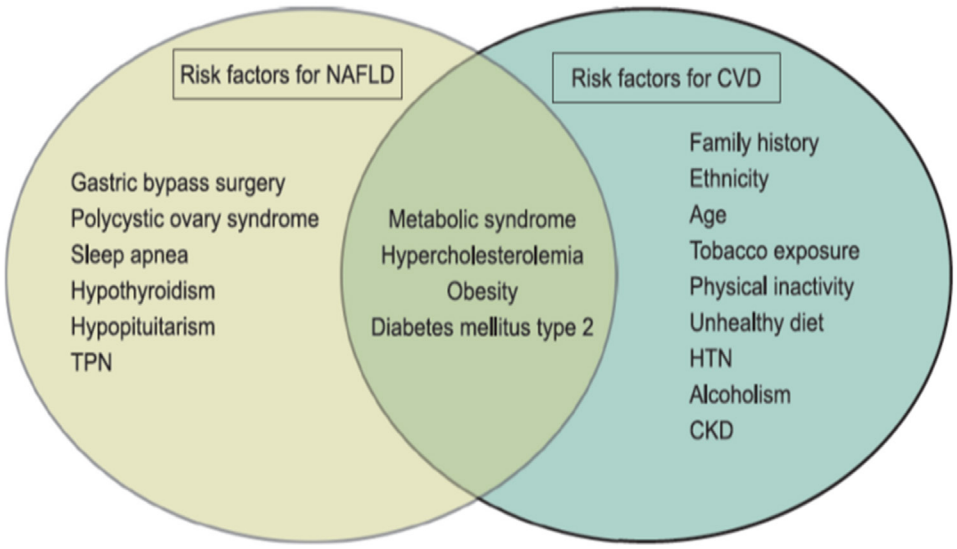

Figure 2: Confluence of the risk factors for both non-alcoholic fatty liver disease and cardiovascular disease

37. Anstee, Q.M revees. H L Kotsiliti E et al. from NASH to HCC: current concepts and future challenges. Nat Rev Gastroenterol Hepatol 16, 411-428 (2019).

2.7.2 Screening and Diagnosis of NAFLD:

Screening for NAFLD is done both at community level and the health facility level. Those who are at risk with a history of diabetes combined with abdominal obesity are referred for further diagnosis and management.

The diagnosis of NAFLD is usually suspected in overweight or obese person who is found to have mild elevations in their liver test during a routine blood testing or incidentally detected on radiological investigations such as abdominal ultrasound or CT scan. The only reliable method to identify whether a person has NASH or simple fatty liver, is by a liver biopsy. Among the serum biomarkers, FIB-4 (Fibrosis-4) and NFS are the most accurate. In patients with intermediate or high risk on FIB-4 and NFS, non-invasive measurement of liver fibrosis using transient elastography (fibro scan) is recommended.

2.7.3 Management of NAFLD:

As of the present moment, there are no medically established interventions capable of fully reversing the disease. Key recommendations for people with fatty liver include weight loss, in case they are overweight or obese, increase in physical activity in routine daily life (lifestyle modification), balanced diet, and avoidance of alcohol and unnecessary medication.

2.8 Chronic Obstructive Pulmonary Disease (COPD) and Asthma[1,38] :

Chronic Obstructive Pulmonary Disease (COPD) is a common, preventable, and treatable disease that is characterized by persistent respiratory symptoms and airflow limitation that is due to airway and/or alveolar abnormalities usually caused by significant exposure to noxious particles or gases. Asthma is a chronic inflammatory disorder of the airways characterized by recurrent episodes of wheezing, breathlessness, chest tightness and cough that is often reversible either spontaneously or with treatment.

COPD and asthma are among the most common chronic diseases worldwide, with 212 million and 262 million cases, respectively, according to the Global Burden of Disease Report (2019). India ranks second in global COPD burden, contributing 17.8% of the burden and 27.3% of deaths, with 37.8 million cases. The country has an estimated 34.3 million asthma cases, 13% of the global burden and 43% of global asthma deaths, making it the world's leading contributor to asthma cases, DALYs, and deaths.

38. Medical Officer's Manual for Prevention and Management of Chronic Obstructive Pulmonary Disease & Asthma

2.8.1 Risk Factors for COPD:

Over time, exposure to lung irritants like tobacco smoke or chemicals can cause damage to lungs and airways. The leading cause of COPD is smoking, however one in four patients with COPD have never smoked.

Table 4: Risk factors for COPD

Established Risk	Probable
Tobacco smoking in all forms	Outdoor air pollution
Environmental tobacco smoke	Pulmonary TB
Exposure to biomass fuel smoke and other indoor air pollutants	Intrauterine growth retardation
Occupational exposure	Intrauterine growth retardation
Alpha-1 antitrypsin deficiency	Poor nourishment Repeated lower respiratory infections during childhood Older age Male gender Low socioeconomic status

2.8.2 Risk factors for Asthma:

A combination of genetics and exposure to certain elements in the environment put people at the greatest risk of developing asthma for the first time.

Table 5: Risk factors for Asthma

Non-Modifiable Risk Factors	Modifiable Risk factors
• History of atopy: eczema, recurrent sneezing, itchy/watery eyes • Genetic- Family history of Asthma or atopy	• Indoor Allergens: house dust mites, animal protein, cockroaches and fungi • Tobacco, smoke • Outdoor and indoor air pollution Respiratory viral infections • Occupational dust (industrial) exposure • Formula feed and cow- milk in infancy • Obesity

2.8.3 Screening for COPD and Asthma:

Screening for an early diagnosis of COPD and asthma is feasible and early detection through screening of COPD and Asthma patients helps in easy understanding and improving the decision making for early diagnosis and management, improving quality of life of patients while focusing on lifestyle modification for risk reduction.

All individuals > 30 years of age found positive during population level screening through Community Based Assessment Checklist (CBAC) should be referred to nearby AAM-SHC/ SHC/AAM-PHC/PHC/CHC/DH on priority basis for further assessment in reference to respiratory diseases.

2.8.4 Diagnosis for COPD and Asthma:

Diagnosis for both COPD and asthma require getting the detailed history of the patient and conducting a clinical examination. For diagnosis of COPD, presence of respiratory symptoms, exposure to risk factors and presence of poorly reversible airflow obstruction is required. According to GOLD (Global initiative for Chronic Obstructive Lung Disease) spirometry remains the gold standard and must be performed in all suspected COPD patients. In case of Asthma, a bronchodilator reversibility test with a peak flow meter, using an inhaled bronchodilator like salbutamol can help to confirm the presence of the disease. In cases where the diagnosis is in doubt, patients may be referred to higher centres, where facilities for appropriate investigations including chest x-ray and spirometry are available.

2.8.5 Management of COPD and Asthma:

Health education for risk reduction and lifestyle modification and pharmacologic intervention are important pillars in management of COPD patients.

Table 6: Management of COPD and Asthma

COPD	Asthma
Pharmacological • Short and long-acting bronchodilators • Corticosteroids • Antibiotics **Non-pharmacological** • Smoking cessation • Pulmonary Rehabilitation, physiotherapy and Yoga • Nutritional Advice • Exposure Avoidance (Indoor/outdoor pollution/allergens) • Lifestyle Modification/ Physical Activity	**Pharmacological** • Short and long-acting Bronchodilators • Corticosteroids • Leukotriene modifiers • Methylxanthines • Phosphodiesterase 4 inhibitors **Non-pharmacological** • Smoking cessation • Exposure Avoidance (Indoor/outdoor pollution/allergens) • Avoid Beta blockers, Aspirin and NSAIDs

Wherever available, all patients of COPD of all severities, must receive appropriate vaccination, including influenza (flu) vaccine, pneumococcal vaccine, and Covid-19 vaccine.

2.8.6 Follow-up and Referral for COPD and Asthma:

Once treatment has been optimized at CHC/DH/Medical College, the COPD patient may be asked to follow up at primary health care level, with the first follow up scheduled within a month, and thereafter every 3-6 months (mild to moderate disease) or every 1-3 months (severe disease). Asthma patients may be asked to come for the first follow up visit within a week, and then every three months, except in case of emergency. During the follow up visits, control of symptoms should be assessed, risk factors should be corrected if possible, and inhaler technique and adherence should be checked and corrected.

2.9 Chronic Kidney Disease[1,39] :

Chronic Kidney Disease (CKD) means kidney disease persisting for more than 3 months. These are the diseases where there is either evidence of kidney damage and/or evidence of low Glomerular Filtration Rate (GFR). GFR below < 60 ml/ min/1.742. CKD is progressive in nature (may be very slow at times) and it will ultimately go into End Stage Renal Disease "ESRD".

On a global scale, the prevalence of CKD casts a substantial burden, affecting a staggering population of over 690 million individuals[40]. Within the Indian context, the population prevalence of CKD has been recorded in the range of 8-17% in different surveys[41]. Furthermore, the healthcare landscape in India faces a daunting challenge as approximately 220,000 new cases of ESRD emerge each year, necessitating an additional 34 million dialysis procedures annually[42].

2.9.1 Risk Factors for CKD:

CKD is not a single disease. It is a syndrome which has many causes. The common causes of CKD include:

- Diabetes mellitus
- Hypertension
- Glomerulonephritis
- Tubulo-interstitial diseases
- Cystic diseases of kidneys
- CKD of undetermined cause

2.9.2 Diagnosis for CKD:

Indications of kidney disease can manifest through anomalies in urine composition, radiological irregularities, and signs of kidney impairment such as elevated serum creatinine levels. In the diagnosis of CKD, whether in a hospital environment or within the community, the assessment of urine albuminuria and GFR parameters holds paramount significance due to their practicality.

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39. Medical Officers' Manual for Prevention and Management of Chronic Kidney Diseases, 2022
40. GBD Chronic Kidney Disease Collaboration. Global, regional, and national burden of chronic kidney disease, 1990–2017: a systematic analysis for the Global Burden of Disease Study 2017. The Lancet. 2020;395(10225):709-733. doi:10.1016/S0140-6736(20)30045-3.
41. Guidelines for establishing Peritoneal Dialysis under PMNDP https://nhm.gov.in/New_Updates_2018/PMNDP/Guidelines_for_PMNDP.pdf
42. Pradhan Mantri National Dialysis Programme under NHM https://main.mohfw.gov.in/sites/default/files/Pradhan%20Mantri%20National%20Dialysis%20Programme%20under%20NHM_0.pdf

- **Glomerular Filtration Rate (GFR) and eGFR**

GFR is used to estimate the burden of kidney disease at individual and population levels. As 'measurement' of GFR is cumbersome process and impractical in community setting, GFR is 'estimated' by various formulas using S. Cr. value, so called estimated GFR (eGFR)

- **Albuminuria Measurement**

By itself, eGFR is not sufficient for identifying stage 1 and stage 2 CKD, because in those patients the GFR may in fact be normal to near normal. In such cases, the presence of albuminuria (albumin excretion > 30 mg/24 hours or albumin creatinine ratio > 30 mg/g) is key measurement to define stage-1 and 2 CKD.

- **Proteinuria Measurement**

Screening patients for proteinuria can be done either by

  - **Semiquantitative methods:** The most common method being the standard urine dipstick test for detection of albuminuria.
  - **Quantitative methods:** for measuring the quantity of protein excretion.

- **Radiological evidence**

Depending on the anticipated abnormality, the imaging method could be chosen like Plain X-Ray abdomen, Ultrasonography of abdomen or CT scan.

2.9.3 Management of CKD:

Disease management for CKD include:

- **Lifestyle management** including abstaining from smoking and alcohol consumption and increased focus on weight reduction, dietary protein control, dietary salt restriction and increased physical activity.
- **Management of intra-renal factors associated with CKD** like diabetes mellitus, hypertension and vascular diseases.
- **Kidney replacement therapies** or Renal Replacement Therapy (RRT) is considered to improve longevity and quality of life for ESRD patients. These patients are stabilised with dialysis and counselled for the selection of modality for RRT.
  - **Haemodialysis (HD)** is an extracorporeal treatment that uses a machine to remove uremic waste through the dialyzer (called an artificial kidney). It is usually needed about 3 times per week, with each episode taking about 3-4 hours.
  - **Peritoneal dialysis (PD)** uses peritoneal membrane as a filter to clear uremic wastes and extra fluid from the body. A patient undergoes between 3 to 4 exchanges each day.
  - **Kidney transplant (KT)** is the process of placing a kidney in ESRD patients from a healthy and voluntary living kidney donor or deceased donor. The modality is cost-effective and provides longevity and is the method of choice among ESRD patients.

2.9.4 Pradhan Mantri National Dialysis Program[43] :

To address the rising national burden of ESRD, Ministry of Health & Family Welfare (MoHFW) launched the 'Pradhan Mantri National Dialysis Program' (PMNDP) under the National Health Mission in Union Budget 2016-17, to make renal-care services (including HD and PD services) accessible and affordable to Below Poverty Line patients. Under the program, dialysis centres (in-house and public private partnership/hybrid models) have been established at all district hospitals.

MoHFW has also taken an initiative in developing an IT platform (PMNDP portal)[44] to integrate all the dialysis centres in the country with the objective of 'One Nation-One Service' concept.

The PMNDP portal (IT platform) was launched on 05 May 2022 to integrate all the dialysis centres operational in the state and facilitate building of renal registry and ensuring portability within the state (one state one dialysis) and later throughout the country (One Nation-One Dialysis). The portal is aligned with the Ayushman Bharat Digital Mission (ABDM) framework and captures the basic details of the beneficiary using Ayushman Bharat Health Account (ABHA) ID which helps in line listing of patients and their follow-up.

The portal also helps in creating a renal registry and has some unique features like Global Search using ABHA ID, Transfer patient, Vacant slot, waiting list generation, mobile application and patient registration through biometric & demographic authentication for ensuring portability for the patients in availing dialysis services anywhere in the country. The portal also has the facility to record the details of the Peritoneal Dialysis beneficiaries and their CAPD fluid consumption record.

2.9.5 Referral and Follow-up for CKD:

In case of complicated cases of CKD, the patient should be referred to secondary/tertiary care health facilities such as CHCs/ Urban CHCs/District hospitals for consultation with a specialist (nephrologist) and further management, and subsequent follow-up should be carried out once every year or sooner, if required.

43. National Dialysis Program under National Health Mission

44. Pradhan Mantri National Dialysis Program. Ministry of Health and Family welfare (link: https://pmndp.mohfw.gov.in/en)

2.10 Additional Reading Resources:

1. Training Module for Medical Officers for Prevention, Control and Population Level Screening of Hypertension, Diabetes and Common Cancer (Oral, Breast & Cervical) 2017
2. Operational Guidelines for National Programme for Prevention and Control of Non-communicable Diseases (2023-2030)
3. Guidelines for Prevention and Management of Stroke
4. Operational Framework- Management of Common Cancers
5. Guidelines for Management of ST-Elevated Myocardial Infarction
6. Operational Guidelines of Non-Alcoholic Fatty Liver Disease (NAFLD)
7. Medical Officer's Manual for Prevention and Management of Chronic Obstructive Pulmonary Disease & Asthma
8. Operational Guidelines for Comprehensive Primary Health Care through Health and Wellness Centers
9. Medical Officers' Manual for Prevention and Management of Chronic Kidney Diseases
10. Training Module for Staff Nurses on Population Based Screening of Common NCDs
11. National Dialysis Program under National Health Mission
12. Guidelines for Establishing Peritoneal Dialysis Services under PMNDP

MODULE

03

HEALTH PROMOTION

Learning Objectives:

At the end of this module, you will be able to answer the following questions:

1. What are the key communication objectives under the NP-NCD?
2. What are the steps under health communication planning?
3. What are the different types of communication?
4. How to develop a communication plan?
5. What is the National Multisectoral Action Plan for Prevention and Control of Common NCDs (NMAP)

Chapter 3.1 Health Communication

3.1.1 NP-NCD Programme: Key Communication Objectives

The key communication objectives of the NP-NCD include:

- Increasing awareness among the population to help identify risk factors, maintain healthy behaviours and practices, address misconceptions and fears.
- Behavioural change communication (BCC) for promotion of healthy life
- Generating demand of NCD services at different levels.
- Self-care management and treatment adherence.

3.1.2 NP-NCD Programme: Key Communication Strategies

Communication activities under the NP-NCD, are designed to achieve the programme objectives and can be broadly divided under the following key closely linked strategies:

3.1.3 What Is Advocacy?

Advocacy refers to activities that seek to influence the decision makers to make NCDs core to public health agenda and create an enabling environment in support of NCDs. Advocacy plays a pivotal role in cultivating political support, securing long-term financial and other resources, and ensuring accountability from authorities to meet commitments and deliver results. It can be defined under these categories:

- **Policy advocacy** works with senior politicians and administrators on the impact of the issue at the national level and the need for action.
- **Program advocacy** reaches out to decision-makers, stakeholders and community partners to boost their participation in actions and program decisions in support of NCDs services.
- **Media advocacy** puts NCDs issues on the public agenda to generate support from governments and donors and validate the relevance of a subject.

3.1.4 Communication Strategy

The primary focus of NCD communication largely involves the dissemination of a sequence of messages to individuals affected by NCDs through mass media and mid-media, which is essential but not exhaustive. Communication can be further classified into the following subcategories:

- **Mass media** includes channels and campaigns that reach a general audience or a larger target group, such as print, radio or television campaigns, Internet websites, and special events.
- **Mid media** uses more targeted channels, like brochures, posters, mobile phones, photography, video, street theatre, and testimonials, to reach specific groups.
- **Interpersonal communication (IPC)** includes counselling, one-on-one education sessions, skills trainings, and presentations often targeted at health workers/ community health worker/Rogi Kalyan Samiti member/Jan Arogya Samiti member/ and direct supporters of NCD patients and families.

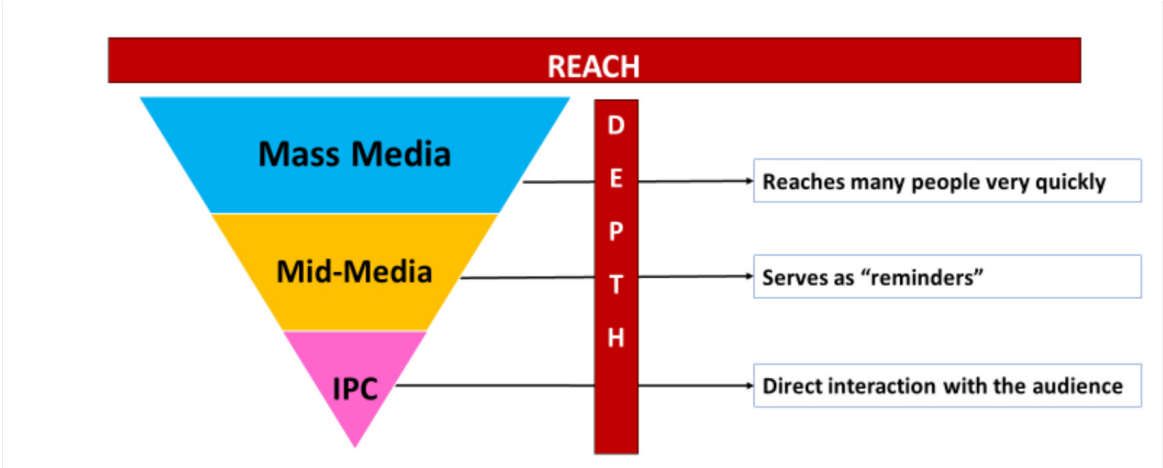

Figure 3: Channels of communication and reach

3.1.5 Social Mobilisation

Social mobilization involves bringing together diverse stakeholders and forging partnerships to prevent, diagnose, and manage NCDs, as well as to generate demand for NCD-related services. It focuses on engaging different stakeholders within the targeted population, such as a village community, a ward, or other smaller groups.

Under the NP-NCD, the program division visualizes two social mobilization strategies:

- **Advocacy, Communication, Partnership and Social Mobilization (NCDNet)** is the proposed consortium of advocacy and partnership network, also known as NCD

Network India, which could be supported by other Department/Ministry, international and national organizations. This consortium (NCDNet) can play a vital role in promoting healthy lifestyle and help in increasing health literacy to get better outcome and reducing risk factors of NCDs.

- **Advocacy and Network with People Living with NCDs (PLNCDs)** envisions people living with NCDs as powerful agents of change, capable of leveraging their lived experience to reach others and help break down stigma and discrimination. Equipped with skills, networks and knowledge, they are active players in the response to NCDs at both individual and system levels.

3.1.6 Social Media

Social media, defined as online platforms connecting people with common interests, facilitates information sharing through text, photos, videos, and infographics. Its popularity is rooted in accessibility, ease of use, and cost-effectiveness, expanding message reach significantly.

Popular social media platforms like Facebook, Twitter, WhatsApp, Instagram, YouTube, and LinkedIn can be leveraged to foster positive discussions about NCDs and healthy behavioural practices. Monitoring of negative conversation, myths, rumours in social media can be done regularly and positive content may be shared on regular intervals to counter and dissolve these through seeding of positive and scientific information on NCDs.

3.1.7 Innovative Strategies

The National NCD Division has envisioned some of the innovative health promotion ideas in order to address risk factors of NCDs, their prevention, knowledge sharing to better outcome, motivating health seeking behaviour within community at large. Few prominent examples include:

- **Observance of NCD Week/Fortnight**

Every year, dedicated NCD week/fortnight may be observed to create awareness about NCD risk factors, screening of common NCDs, their management, prevention of NCDs and promotion of adoption of healthy lifestyle. Special camps on population-based screening for common cancer may be organized in all Tertiary Cancer Care Centre (TCCC), State Cancer Institute (SCI) supported under NP-NCD program. Special efforts may be made to organize such events in government medical colleges.

- **m-Health Strategies for NCDs**

m-Health leverages mobile device and information communication technology to deliver health care services and knowledge sharing which can increase the access, affordability and quality of health care services significantly. It allows several applications including education and awareness: remote data collection, remote monitoring, communication and training for health care providers, diseases and outbreak tracking, diagnostic and treatment support etc.

- **K4H- Knowledge for Health for NCDs**

K4H envisage sharing evidence-based knowledge about latest information or success stories/best practices on health, in which health programme managers and service providers at all levels across the stakeholders collaborate with and learn from each other to build a stronger health system and enable people to access appropriate information.

3.1.8 Examples of Health Promotion Initiatives for NCDs

Tobacco Free Educational Institution

To address the issue of significant tobacco use among adolescents and young adults, GoI developed guidelines for "Tobacco Free Educational Institution" under the National Tobacco Control Program to provide a fresh momentum to implementation of tobacco control initiatives among adolescents and young adults. Some of the key guidelines include:

- "Free Educational Institution" and 'Tobacco Free Area" signage displayed over schools.
- Health & Wellness Ambassadors should also be designated as Tobacco Monitors
- Participation of the most important stakeholder, the students of secondary school (classes IX to XII).
- No tobacco products are sold inside the premises and in an area within a 100 yards from the premises.
- Poster/slogan/essay/quiz/debate competitions and street plays etc.
- Posters so developed with information about the harmful effects of tobacco should be displayed at prominent places in the educational institution.

Fit India Movement

Fit India Movement is a nation-wide movement to encourage people to remain healthy and fit by including physical activities and sports in their daily lives. The initiative was launched on 29th August 2019 by the Honourable Prime Minister with the mission to bring about behavioural changes among the populace, and move towards a more physically active lifestyle.

3.1.9 Developing a communication plan

Developing a communication plan involves a structured approach to effectively convey messages and achieve specific goals. It is a dynamic document that may need to be revised as programme goals, audience, and circumstances change. Answering the following questions will help in developing the key components of a communication plan.

- Why do you want to communicate with the community? **(Purpose)**
- Whom do you want to communicate it to? **(Target audience)**
- What do you want to communicate? **(Message)**

- How do you want to communicate it? **(Communication channels)**
- What should you do in order to use these channels? **(Micro Plan)**

BEHAVIOUR ANALYSIS			
	At Individual or Household Level	**At Community/Service provider level**	**At Decision Making Level**
Who is the target group?			
What is the current behaviour?			
What change do we expect in their behaviour?			
What are the demand-side issues which stop them from adopting behaviour?			
What is the key message?			

Figure 4: Draft communication micro plan Template

Chapter 3.2 National Multisectoral Action Plan for Prevention and Control of Common NCDs (NMAP):

The National Multisectoral Action Plan for Prevention and Control of common NCDs (2017-2022) was a national blueprint document providing clear direction to the country's response to the growing burden of NCDs within the specific socio-economic, cultural and health systems contexts of the country. The Action Plan provided a framework to support and strengthen a partnership with non-health stakeholders to integrate NCD prevention strategies within their plans and programmes and build synergies with the existing programmes in the health sector

NMAP

All Indians enjoy the highest attainable status of health, well-being and quality of life at all ages, free of preventable NCDs, avoidable disability and premature death.

Goal

Reduce preventable morbidity, avoidable disability and premature mortality due to NCDs in India.

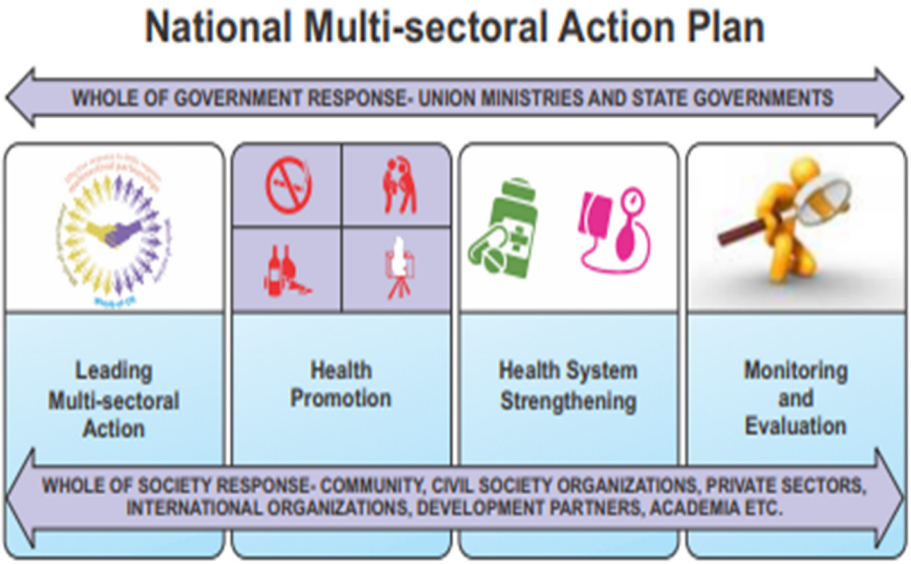

Figure 5: National Multi-sectoral Action Plan for prevention and control of common NCDs

3.2.1 National Multisectoral Action Plan: Strategic areas and Key outcomes

1. Integrated and Multisectoral Coordination (Nodal Agency - MoHFW)

Actions under this area focused to increase advocacy, create mechanisms for promoting multisectoral partnerships and strengthen capacity for effective leadership to accelerate and scale-up the national response to the NCD epidemic. To address NCDs and their underlying risk factors and social determinants, strong alliances are needed within the health sector and with other sectors (such as agriculture, education, finance, information, sports, urban planning, trade, transport to name a few) including governments, civil society, academia, private sector and international organizations.

Key Outcome: Establishment of platform for Multisectoral collaboration and attainment of commitment to Health in all policies.

2. Health Promotion (Nodal Agency - Central NCD Division)

Positive behavior changes towards healthy life can be accomplished by carefully engaging with people at individual and community level. The population level measures which are covered under this component include raising awareness, creating conducive environment and instituting healthy public policies. Creating a conducive and enabling environment can be achieved by appropriate legislative, regulatory and fiscal measures.

Key Outcome: Reduction of risk factors (unhealthy diet, physical inactivity, tobacco/ alcohol use) in children & adults

3. Health Systems Strengthening (Nodal Agency - State Governments and MoHFW)

The actions outlined under this objective aim to strengthen the health system, particularly

the primary health care system, including the health workforce for moving towards universal health coverage. A strengthened health system directed towards addressing NCDs should aim to improve prevention, screening, early diagnosis, and sustained management of people with or at high risk for major NCDs in order to prevent complications, reduce the need for hospitalization and costly high-technology interventions and premature deaths.

Key Outcome: Ensuring NCD health services under Universal Health Coverage

4. Surveillance, Monitoring, Evaluation & Research (Nodal Agency - ICMR)

The purpose of this component is to know whether the intended results are being achieved as planned. Availability of information using internationally comparable assessments on time trends of key outcome and impact indicators will help to benchmark the situation nationally, provide the evidence for advocacy, policy development, help to reinforce political commitment and make a case for advocacy for improved financial allocations.

Key Outcome: Availability of timely information on progress in key indicators of monitoring framework

5. Community engagement and empowerment

Community should be empowered to take ownership of their own healthcare needs and to participate in decision making process (developing interventions or policies) based on their local needs.

Linkages at the level of SHC-AAM, PHC-AAM/UPHC-AAM, CHC/UCHC NCD clinics/ DH NCD Clinics, may be made with the NGOs/ Samitis/ Yuva Kendras etc., through patient support group meetings for health promotional activities.

Linkages with the other Government departments, Panchayati Raj Institutions (PRIs), Urban Local Bodies (ULBs) etc. may be done to facilitate access to entitled-Government welfare schemes for the benefit of the individual.

MODULE

04

SCREENING (POPULATION BASED SCREENING) AND HEALTH CARE DELIVERY SYSTEM FOR NCDS

Learning Objectives:

At the end of this module, you will be able to answer the following questions:

1. What is Population Based Screening (PBS) for NCDs?
2. What is the process flow at different levels of public health facilities for PBS?
3. What are the post-PBS follow-up processes?
4. What are the monitoring indicators for PBS?
5. What is the Health Care Delivery System for NCDs under NP-NCD?
6. What are the key NCD services available at different levels of public health facilities?

4.1. Population Based Screening:

The Population-Based Screening (PBS) of common NCDs as a part of Comprehensive Primary Health Care (CPHC) was initiated in 2016. PBS is systematically offering a screening test to all individuals in a defined target group (all individuals of 30 years of age and above), within a framework of agreed policy, protocols, quality management, monitoring, evaluation, and review.

In comparison to opportunistic screening, which relies on individuals seeking healthcare for unrelated reasons and the healthcare provider deciding to perform screenings at a clinic or hospital, population-based screening for NCDs has a greater public health impact and allows for more effective preventive measures.

4.1.1. Target population for PBS:

The target population for screening includes all men and women of 30 years and above for Oral Cancer, Hypertension and Diabetes Mellitus, and all women of 30 years and above for Cervical and Breast Cancer. An estimated 37% of the Indian population is aged >30 years (State-specific percentage of population more than 30 years is given below for reference). Hence, the eligible population for PBS can be calculated as an approximate 37% of the entire population:

- Village/ urban community (approx. population - 1000): 370 people (188 men and 182 women)
- AAM/Sub-Centre (catering to approx. population - 5000): 1850 people (940 men and 910 women

PBS for common NCDs like Hypertension & Diabetes should be conducted once every year and once in five years for common cancers.

4.1.2. Overview of population-based screening:

Service delivery mechanism under NP-NCD offers NCD screening services at the primary,

secondary, and tertiary levels. Under CPHC, AAM (AAM (HWC)s) function as the first point of contact for screening of NCDs and risk factors.

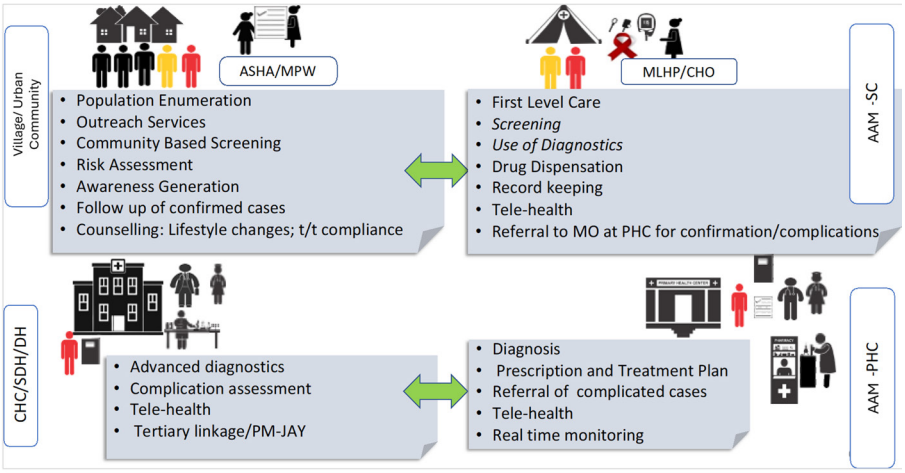

Figure 6: Overview of population-based screening

At the community level, ASHAs/ANMs will complete a Community Based Assessment Checklist (CBAC) for the eligible population (all individuals aged 30 years and above), and a CBAC score of 4 or more implies high risk. Individuals aged 30 years and above are screened at health facility) for Hypertension, Diabetes and Common Cancers (Oral, Breast, and Cervical[45]), and identified NCD patients are referred to the higher health facility for further examination and treatment. In case the individual screens negative for NCDs, they should still be educated about healthy lifestyles and encouraged for future annual screening.

4.1.3. Post-PBS Follow-Up :

At the community level, follow up of identified individuals is to be carried out by ASHA making visits for behavioural changes, treatment compliances, and encouraging patients to go to the AAM (AAM (HWC)s) for regular check-up of BP/blood glucose. At the health facility level (secondary and tertiary facility, CHC/DH), the Medical Officer (MO) is responsible for confirming the occurrence of the NCD in the referred individual and undertake further treatment and management, and in case of complication, refer to higher health facility and following up with patients post treatment from higher facilities.

45. Cervical cancer screening should be done at least at AAM (HWC)/SC, as it requires privacy and facilities for sterilization of equipment.

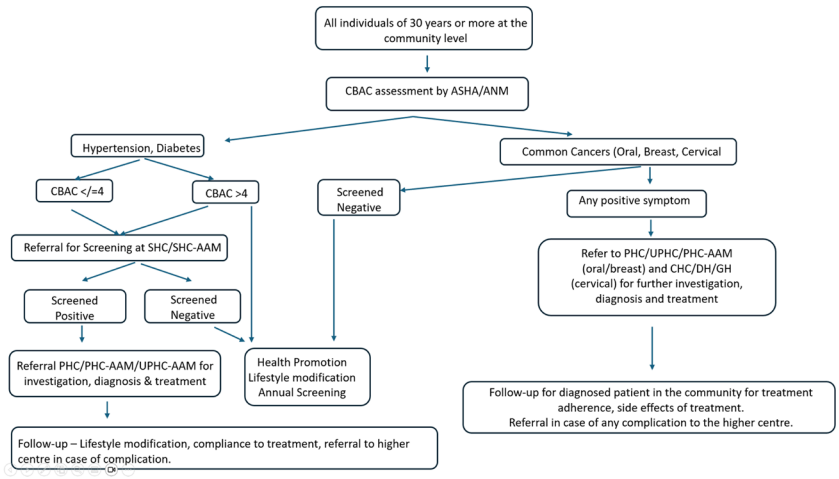

Figure 7: Overview of population-based screening

4.1.4. Monitoring Indicators for PBS[46]:

Key monitoring indicators for PBS include:

- **Coverage with Screening:** Proportion screened in the previous year out of the total population >30 years (eligible population for screening).
- **Follow up screened:** Those who completed the diagnostic workup of those who were screened positive.
- **Treatment rate:** Those who are currently on treatment out of those diagnosed with disease in that year
- **Control rate:** Those that have achieved control values for hypertension or diabetes mellitus amongst those that are currently on medication per year.

4.2 Health Care Delivery System for Non-Communicable Diseases (NCD):

In 2013-2014, NP-NCD was subsumed under the National Health Mission (NHM) for optimization of resources, provision of seamless services to patients, and for ensuring

46. Module for Medical Officer. Population-based screening for Non-Communicable Diseases. Government of India.

long term sustainability of interventions. Subsequently, NCD Division was established at National, State, and District level to ensure planning, implementation, monitoring and evaluation of the programme activities. A key focus of the NP-NCD was the strengthening of health facilities across all levels, for NCD service delivery. NCD clinics are established at district (District Hospitals) and block (CHC) levels for opportunistic screening, diagnosis and management of common NCDs. Cardiac Care Units and Day Care Centres have also been set up at select District Hospitals to provide emergency cardiac care and cancer chemotherapy respectively.

The NCD services offered at each level and type of health facility and the roles and responsibilities of healthcare providers, frontline workers and programme managers has been defined in the operational guidelines for NP-NCD developed by MoHFW.

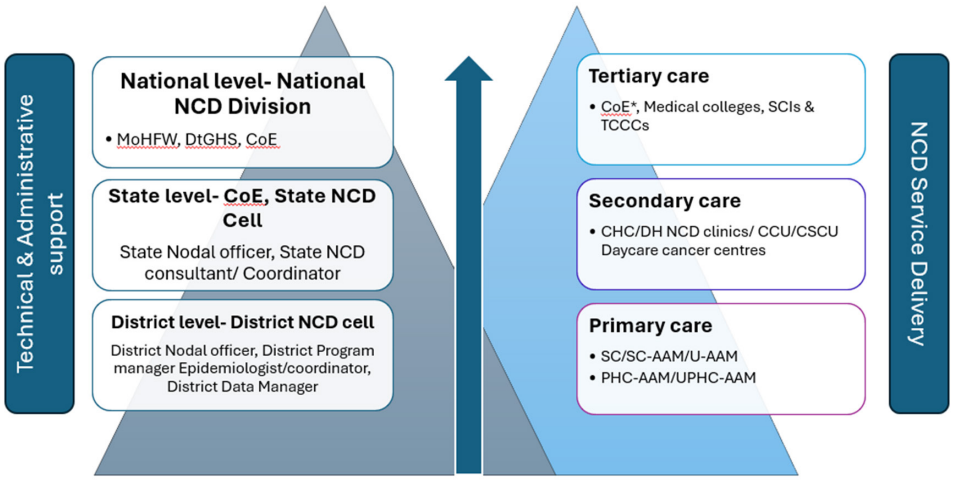

Figure 8: Health care delivery system for NCDs

4.2.1 Service delivery mechanism under NP-NCD:

Service delivery framework consists of primary, secondary, and tertiary levels. Preventive, promotive, curative, rehabilitative and supportive services (core and integrated services) for common NCDs are being provided through various levels of government health facilities. The range of NCD services includes health promotion, psycho-social counselling, screening, case management (out-and-in-patient), emergency cardiac and stroke care services, day care and palliative care services for cancer, as well as referral for specialized services, as needed.

Table 7: Package of NCD services available across different levels of care

Level of Care	Package of Services
Community level	• Active enumeration of the eligible population and registration of the families, risk assessment of NCDs using Community Based Assessment Checklist (CBAC), Mobilization of community for screening of NCDs at nearest AAM. • Health promotion, lifestyle modification, follow up for treatment compliance and lifestyle modification.
SHC/ AAM SHC/ Urban AAM	• Health education for awareness generation and behaviour change, organizing wellness activities. • Screening of Diabetes, Hypertension, three common cancers (oral, breast and cervical). • Referral of suspected cases to PHC/PHC-HWC or nearby health facility for diagnosis confirmation and management. SHC- HWC team to also facilitate the referrals and follow up on referred suspected patients. • Dispensing of prescribed medicines and follow up of patient for treatment compliance and lifestyle modification. • Teleconsultation services from SHC-HWC to HWC-PHC/UPHC. • Maintaining Electronic Health Records (EHR) and generation of ABHA IDs.
PHC/ PHC-AAM/ UPHC-AAM	• In addition to all activities conducted at SHC/ AAM SHC/ Urban AAM • Screening of Diabetes, Hypertension, three common cancers (oral, breast and cervical), COPD and Asthma, CKD, NAFLD among OPD attendees. • Confirmation of diagnosis, treatment initiation, and management of common NCDs as per standard management protocol and guidelines. • Referral of complicated NCD cases to higher facilities. Bi-directional referral linkages to be established and follow up to be ensured. • Counselling services. • Back referral of stable patients to the nearest SHC/ SHC-AAM for drug dispensing and follow-ups.

CHC/SDH	• Health promotion including counselling. • Opportunistic screening of Diabetes, Hypertension, three common cancers (oral, breast and cervical). • Screening of COPD and Asthma, CKD, NAFLD, STEMI among suspected cases. • Diagnostic facilities for: blood sugar, lipid profile, blood urea, creatinine, X-Ray, ECG, USG (to be outsourced, if not available) • Confirmation of diagnosis, treatment initiation, and management of common NCDs as per standard management protocol and guidelines. • Management of cases of common NCDs and regular follow-up. • Referral of complicated cases to DH/Higher facility and Back referral of stable patients to the primary healthcare facility nearest to the patient for drug dispensing and follow-ups.Tele-consultation services and counselling services. • Maintaining Electronic Health Records (EHR) and generation of ABHA IDs.
District Hospital (DH)	• Opportunistic screening of Diabetes, Hypertension, three common cancers (oral, breast and cervical). • Screening of COPD and Asthma, CKD, NAFLD, STEMI among suspected cases. • Diagnosis and management of cases of common NCDs: outpatient and inpatient care, including emergency care particularly for Critical Care unit for cardiac and stroke cases, Day care cancer centres. • Management of complicated cases of common NCDs, or referral to higher healthcare facility. • Follow-up cancer chemotherapy and palliative care services for cancer cases, physiotherapy services for NCDs including Stroke patients, Dialysis facilities for CKD patients, etc. • Health promotion for behaviour change and counselling for NCD cases. IEC activities on important Health Days. • Bidirectional referral linkages and follow up mechanism to be established and ensured. • Teleconsultation services and counselling services. • Maintaining Electronic Health Records (EHR) and generation of ABHA IDs

Critical Care Units (CCU)	• Provide thrombolysis services for STEMI or stroke cases and referred to higher centers for further management.
Day Care Centres for Cancer Chemotherapy	• After diagnosis and initial management at tertiary care hospital, subsequent treatment and follow up is provided • Support for chemotherapy drugs to cancer patients is provided. • Linked with State Cancer Institute and Tertiary Care Cancer Centre wherever available, to ensure continuum of care.
Medical College/ Tertiary Cancer Care Centre	• Diagnosis and management of complicated cases of common NCDs acts as tertiary referral facility. • Comprehensive cancer care including prevention, early detection, diagnosis, treatment, palliative care and rehabilitation at Tertiary Cancer Centres. • Support programme in capacity building of health staff. • Support programme in preparing standard guidelines and protocols • Support in supervision, monitoring, evaluation and operational research. • Bidirectional referral linkages and follow up mechanism to be established and ensured • Teleconsultation services and counselling services. • Maintaining Electronic Health Records (EHR) and generation of ABHA IDs

4.3. Additional Reading Resources:

- Operational programme for prevention and control of non-communicable diseases (2023-2030)

MODULE

05

NCD PROGRAMME MANAGEMENT: HUMAN RESOURCE

5.1. Human Resource Recruitment and Performance Monitoring:

Learning Objectives:

At the end of this module, you will be able to answer the following questions:

1. Who are the key human resources for providing NCD services and what are their roles and responsibilities?
2. What are the recruitment and performance monitoring processes for human resource?

5.1.1 Introduction:

Human Resource for Health (HRH) or healthcare workforce is indispensable to the success of an effective NCD prevention ana management programme. Recruiting skilled healthcare workers and monitoring their performance for optimum productivity goes a long way in bolstering NCD care, strengthening healthcare systems, and contributing to the battle against these pervasive health challenges.

5.1.2 Recruitment, Management and Performance Monitoring:

While the NCD unit is responsible for planning NCD services, the assessment of HRH requirements and the associated planning must be conducted in consultation with the HRH nodal unit and approved by the Mission Director, NHM.

HRH under NHM would be governed by HRH policy of the State. All HRH under all the programs in the State in NHM to be governed by the same set of rules e.g. increment, periodic performance monitoring. The remuneration of the HRH for both service delivery and program management are to be based on educational qualifications, experience, skills and workload. It should be the same for similar profiles.

It is a good practice to keep an eye on the performance of the HRH and reward the good performers. It promotes ways to enhance productivity along with quality. In this direction MOHFW has issued Minimum performance benchmarks for all HRH. The NCD division, in coordination with the HRH division should review the performance and if need be, revise the benchmarks and monitor the performance.

Table 8: Human resource recruitment and performance monitoring: Role of HRH cell and NCD cell

Role of HRH Cell	Role of NCD Cell
• Overall responsibility for HRH recruitment and management • Salary disbursal and timely payment	• Inform Mission Director, NHM and HRH cell of vacancies at the state, district, or sub-district level. • Participate in decision-making regarding recruitment of PMU staff. • Orient newly hired staff on program details to enhance capacities and meet program requirements. • Provide mentoring support. • Monitor staff performance of staff

5.1.3 Performance Appraisal:

Performance appraisal holds significance as it enables the evaluation of staff performance and accomplishments over a specific time frame, typically conducted on an annual basis. In the case of contractual staff, performance appraisal serves as a foundation for contract extensions or terminations. There are various methods available for conducting these appraisals, and appraisal proforma may be developed and customized as deemed fit. It is essential to bear in mind two key considerations: 1) The appraisal should maintain objectivity, and 2) It should assess staff performance in alignment with the Terms of Reference outlined in their contracts. Healthcare delivery relies on teamwork, so it is imperative to evaluate the ability of the staff in question to function effectively within a team.

5.1.4 Availability of Human Resource at Different Levels:

The NP-NCD programme outlines various Human Resources at State and District NCD Division and service providers at the public health facilities.

The main standards governing the HRH cadres engaged in service delivery and their numbers in public health facilities are incorporated in the Indian Public Health Standards 2022. It provides the essential HR cadres with minimum numbers to be engaged as well as those cadres and numbers which are desirable at a particular level of the facility. The HRH categories and numbers are to cater to all diseases and all programs in an integrated manner. It is pertinent to note here that following a Mission Steering Group (MSG) decision of 2017, all programs under NHM must function through the HRH available in the facilities and additional HR could only be made available if the caseload warrants so. The IPHS 2022 also provides the caseload for all the main service delivery cadres.

The State level NCD unit will be responsible for managing NCD programs both in rural and urban areas. The actual numbers of HRH and remuneration in program management units are to be decided based on existing NHM salaries in the State/UT and the applicable cap as decided by MSG (14% for small states/UTs and 9% for rest of the States). It is also encouraged that available personnel be assigned appropriate tasks across the various initiatives to achieve the programme goals.

Table 9: Suggested HRH to provide services under the NP-NCD

Level	Personnel Requirement (suggested personnel)
State NCD Division	• State Programme Officer (1) • State Programme Coordinator/NCD Consultant (1) • Finance and Logistics Consultant (1) • Data Entry Operator*(1)
District NCD Division	• District Programme Officer (1) • District Programme Coordinator/Senior Treatment Advisor (1) • Finance and logistics Consultant (1) • Data Entry Operator* (1)
District Hospital/ Sub District Hospitals to manage NCD patients (as per IPHS 2022)	• Consultant (MD Medicine) • Staff Nurse (NCD) • Physiotherapist • Counsellor • Data Entry Operator* (1 person to be identified from the existing pool of DEO at the facility)
District Hospital to manage Critical Care Unit (as per IPHS 2022)	• Specialist- Cardiology • Specialist-General Medicine • Staff Nurse
CHC/ UCHC to manager NCD patients (as per IPHS 2022)	• MD Medicine • Medical Officer • Staff Nurse (NCD) • Counsellor • Data Entry Operator* (person to be identified from the existing pool of DEO at the facility)

PHC/ UPHC/ UAAM	• Medical Officer and staff nurse posted in the facility
SHC/ SHC AAM	• Community Health Officer • ANM and MPW (Male)

** Data Entry Operation can be outsourced to the extent possible*

"Details of staff to provide services under NCD programme and their roles is given in Operational programme for prevention and control of non-communicable diseases (2023-2030)"

5.1.5 Role of NCD Nodal Officer in implementation of NP-NCD at state and district levels:

The NCD nodal officer plays a critical role in the overall management and implementation of the NP-NCD programme including in HR management and recruitment, ensuring establishment and operation of NCD clinics, budget allocation and program monitoring and review. Their responsibilities include:

- **Recruitment of contractual staff**
  - Inform Mission Director, NHM and HRH cell of vacancies at the state, district, or sub-district level regarding the vacancies.
  - Prepare Terms of reference (including Job responsibilities and person specification) for all the posts and share these with the HRH/incumbent.
  - Conduct recruitment of consultants and contractual staff as per NHM norms, in coordination with the HRH cell.
- **Establishment and functionality of NCD clinic at CHC and DH**
  - Ensure screening, diagnosis, and management (including diet counseling, lifestyle management) and home-based care is being provided at appropriate level of facility.
  - Leverage existing schemes under NHM for cross-linkages and with PM-JAY and/or state health protection scheme, for protecting end users from financial hardships.
  - Ensure availability of essential drugs for NCD at all levels
  - Ensure availability of reporting formats including NCD and referral cards
  - Make provision for transporting serious/complicated patients to hospital or the nearest tertiary level facility.
- **Health Promotion for prevention of NCDs and reduction of risk factors**
- **Budget and Resource Allocation:**
  - Ensure incorporation of specific budget heads in PIP and uninterrupted availability of NHM funds.

- Support inclusion of innovations in PIP for approval of funding.
- Ensure timely preparation and submission of Statement of Expenditure and Utilization Certificates.

- **Programme review and monitoring:**
  - Facilitate constitution of state and district task force and ensure their regular meeting to identify gaps in implementation of NP-NCD programme and to take suitable actions to plug those gaps.
  - Facilitate regular desk reviews across levels to monitor progress of implementation.
  - Ensure regular field visits by Medical Officer/District NCD Cell/State and National NCD Cell for supportive supervision of screening process.
  - Regular assessments of facilities to monitor preparedness for screening, diagnosis, management, referral and follow ups.
  - Track monthly reporting status of NCD, referral and follow up activities.
  - Facilitate large scale periodic surveys like NFHS to assess effectiveness of programme.

5.2. Capacity Building:

Learning Objectives:

At the end of this module, you will be able to answer the following questions:

1. What are the capacity building activities and trainings conducted/provisioned under NCD programme?
2. How to plan and execute the various training required at the various level under the NP-NCD?
3. How to propose the budget for the capacity building activities under the programme?
4. How to prepare a Training calendar at the district and below district level?

5.2.1 Introduction:

Capacity building activities for healthcare staff under the NCD programme is the responsibility of the NCD cell. State NCD Cell is responsible for organizing State and district level training, while District NCD Cell is responsible for conducting training at the sub-district/ CHC level. Based on the nature of the trainings, they are of two types:

- Induction Training- conducted for new recruits, at the time of their entry into the service.
- In-service Training- provided to all cadres of staff while in service, at periodic intervals. The training aims to upgrade staff technical and management knowledge and skills.

Additionally, refresher training should be conducted every 6 months.

5.2.2 Key Areas of Training:

Key topics included in trainings under the NCD programme are:

- NCD prevention
- Screening, Early detection and management of common NCDs
- Data recording and reporting
- Health promotion
- Planning and implementation
- Monitoring and evaluation

In addition to the standard NCD training, specialized clinical hands-on training for medical staff can be conducted at the designated centres in respective States. The specialized clinical hands-on trainings may be on VIA technique/chemotherapy for cancer care, STEMI, emergency cardiac/stroke care training, etc. Medical colleges, Nursing colleges, District Skill Labs etc., can be leveraged.

5.2.3 Training Budget:

A training budget needs to be developed at the start of the financial year. Key steps for developing budget are given below:

1. Identify the need for NCD training in the district.
2. Prepare list of training required.
3. As per NHM norms under NP-NCD guidelines, prepare a budget for each category of training.
4. Compile budgets for all NCD training required in district (District Health Action Plan).
5. State Training Budget (PIP)- Compile training budget received from all the districts and propose it in the yearly PIP at the National level.

5.2.4 Training Approach:

Depending on the nature of the training participants and the type of training, capacity building activities under the NCD programme are conducted at two levels:

- **State Level Trainings:** Training of specialists (Gynecologists, Surgeons, Pathologists, Dentists) and Staff Nurses from tertiary level institutes, medical colleges, State training centers, and districts are to be conducted at the state level. As per guidelines, four trainers are to be identified for every three districts. State-level trainings for NCD nodal officers include:
  - Two-day training for district nodal officers
  - One day orientation of state and district level officers and stakeholders
- **District level and Block Level Trainings:** District nodal officers are responsible for

conducting district and block level trainings. Training for programme implementation and disease specific training for healthcare providers are to be conducted separately, or jointly at all levels of healthcare delivery.

Irrespective of the training type and level, pre and post-test questionnaires are to be used during training and reports need to be submitted within four weeks at the state and national level. *Training details added in annexure 1*.

5.2.5 Training Calendar:

Annual training calendars should be prepared with details of the work plan for the planned training, including dates for the different capacity-building activities.

The State Training Calendar is developed by compiling and collating training plans from the different districts. The calendar should include training of trainers to enable districts to undertake all training planned by them. A database should be prepared of available trained manpower for various skills, at the state level for ease in conducting trainings.

The District Training Calendar should be prepared at least two months ahead to be sent to the state NCD cell. The district training calendar should take into consideration:

- Training load - Each batch should not have more than 40 participants.
- Availability of training days
- Availability of training venues
- Availability of facilitators
- Other training courses for the target group (Medical Officers/ health workers/ ASHA)
- State training plan

A pool of Mentors and Trainers must be created by identifying and training MOs and staff nurses across the identified facilities. Suggested template for training calendar given in annexure 2.

“Details of various trainings given in Operational programme for prevention and control of non-communicable diseases (2023-2030)”

5.3 Monitoring of Capacity building & Training activities:

The capacity building and training conducted under NP-NCD requires a multi-faceted approach, aligning with the program’s operational guidelines. Here’s a breakdown of potential strategies:

5.3.1 Data Collection and Information Systems:

i. **Training Records:**

- Maintain detailed records of all training activities, including participant attendance, training content, and trainer qualifications.

- Utilize standardized data collection tools to ensure consistency.

ii. National Health Information System/ Health Management Information System (HMIS):

- Integrate capacity building indicators into the HMIS to track the number of healthcare workers trained and their subsequent performance.
- Use HMIS data to assess the impact of training on service delivery.

iii. Electronic Health Records (EHRs):

- Monitor the utilization of newly acquired skills by healthcare workers through EHR data, such as adherence to NCD screening protocols and treatment guidelines.

5.3.2 Performance Monitoring and Evaluation:

i. Pre- and Post-Training Assessments:

- Conduct assessments to measure knowledge and skill gains among participants.
- Use assessment results to evaluate the effectiveness of training programs and identify areas for improvement.

ii. On-Site Supervision and Mentoring:

- Conduct regular supervisory visits to healthcare facilities to observe healthcare workers' performance and provide on-the-job mentoring.
- Use checklists and observation tools to assess adherence to NCD management protocols.

iii. Service Delivery Indicators:

- Monitor key service delivery indicators, such as:
  i. Number of individuals screened for NCDs.
  ii. Number of patients diagnosed with NCDs.
  iii. Number of patients receiving treatment and follow-up care.
- Analyze service delivery data to assess the impact of capacity building on NCD service utilization.

iv. Feedback Mechanisms:

- Establish feedback mechanisms to gather input from healthcare workers, patients, and community members on the quality of NCD services.
- Use feedback to identify training needs and improve capacity building efforts.

5.3.3 Quality Assurance:

i. Standardized Training Curricula:

- Develop and implement standardized training curricula based on evidence-based guidelines.

- Ensure that training materials are up-to-date and relevant to the local context.

ii. **Trainer Certification:**
   - Establish a system for certifying trainers to ensure that they have the necessary qualifications and expertise.
   - Provide ongoing training and support to trainers to enhance their teaching skills.

iii. **Quality Audits:**
   - Conduct regular quality audits of training programs and healthcare facilities to assess adherence to standards and identify areas for improvement.

5.3.4 Stakeholder Engagement:

i. **Collaboration with Training Institutions:**
   - Collaborate with medical colleges, nursing schools, and other training institutions to develop and implement capacity building programs.

5.3.5 Partnerships with NGOs and CSOs:

- Engage with non-governmental organizations (NGOs) and civil society organizations (CSOs) to support community-based capacity building initiatives.

5.3.6 Community Participation:

- Involve community members in the planning and implementation of capacity building activities to ensure that they are culturally appropriate and responsive to local needs.

By implementing these strategies, the NP-NCD program can effectively monitor capacity building efforts and ensure that healthcare workers have the necessary skills and knowledge to provide high-quality NCD services.

Additional Reading Resources:

1. Indian Public Health Standards 2022 (https://nhsrcindia.org/IPHS2022)
2. Guidelines on Human Resources for Health for National Health Mission (NHM) 2022 (https://nhsrcindia.org/guidelines-human-resources-health-national-health-mission-nhm)

MODULE

06

SUPPLY CHAIN MANAGEMENT

Learning Objectives:

At the end of this module, you will be able to answer the following questions:

1. What is the drugs and logistics management system at various levels of the public healthcare system?
2. How to ensure drug and diagnostic availability through timely procurement in required quantity at different levels of healthcare facilities?
3. What are the different drug procurement system implemented across various states in India?
4. How to maintain the inventory and records pertaining to the drugs and diagnostics management under the programme?

6.1 Availability of drugs at various levels:

It is critical for program managers to understand and know about the list of drugs that should be available at different levels of the public health system. Drug demand should be as per the State list of Essential medicines. Sufficient stock of drugs should be maintained as per the patient load at the facility and the drug inventory should be regularly updated along with buffer stocks. As mentioned before, NCD patients getting treatment must receive at least one month supply of medicines from the PHC/ health facility. Once the condition of the patient is stable, three-month supply of drugs could be stocked with the CHO/ ANM/ MPW at SHC-AAM (HWC), to be given as per the State policy.

6.1.1 Essential Drugs Availability at Health Facilities:

The IPHS standard 2022 guideline, defines the scope in primary healthcare with regards to availability of essential drugs as follows:

- Number of essential medicine expected to be available at AAM (HWC)-SC/U-AAM (HWC): 106
- Number of essential medicine expected to be available at AAM (HWC)- PHC: 173
- Number of essential medicine expected to be available at CHC: 299

EDL at all the healthcare facility level provided in Annexure 3.

6.2 Drugs and Diagnostics to be available at Health and Wellness Centres (AAM (HWC)s):

As per guidelines issued by the Government of India, the following drugs and diagnostic services are to be made available at Health and Wellness Centres (AAM (HWC)s) for the treatment and management of NCDs.

At the AAM SHC level, there are 14 essential diagnostics, while at the AAM PHC level,

there are 63 essential diagnostics.

Table10: Essential drugs and diagnostics to be made available at AAM (HWC)s for treatment and management of NCDs

Drugs	Diagnostic Service
• Essential Drug Lists (with expanded drugs for NCDs) • Uninterrupted availability of medicines to ensure adherence and continuation of care • E-aushadhi expansion to all AAM (HWC)s – PHCs, UPHCs and SCs	• Point of care diagnostics • Investigations available for NCD (Hb, BP apparatus, Glucometer, Nischay Kit, Urine Protein & Urine Sugar) • Blood Collection point for Hub & Spoke Model at different levels

The guidelines also mention making available essential medical equipment, devices, and reporting formats (non-consumables and consumables) at AAM (HWC)-PHCs for NCD screening.

Table 11: Materials essential for implementation of NCD screening at AAM (HWC)-PHC

Non-consumables	Consumables
• Weighing scale • Stadiometer/Inch tape • Waist circumference tape • Glucometer • Blood pressure measuring instrument	• Lancet, spirit swabs • Glucometer strips • Anti-diabetic, antihypertensive medicines • Register for follow-up record • Reporting forms • Posters/pamphlets for health promotion

6.3 Planning and Forecasting:

Forecasting of procurement costs is an important activity which has to be done in consultation with finance personnel. Consumption based method is most commonly used for drug requirements. This method uses data of past consumption of individual medicines or products to project future needs. Therefore, can significantly underestimate

the drug requirement if there were drug shortages or stock-outs in the previous year and if there is an increase in the number of beneficiaries.

Morbidity-based method estimates the need for specific medicines or products, based on the frequency of disease (using surveillance and demographic data), expected burden at the health facilities (using service delivery data), and standard treatment protocols. This method is recommended for an evolving program.

6.3.1 Procurement at State Level[47]:

All procurements of goods/ articles under the programme should be made as per the NHM guidelines and State Government Procurement Rules which includes the limit for invitation of tenders, limit for quotations, formation of procurement committee, etc.

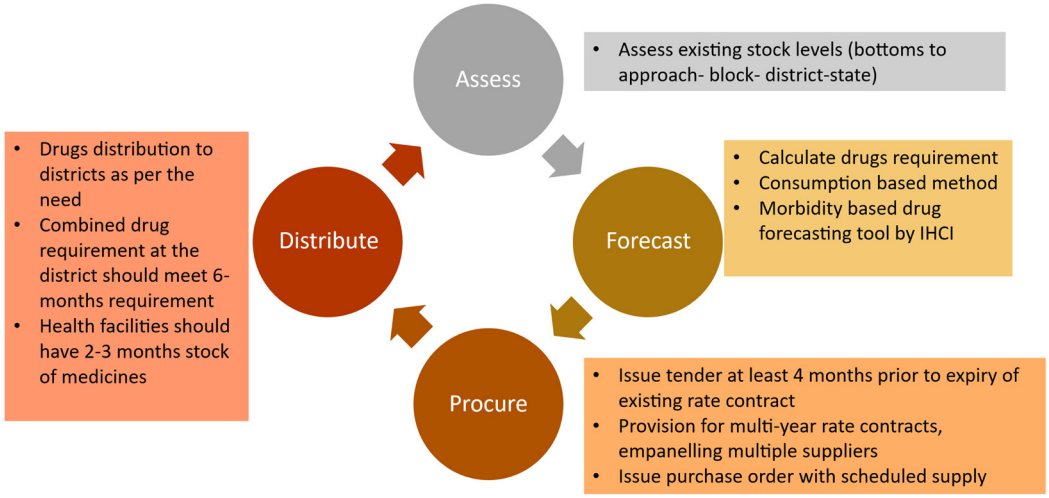

Figure 9: Process of procurement at state level

Drug stock goals at a health care facility:

Stock holding up to 3-months drug requirements at each health facility has been recommended and a handy **"stock adequacy ready reckoner"** has been made available at all levels for quick assessment of stock position and supply chain decisions.

At least one month supply of medicine should be provided to the patients at all types of facilities including SHC/SHC-AAM/U-AAM, therefore, one month stock of medicine must be maintained as per patient load at the facility level. Once the condition of the patient

47. Training Manual for NCD programme Managers at State & District Level, September 2017.

is stable, three-month supply could be provided to the patients at all types of facilities. Therefore, sufficient stock needs to be maintained at facilities as per the patient load. Facilities should avoid having less than the one-month stock of any protocol drug at any time.

Facilities should avoid having less than the one-month stock of any protocol drug at any time.

Note: The stock levels are expressed as 'months of stock' which indicates how long the drugs will last. For example- 2 months of stock means the stock will last for another two months.

6.3.1.1 How will you ensure that there is no stock out period?

Indenting of consumables should follow scientific principles based on buffer stock and lead time. **Lead time** is length of time in days between the decision to replenish an item and the actual addition to the stock.

Buffer stock is also known as safety stock or reserve stock. Buffer stock is the minimum quantity of supplies set apart as reserve against variation in supply and demand. Buffer time is greatly influenced by lead time. Buffer stock is usually calculated by multiplying average demand and maximum delay or probable delay.

Buffer Stock = (Average Demand per day) X (Average Lead time in days)

Example: In case daily demand of Metformin tablet is 600 tablets (30 tablets each to 20 persons) and the time from demand to indent is 15 days a buffer stock of 9000 tablets (600 x 15) should be kept. Demand for tablets should be sent once the stock reaches 9000 tablets. During the time buffer stock is being used the number of tablets issued per person might have to be reduced in case there are reasons to believe that time to replenish would be more than the assumed lead time.

In nutshell, the aim of supply and distribution is to ensure there is no stock out period and at the same time there is no excess stock. Excess stock takes up space and is liable to expire before it is fully consumed thus contributing to wastage of funds.

6.3.1.2 Methods of Procurement:

Procurement of items should follow the laid down financial rules of National Health Mission or State governments. The General Financial Rules (GFR) 2017 Ministry of Finance, Govt. of India should be the guiding principle for procurement of items. The usual techniques followed in procurement of items are tenders, rate contracts or local purchases.

1. Tender

Tender based purchases are resorted to by all government and public sector organizations. The manager invites responses from all prospective suppliers based on technical specifications of item in question. Tenders can be classified as open, limited or global tenders. In open tender enquiries are floated through advertisement in the media (website, newspapers).

2. Rate contract

Rate contract is the purchase system wherein the rate of an item is determined through a tender system, without specifying the quantity to be purchased. For other commodities GeM portal is preferred for checking rates.

3. Local Purchases

Local purchase refers to purchases made from open market strictly on the basis of need and is usually confined to emergency procurement of low priced items required in small quantities. These are usually for an amount below a specified limit.

4. Web-based methods

A number of states are now implementing a web based application, 'e-Aushadhi module', which deals with the management of stock of various drugs, diagnostic aids and surgical items required by different district drug warehouses of the state. The main aim of 'e-Aushadhi' is to ascertain the needs of various district drug warehouses such that all the required materials/drugs are constantly available to be supplied to the user district drug warehouses without delay.

Globally, and in India, practices that have proved beneficial in ensuring drug availability include:

- Floating tenders at least four months in advance to the expiry of existing rate contracts,
- Having provision for multi-year rate contracts, empanelling multiple suppliers,
- Creating purchase orders with scheduled supply,
- Centralized procurement is facilitated at the state level through medical corporations.
- Decentralizing procurement to districts is not advisable and discouraged.
- Empowering health facilities for small volume local procurement.
- Stock holding up to 3-months drug requirements at each health facility

Table 12: Monitoring of drugs

Particulars	Point of assessment	Datapoint	Source document	Utility
Stock adequacy	Health facility main store and DDC	Stock on hand	Stock ledger and Physical Count	Monitoring and maintaining inventory level
The longevity of the available stock	Health facility main store and DDC	Stock on hand Patients registered	Stock ledger and Physical Count Facility register	Make a decision on procurement, indent or redistribution

Consumption pattern	Health facility level	DDC Opening balance, receipt, closing balance for each drug for a specific period Patients registered	Stock ledger Consumption record Facility register	Monitor program performance and dispensing pattern Supplementary information on follow up and default

6.4 Diagnostics available at Community Health Centre and District Hospital:

Different diagnostic services for screening of NCDs should be made available at different levels of public health care facilities. The indicative list for laboratory investigation and diagnostics of common NCDs include:

Table 13: Diagnostics available at health facilities

Community Health Centre (CHC)	District Hospital (DH)
• Common blood examinations (CBC, FBS, LFT, KFT, LPT, etc.), spirometry, X- Ray, ECG, USG, etc. • Colposcopy for VIA positive patients	• Routine blood examination, blood sugar, blood lipid Profile, KFT, LFT, X-ray, ECG, USG, ECHO, CT scan etc. • Colposcopy for VIA positive patients • Fundoscopy for diabetics and hypertensives patients • Diagnostic breast ultrasound, Loop Electro Surgical Excision Procedure (LEEP) and biopsy

6.4.1 Strengthening Diagnostics Availability at Health Facilities:

District hospitals may outsource certain essential laboratory investigations and diagnostics that are not available. In case of outsourcing of laboratory investigations and diagnostics, the District Hospital should display the list of laboratories in which these investigations are outsourced. Once diagnosed with any NCD, counselling on lifestyle modifications needs to be done by the NCD Clinic staff along with follow-up. In case of Critical Care Units, all identified district hospitals have to be supported for Integrated

Public Health Laboratories. In case, the facility is not available in the district hospital, these investigations may be outsourced in Public Private Partnership (PPP) model/pattern or as per state policy/practice.

6.5 Initiatives for Drugs and Diagnostics:

Under the national program on Drugs and Diagnostics for NCDs, the following initiatives have been launched by the government of India.

6.5.1 Pradhan Mantri Bhartiya Janaushadhi Pariyojana (PMBJP):

The Pradhan Mantri Bhartiya Janaushadhi Pariyojana (PMBJP) scheme is being implemented by Bureau of Pharma PSUs of India (BPPI), under Department of Pharmaceuticals, Government of India. The scheme aims to make quality medicines available at affordable prices for all, particularly the poor and disadvantaged, through exclusive outlets called Pradhan Mantri Bhartiya Janaushadhi Kendras, so as to reduce out of pocket expenses in healthcare. More than 1,616 drugs and over 250 surgical and consumables are currently included in the product basket of PMBJP and more than 9,000 Jan Aushadhi Kendras have been set up under the scheme.

6.5.2 Affordable Medicines and Reliable Implants for Treatment (AMRIT):

Affordable Medicines and Reliable Implants for Treatment (AMRIT) is a novel initiative launched by the MoHFW, Government of India, to provide affordable medicines for treatment of cancer, cardiovascular and other diseases. As of May 2023, there are 240 AMRIT pharmacies spread across 28 states/UTs, selling more than 5200 drugs (including cardiovascular, cancer, diabetes, stents, etc), implants, surgical disposables and other consumables at a significant discounts up to 50% on market rates, based on authentic prescriptions from doctors not only from the institutions where they are located but even to those patients' availing treatment at other hospitals.

6.5.3 Rastriya Arogya Nidhi (RAN):

Rastriya Arogya Nidhi (RAN) is a central sector scheme that provides one-time financial assistance up to Rs. 15 lakhs to poor patients belonging to families living below poverty line and suffering from life threatening diseases relating to cancer, heart, kidney, liver and rare diseases etc. for treatment at any of the super specialty Government/ Institutes.

6.6 Issues related to Equipment Maintenance:

- While drawing specifications other terms and conditions must be drafted too, especially those related to maintenance of equipment. The usual dictum is to minimise the break down time.

- The items should be procured with the longest possible maintenance contract with the manufacturer. It is good to have a good length of warranty and equal length of CMC (Comprehensive maintenance contract)
  - e.g. A number of state governments have made 5- or 10-year maintenance of equipment compulsory for the firms supplying the same.
  - If you are procuring auto-analysers it is good idea to fix the cost of consumables for the next five years with the supplier. Deciding specification of item (s) to be purchased Specification of item is the key to the procurement process.
- The specification is drawn by a group of technical experts who are well versed with item in question (specification committee).
- Usually specification should be broad based and inclusive. The specifications should not be too restrictive or tailor made to meet any particular brand or manufacturer. The practical way to draw specifications is to draw common points of commonly available brands in the market.
- While procuring materials such as diagnostic tools (auto-analysers or X-ray machines) preference should be given open system over closed systems. Open systems allow consumables of all manufacturers to be used with the machine. Closed systems allow the consumables of the same manufacturer for the machines.

6.7 Inventory:

All purchases have to be taken into the inventory. Purchased consumable items are entered in the stock register whereas the non- consumables (life of over one year) are entered in the fixed assets register.

Maintaining records

- Maintaining records is an essential step in efficient inventory management.
- Stock records should be updated immediately on issue/ receipt of any item.
- The store officer is accountable for matching the physical availability and data records as per stock register.

Some good practices involving stores are:

- Store should be managed by an authorized storekeeper and store records should be kept under his custody only.
- Fire safety and pest control should be in place to keep the stored items safe from damage.
- Appropriate stock records should be maintained for receipt and issue of material.
- Items / material should be arranged/ stacked properly in the store to facilitate FIFO (First In, First Out) method of issue of store items.
- Periodical stock verification should be conducted by the storekeeper along with

an independent officer appointed by head of office; any discrepancies should be appropriately recorded and reported to the higher authorities.

- Obsolete, expired, damaged, and slow-moving items should be identified on periodical basis (monthly/ quarterly basis) and reported to higher authorities.

Record keeping: This is an important requirement for efficient inventory management. Maintaining records will help provide accurate information about the available stock, determine ordering or purchasing needs, control theft and pilferage and be ready for computerization.A module can be added with a focus on patient safety, including the following aspects:

- Medication safety
- Patient engagement and empowerment (covered in the training manual for medical officers but not for nodal officers)
- Prevention of medical errors
- Emergency preparedness
- Psychosocial support

MODULE

07

NCD DATA INFORMATION SYSTEM

Learning Objectives:

At the end of this module, you will be able to answer the following questions:

1. What is the NCD data information system?
2. What is the data flow under NCD data information system?
3. What is the National NCD Portal
4. How does the National NCD Portal help in creation of referral pathways?
5. What are the key responsibilities of NCD Nodal Officer/Medical Officer in ensuring flow of information and reporting?

7.1 Introduction:

The NCD data information system aims to raise awareness on progress in tackling NCDs and their risk factors and strengthen accountability for action at all levels. It displays data to highlight current status of NCD mortality, morbidity and risk factor exposures, and track progress against key targets, identify common challenges, and signpost useful resources. There are two types of data flow in the NCD Data Information System:

- Manual data flow: Screening, diagnosis and treatment related data manually entered by ASHA, ANM, CHO, MO, District and State Nodal Officers, etc. in physical reporting formats.
- Online data flow: Digitized physical reporting formats and data entered directly through the HMIS.

7.2 NCD Data at Various Levels:

Data related to NCD screening is gathered through population-based screening conducted by ASHA/ANM and opportunistic screenings conducted across all levels in the public healthcare system.

7.3 Monthly Data Reporting:

Various forms across different levels of public health facilities, NCD Clinics and NCD Cells need to be filled as per the prescribed schedule, every month and contribute to the data flow under the NCD Data Information System.

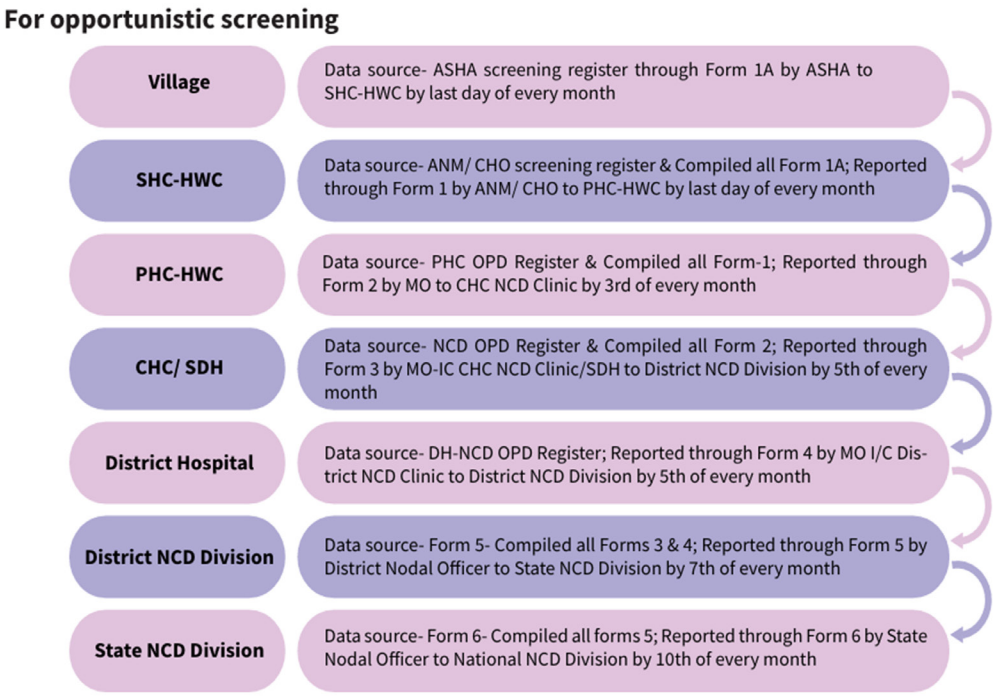

Figure 10: Data flow mechanism under NP-NCD

7.4 National NCD portal:

The main goal of the National NCD Portal is to ensure continuum of care across facilities and locations, by supporting healthcare providers and managers in delivering services and monitoring of Population Based Screening (PBS) for NCDs across all levels (national, state, district, block, primary health center, and sub-center). The portal facilitates population enumeration, risk assessment, and conducts screenings for the entire population while collecting data on NCD risk factors for individuals aged 30 and above. It also supports the management and follow-up of individuals diagnosed with any of the five NCDs. The system is utilized by healthcare workers and mid-level providers at sub-health centers, as well as by doctors and nurses at primary health centers. District, state, and national-level program managers routinely access the dashboards to gain insights into program implementation. Community health workers, nurses, doctors, and program managers can access these applications on various devices such as phones, tablets, or computers.

The NCD Portal is a suite of 6 applications:

1. ASHA Mobile App - to capture Population enumeration and CBAC Assessment
2. AAM (HWC) App - To screen the population for five common NCDs and enable referrals to PHC by ANM/CHO at the SHC, AAM (HWC)s
3. PHC Web Portal and App - To validate patient screening, complete diagnosis/ manage/ refer to higher centres by MO in PHC and backward referrals for follow-ups
4. CHC/DH Portal and App - To confirm diagnosis of patients referred from PHCs and

initiate treatment and backward referrals

5. Admin Portal - To manage the master data for facility and users at district and state levels
6. Health Officials Dashboard - For district, State and National NCD officials to monitor the status of programme implementation and NCD indicators

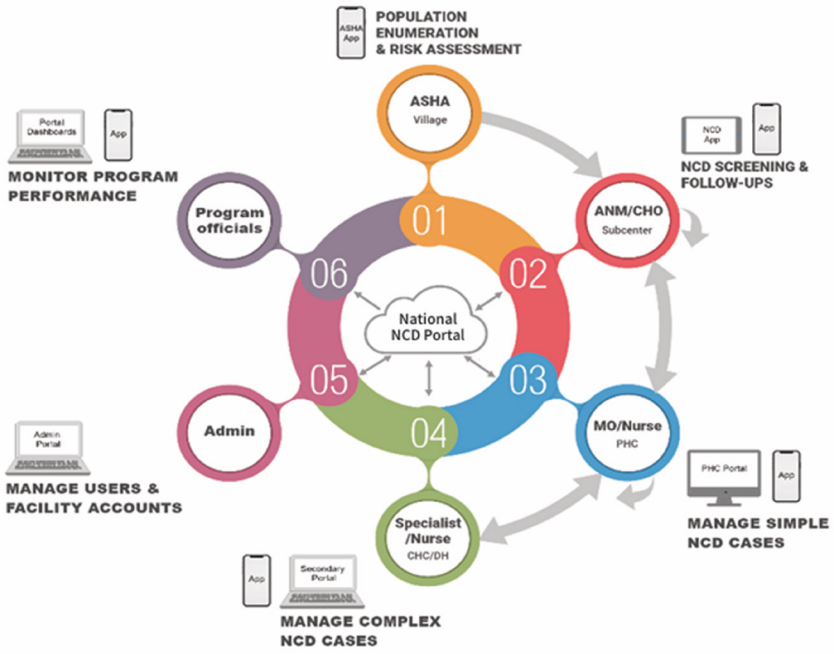

Figure 11: Six applications in NATIONAL NCD portal

7.5 Comprehensive Referral Pathway:

A key function of the National NCD portal is the streamlining of the upward and downward referrals across health facilities by creating comprehensive referral pathways. Referral pathways created pertain to the movement of patient records across various levels of care including follow-up instructions available for doctors to help specify care plan. A Patient can move across different statuses across different facilities. The portal allows role-based access of health records, workplans, and GoI protocols and guidelines to further assist healthcare providers.

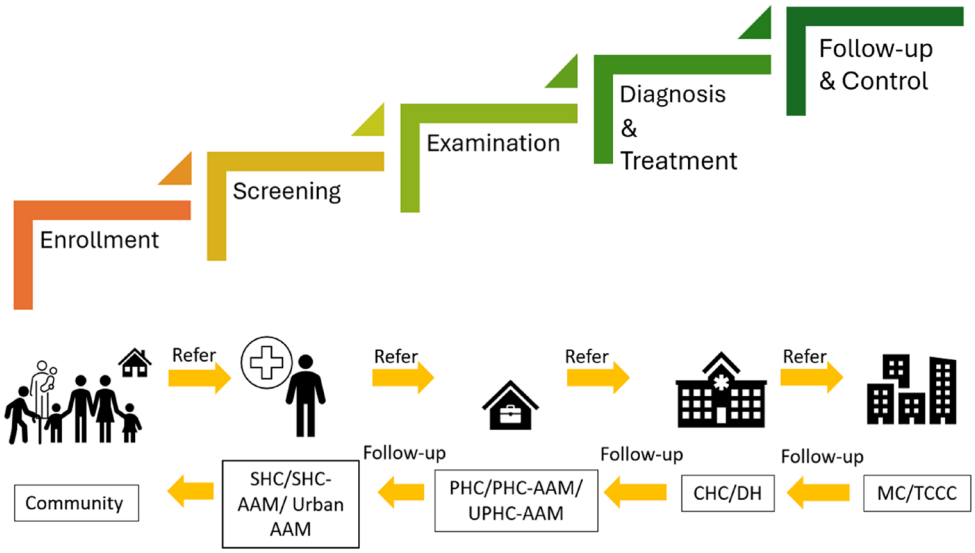

Figure 12: Comprehensive referral pathway

7.6 Key responsibility of NCD Nodal Officers/Medical Officer in reporting/flow of information:

A key responsibility of a NCD Nodal Officer/Medical Officer (MO), is to facilitate the smooth and effective flow of information and reporting within the NCD data information system. This entails meticulous monitoring and supportive supervision of field activities, which serves as the foundation for gathering accurate and timely data. Monthly review meetings play a pivotal role in this process, providing a platform for program managers to evaluate the program comprehensively. They also oversee that data, which is filled in the required formats, is not only accurate but also valid, meeting the prescribed time frames. PMs/ MOs should make it a point to visit the sub-centres where screening sessions are being held, at least once a month, using a standardized supervisory checklist.

MODULE

08

PROGRAMME MONITORING & EVALUATION AND SUPERVISION

Learning Objectives:

At the end of this module, you will be able to answer the following questions:

1. What data is to be collected based on the objective of the NCD surveillance system?
2. What are the various mechanisms for reviewing the NCD programme?
3. How to provide feedback?

8.1 Programme monitoring and evaluation cycle:

The program monitoring and evaluation cycle involves a series of steps, including identification of national and sub-national performance and progress indicators (inputs, process, outputs, outcomes and impact), make improvements, and ensure that intended goals and objectives are being met. There are four components of programme monitoring and evaluation cycle:

- **Programme monitoring** involving data collection, performance management and data quality assurance;
- **Evaluation** involving use of data for decision making, rapid assessment of program effectiveness and impact;
- **Learning** involving documentation, reporting and dissemination of programme findings/learning; and
- **Planning** involving defining indicators and data source

8.2 Programme Review and Monitoring:

Program Nodal Officers must ensure regular review meeting are conducted for assessment of progress under the NP-NCD. This process may require involvement of all stakeholders, along with undertaking the following activities:

Table 14: Programme review and monitoring activities

Review Activity	Time Interval
Maintenance of records and reports on screening	Monthly
Review of dashboard indicators	Monthly- District Quarterly-State

Review of field visits finding by Medical Officer/District NCD Cell/State & National NCD Cell	Quarterly
Review inventory management (drugs and diagnostics etc)	Quarterly
Assessments of health facilities to monitor preparedness for screening, diagnosis, management and referral	Annually
Desk reviews of data at all levels to monitor progress of implementation	Annually
Review of multi-sectoral plan	Annually

8.3 Programme Evaluation:

There are three types of programme evaluation:

Concurrent

- Analyze monthly/ quarterly report and evaluate performance
- Find out the reasons or barriers e.g. staff shortage, lack of drugs, shortage of equipment etc.

Annually

- Review the programme targets at the end of the year and analyse performance through the data available from various sources such as HMIS/ HWC Portal/ NCD portaland services provided.

8.4 Programme Supervision:

Programme supervision consists of the following three sets of activities:

- **Concurrent supervision** or **Supportive Supervision** involves accompanying health staff while they carry out the programme activities. Programme Managers can use a checklist to observe and evaluate the quality of work quality. The checklist is only a guide to capture critical indicators. So it is advisable to capture other relevant issues and best practices at health facilities beyond the items mentioned in checklist.
- **Random verification** involves randomly verifying the work already done and reported by the health staff. For example, if the health staff has reported presence of a cancer patient in a particular household, the Programme Manager (or supervisor) may verify it and confirm the other details provided. Conducting an independent supervision, will also allow taking feedback about the health staff's performance in day-to day activities.

- **Record review** involves review of reports and documents for correctness and timeliness. It is advisable to check the monthly reports, OPD records, registers, forms etc., that are maintained at the health facility.

8.5 Supervising the Staff:

Supervision serves as a means for supporting the staff and ensuring the quality of the health services they deliver. All levels of staff require consistent support in problem-solving and resolving challenges. Additionally, the benefit from constructive feedback on their performance and continuous encouragement in their work. Steps of supervision are given below:

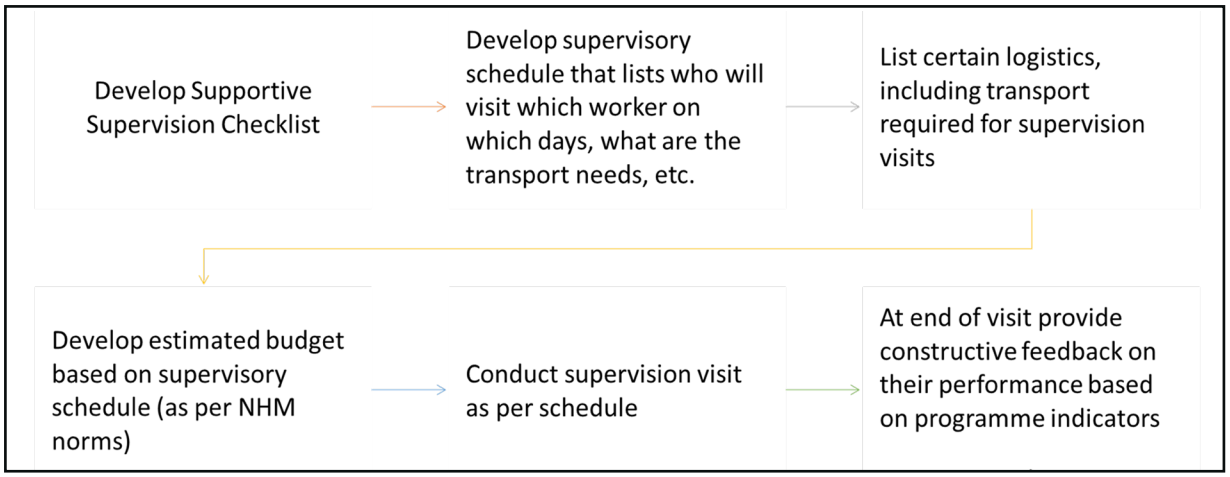

Figure 15: Steps of supportive supervision

8.6 Monitoring Indicators for NCD Screening:

Following are the key monitoring indicators for NCD screening and their definition, as included in the monitoring framework for NP-NCD:

- Coverage with screening: Proportion screened in the previous year out of the total population >30 years (eligible population for screening).
- Follow up screened: Those who completed the diagnostic workup of those who were screened positive.
- Treatment Rate: Those who are currently on treatment out of those diagnosed with disease in that year.
- Control Rate: Those that have achieved control values for HTN or DM amongst those that are currently on medication per year.

Additionally, information should also be collected on process indicators, such as drugs/ diagnostics stock outs, training status of support staff on program delivery, total number of screening sessions held against planned, etc.

Following is a list of input, process and outcome indicators included in the monitoring framework for NP-NCD.

Table 15: List of Input, Process and Outcome Indicators for NP-NCD

Name of Indicator	Level	Data Source	Frequency
Input Indicators			
Infrastructure			
Status of State/District NCDDivision	State/District	Monthly reporting forms	Quarterly
Status of District/CHC NCDClinics	District/Block	Monthly reporting forms	Quarterly
Human Resource			
Name of the post	Sanctioned	Filled	Frequency
Approved HR at State Level			Half Yearly
Approved HR at District Level			Half Yearly
Approved HR at Block Level			Half Yearly
Process Indicators			
Infrastructure			
Saturation of all districts having Standard Treatment Protocols for Hypertension and Diabetes	State	Monthly reporting forms	Monthly, Quarterly, Annually
Saturation of all districts having NCD Clinics	State	Monthly reporting forms	Monthly, Quarterly, Annually
Saturation of all CHCs having NCD Clinics	State / District	Monthly reporting forms	Monthly, Quarterly, Annually

Saturation of all districts having Chemotherapy related services	State	Monthly reporting forms	Monthly, Quarterly, Annually
Saturation of all districts having COPD and asthma services	State	Monthly reporting forms	Monthly, Quarterly, Annually
Saturation of all districts having STEMI services	State	Monthly reporting forms	Monthly, Quarterly, Annually
Saturation of all districts having Stroke services	State	Monthly reporting forms	Monthly, Quarterly, Annually
Saturation of all districts having Hemodialysis services	State	Monthly reporting forms	Monthly, Quarterly, Annually
Training			
Percentage of Programme Officers/Medical Officers trained for NP-NCD Trainings	State, District, Block	Training report	Quarterly
Percentage of Staff Nurse/CHO trained for NP-NCD Trainings	State, District, Block	Training report	Quarterly
Percentage of ANM/ MPW/ ASHA trained for NP- NCD Trainings	District, Block	Training report	Quarterly
Advocacy and Communication			
For NMAP- Number of meetings conducted with different ministries	All	Meeting minutes	Annually
Number of IEC activities including report (health days and campaigns) conducted at	All	Published reports with	Quarterly, Annually

block, district, state and national level related to NCD		content of activities	
IT System Usage			
Proportion of Health Facilities reporting through IT system (incl. SHC, PHC, NCD Clinics at CHC/DH)	All	National NCD Portal/ State/ own IT system	Monthly, Quarterly, Annually
Proportion of active MOs in National NCD Portal in last 30 days (denominator: total MOs)	PHC/ CHC/ DH	National NCD Portal/ State/ own IT system	Monthly, Quarterly, Annually
Output and Outcome Indicators			
Indicators for enrolment and ABHA-ID creations			
Saturation enrolment of all eligible populations aged 30 years and above on National NCD Portal	All	National NCD Portal	Monthly, Quarterly, Annually
Saturation of creating ABHA-ID of all enrolled populations	All	National NCD Portal	Monthly, Quarterly, Annually
Indicators for screening			
Saturation screening of eligible population aged 30 years and above for common NCDs	State, district, block	National NCD Portal	Monthly, Quarterly, Annually
Percentage of eligible population (target population needs to be decided based on prevalence of diseases as per NFHS-5) aged 30 years and above, diagnosed for common NCDs	State, district, block	National NCD Portal	Monthly, Quarterly, Annually
Percentage of eligible population aged 30 years and above, put on standard of care	State, district, block	National NCD Portal	Monthly, Quarterly, Annually

(lifestyle modifications and treatment) for common NCDs			
Percentage of eligible population diagnosed with COPD and asthma, Stroke, STEMI, NAFLD and CKD.	State, district, block	Monthly reporting forms/National NCD Portal	Monthly, Quarterly, Annually
Percentage of eligible population who initiated treatment for COPD and asthma, Stroke, STEMI, NAFLD and CKD.	State, district, block	Monthly reporting forms/National NCD Portal	Monthly, Quarterly, Annually
Indicators based on treatment outcome and incidence			
Percentage of patients on control and cohort reporting for hypertension, diabetes	State, district, block	National NCD Portal Cumulative Cohort Report	Monthly, Quarterly, Annually
Proportion of individuals with hypertension having blood pressure under control in previous 3 months (cumulative cohort report)	State, district, block	National NCD Portal Cumulative Cohort Report	Monthly, Quarterly, Annually
Proportion of individuals with diabetes having blood sugar under control in previous 3 months	State, district, block	National NCD Portal Cumulative Cohort Report	Monthly, Quarterly, Annually
Reduced Incidence of Hypertension and Diabetes	National State	Research / Study	Annually

A few indicators were identified and agreed upon at the 2nd National Conference of Chief Secretaries held at New Delhi between 5th -7th January, 2023. These indicators are to be also monitored by the NP-NCD programme team.

Table 16: NCD Indicators agreed upon at 2nd National Conference of Chief Secretaries

Indicator	Timeline
100% coverage of districts for NCD clinic including Pradhan Mantri National Dialysis Programme	December 2023
100 crore individuals with ABHA and saturation screening of eligible population for Non Communicable Diseases (NCDs)	December 2024
75 million people with hypertension and diabetes on standard care	March 2025
All districts to provide NCD related services for ST Elevated Myocardial Infarction (STEMI) / Stroke / Chronic Obstructive Pulmonary Diseases (COPD) / chemotherapy related services	December 2025
Establishment of Radiotherapy equipment to provide services for Cancer treatment per 10 lakhs population	December 2026
All States to have Standard Treatment Protocols for Hypertension and Diabetes	December 2023
All eligible population (30+ of age) to be enrolled in NCD portal	December 2024

8.7 Surveillance:

Surveillance may be defined as the ongoing systematic collection, analysis, interpretation, and timely dissemination of information for action linked to NP-NCD programme. The key objectives of this activity is to trigger public health control measures, changes in chronic disease presentation and its risk factors, change in health practices, and facilitate planning and implementation of the programme.

MODULE

09

INTEGRATION/LINKAGES OF NP-NCD WITH OTHER PROGRAMS

Learning Objectives:

At the end of this module, you will be able to answer the following questions:

1. What are different health programs that are linked or integrated with NP-NCD and opportunities to link with NP-NCD?
2. What are the opportunities for NP-NCD for inter-sectoral convergence with non-health sector groups?

9.1 Introduction:

The National Health Mission (NHM) implements various health programmes and initiatives, in addition to NP-NCD, such as for tuberculosis elimination, tobacco and alcohol control, reproductive health, and health initiatives for mothers, newborns, children, adolescents and the elderly. Knowledge of other health programmes and initiatives under the NHM is advantageous in utilizing existing channels under NHM for implementation of relevant activities under NP-NCD and in leveraging human resources and reporting and monitoring mechanisms under NHM.

9.2 Linkages of NP-NCD with other programmes:

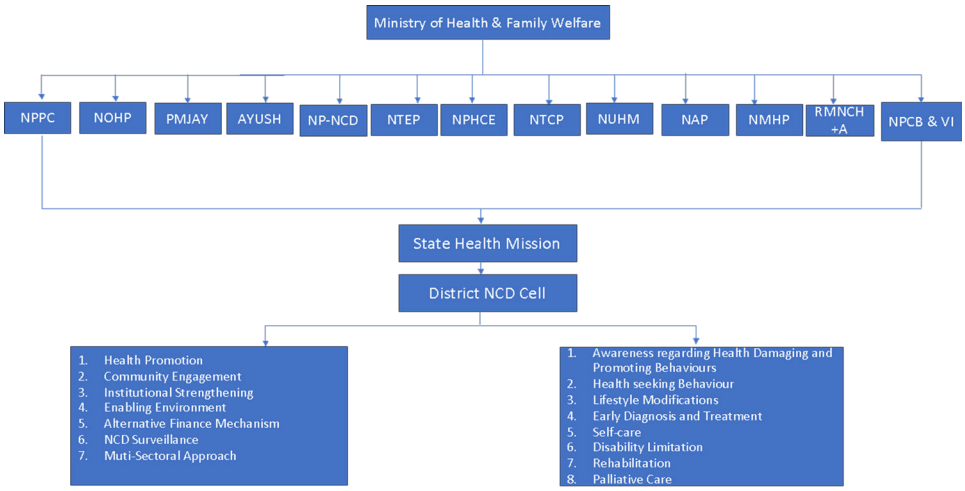

Figure 13: Different health programmes under MoHFW linked to NP-NCD

** NTEP: National Tuberculosis Elimination Program; NPHCE: National Program for Healthcare of Elderly; NTCP: National Tobacco Control Program; NUHM: National Urban Health Mission: NAP: National Alcohol Policy; NMHP: National Mental Health Program; RMNCH+A: Reproductive Maternal Newborn & Child Health+ Adolescent Health, NPPC: National Programme for Palliative care, NOHP: National Oral Health Program, NPCB&VI: National Programme for Control of Blindness and Visual Impairment, PMJAY: Pradhan Mantri Jan Arogya Yojana, RAN: Rastriya Arogya Nidhi*

Below is a description of integration or linkages of NP-NCD with other health programs.

9.2.1 National Tuberculosis Elimination Program (NTEP)[48] :

People diagnosed with tuberculosis (TB) are about twice as likely as those without TB, to be affected by diabetes, and about twice as likely to develop certain cancers. Similarly, people with a weak immune system after getting affected by diabetes are more prone to develop tuberculosis. Therefore, to reduce TB-diabetes comorbidities, collaborative activities will be planned between NP-NCD and NTEP including the national strategy for 'bi-directional screening', early detection and better management of TB-Diabetes comorbidities, as a joint collaborative activity between NTEP and NP-NCD. A focus area of this joint collaborative is ensuring diabetes managementamong TB patients, as well as improving diagnosis and management of TB among diabetic patients. Joint monitoring mechanisms have been designed, and a standardized reporting system has been shared between NP-NCD and NTEP. The collaborative also ensures joint and collaborative efforts for awareness and IEC activities for both diseases. Operational research to strengthen implementation of TB–diabetes collaborative activities may also be planned.

9.2.2 National Programme for Palliative care (NPPC)[49] :

The National Programme for Palliative Care (NPPC) was launched in November 2012 to ensure the availability and accessibility of rational, quality pain relief and palliative care for those in need. The program is an integral part of healthcare at all levels, tailored to meet community requirements. Services provided under NPPC for chronic NCD patients include:

Table 17: Services available under NPPC for chronic NCD patients

At district level	At AAM (HWC) (PHC & SC) level
• OPD/IPD services • Referral services • Home-based palliative care • Training	• Identification of patients with palliative care needs • Basic nursing procedures • Psycho-social & spiritual support • Home-based palliative care • Referral services • Bereavement support • Community awareness

48. National framework for joint TB-Diabetes collaborative activities.
49. National Programme For Palliative Care (NPPC). Available from: https://nhm.gov.in/index1.php?lang=1&level=2&sublinkid=1047&lid=609)

9.2.3 National Urban Health Mission (NUHM)[2] :

NUHM offers a platform for strengthening NCD services in urban areas through NP-NCD. For integration with NP-NCD, a convergent plan has been developed between NUHM and NP-NCD to promote comprehensive primary health care to reduce morbidity, mortality and DALYs related to NCDs in urban areas. An integral part of the joint plan is the convening of Joint Review Meetings to be conducted by NUHM and NP-NCD officials at the state and district levels. The Joint Review Meetings should preferably be conducted quarterly at state level and monthly at district level, and the platform should be utilized for discussion and joint review on planning, progress, gaps with respect to filling up of CBAC forms, NCD screening, reporting, trainings etc.

9.2.4 National Oral Health Program (NOHP)[50] :

The National Oral Health Programme offers integrated and comprehensive oral healthcare within existing healthcare facilities for achieving better oral health. The NOHP provides a good platform to integrate NP-NCD services, especially for oral cancer.

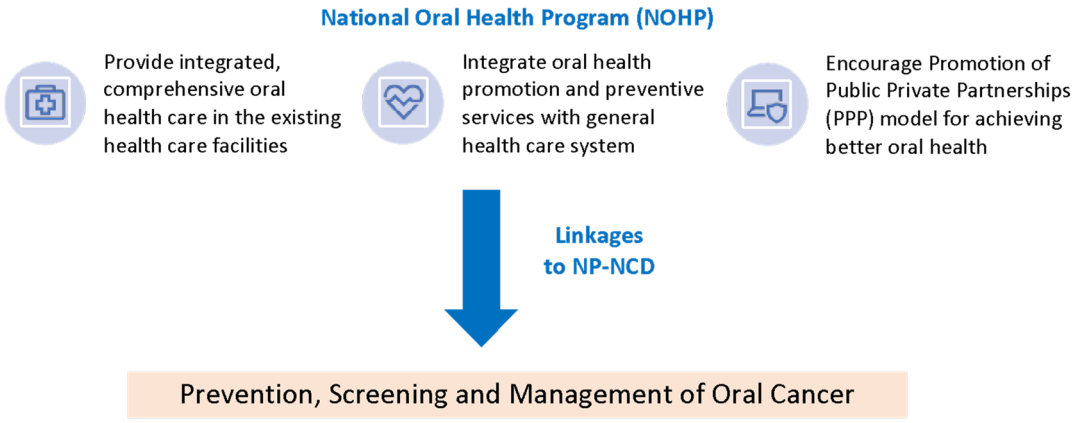

Figure 14: Integration of NP-NCD with NOHP

9.2.5 National Tobacco Control Programme (NTCP)[51] :

Tobacco chewing/smoking is one of the most common risk factor for various NCDs. Hence an integration with government programs for control of tobacco consumption is

50. National Oral Health Programme Available from: http://nohp.org.in/#/Home
51. Operational Guidelines National Tobacco Control Programme. Available from: https://ntcp.mohfw.gov.in/assets/document/Guideline-manuals/Operational-Guidelines-National-Tobacco-Control-Programme.pdf

advantageous. Government of India launched the National Tobacco Control Programme (NTCP) in 2007-08.

Tobacco Cessation Centres (TCCs) exist in the State/Union Territory apart from the hospitals providing cessation facilities, and provide pharmacological therapy (if required) to people wishing to quit tobacco. Other initiatives include provision of tobacco cessation counselling services through toll-free number (National Tobacco Quit Line) and text-messaging via mobile phones ("m-cessation" initiative).

9.2.6 National Programme for Health Care of Elderly (NPHCE)[52] :

Advanced age is a common risk factor for NCDs and elderlies are at higher risk of developing NCDs. The National Programme for Health Care of Elderly (NPHCE) was launched in 2010 with an objective to provide dedicated health care facilities to the senior citizens (>60 year of age).

NPHCE

- Provide accessible, affordable, and high-quality long-term, comprehensive and dedicated care services to an Ageing population
- Weekly geriatric clinic at PHC and bi-weekly clinic at CHC
- Conducting a routine health assessment of the elderly persons based on simple clinical examination relating to eye, BP, blood sugar, etc.

9.2.7 National Programme for Control of Blindness and Visual Impairment (NPCB&VI)[53] :

The National Programme for Control of Blindness and Visual Impairment (NPCB&VI) was launched in 1976 with the goal of reducing the prevalence of blindness to 0.3% by 2020. As the prevalence of diabetic retinopathy is increasing due to increase in cases of diabetes in the country, an opportunity is available to form linkages between the two programs to address the issues at the ground level and awareness activities can be promoted.

52. National Programme for Health Care of Elderly (NPHCE). Available from: https://www.nhm.gov.in/index1.php?lang=1&level=2&sublinkid=1046&lid=605
53. National Programme for Control of Blindness and Visual Impairment (NPCB&VI). Available from: https://npcbvi.mohfw.gov.in/

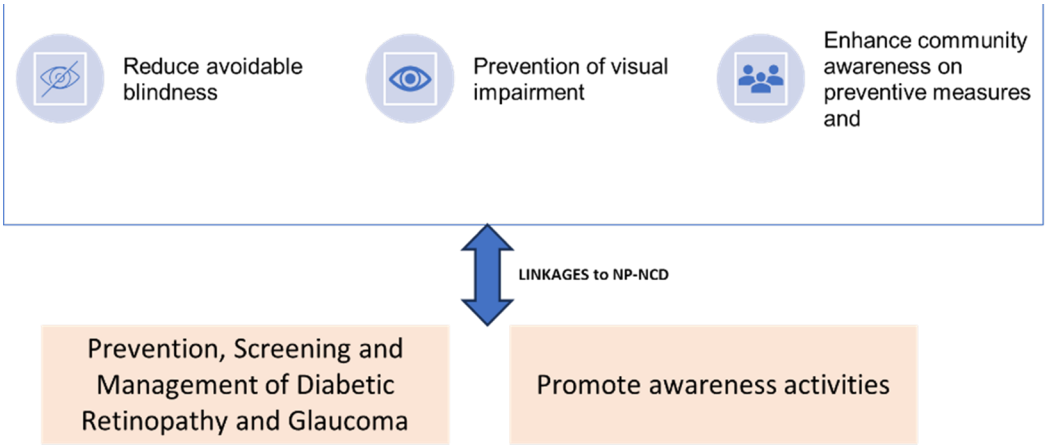

Figure 15: Integration of NP-NCD with NPCB&VI

9.2.8 Maternal Health Programmes:

Non communicable diseases and maternal health are closely linked. NCDs such as diabetes, obesity and hypertension have a significant adverse impact on maternal health and pregnancy outcomes. Hypertensive pregnancy disorders account for between 10% and 15% of maternal deaths in LMICs. In India, the prevalence of Gestational Diabetes Mellitus (GDM) are estimated to be 10-14.3% which is much higher than the western counterparts[54]. All pregnant women should be screened for hypertension and diabetes during Antenatal check-up (ANC) on VHND/any other specified day. If anyone is identified for any of the above condition, can be referred to NCD clinics for further management.

9.2.9 Ayushman Bharat - PM-JAY[55] :

The Pradhan Mantri Jan Arogya Yojana (PM-JAY), is the flagship scheme of Government of India with a vision of advancing the agenda of Universal Health Coverage (UHC). The scheme entitles every family a health insurance cover of Rs. 5 lakhs for secondary or tertiary care hospitalization. The primary goal of the initiatives is to provide cashless and paperless access to services related to NCDs for beneficiary at the point of service. The scheme covers 1669 health benefit packages under 26 different specialties and are comprehensive, covering various treatment related aspects including drugs and diagnostic services.

54. https://ncdalliance.org/integrating-noncommunicable-disease-prevention-and-care-into-global-health-initiatives-and-universal-health-coverage
55. Ayushman Bharat - PM-JAY. Available from: https://nha.gov.in/PM-JAY

9.2.9.1 Health & Wellness Centre

Screening of NCDs like diabetes, hypertension, common cancer is an integral part of service delivery under Ayushman Bharat – Health and Wellness Centres. Preventive aspect of Cancer is strengthened under Comprehensive Primary Health Care through Ayushman Bharat Health Wellness Centre scheme. The continuum of care will be ensured through referral to higher centres and reverse referral to AB-AAM (HWC)s. Services available at AAM (HWC) for people at risk of NCD or NCD patients:

- PBS through CBAC filling by ASHAs
- Improving health literacy through Interpersonal Communication, and media including social media, for promotion of healthy lifestyles – diet, yoga, exercise, tobacco cessation, and self-care
- Access to free essential medicines and diagnostic services
- Teleconsultation services through e-Sanjeevani
- Health promotion and awareness through wellness activities, tailored BCC, promotion of healthy lifestyle, celebration of 42 annual health calendar days, convergence with school health and wellness programme etc
- Maintaining Continuum of Care
- Community mobilization through PRIs/SHGs, community platforms like VHSNC/MAS

9.2.10 Rastriya Arogya Nidhi (RAN)[2] :

Rashtriya Arogya Nidhi (RAN) is health scheme provided by the central government, that provides one-time financial assistance up to Rs. 15 lakhs to poor patients belonging to families living below poverty line and suffering from life threatening diseases relating to cancer, heart, kidney, liver and rare diseases etc. for treatment at any of the super specialty government hospital or institute.

9.2.11 National Mental Health Programme[56] :

Cardiovascular diseases, diabetes, cancer, and respiratory diseases commonly co-occur with both common mental disorders and severe mental illnesses. Risk factors for NCDs such as tobacco use, unhealthy diet, physical inactivity, and harmful alcohol use commonly cluster in people with mental disorders. (BMJ 2019;364:l295). The Government of India has launched the National Mental Health Programme (NMHP) in 1982, keeping in view the heavy burden of mental illness in the community, and the absolute inadequacy of mental health care infrastructure in the country to deal with it.

56. National Mental Health Programme. Available from: https://main.mohfw.gov.in/sites/default/files/9903463892NMHP%20detail_0_2.pdf

9.2.12 National Teleconsultation Service/eSanjeevani[12] :

eSanjeevani, the National Teleconsultation Service offered by MoHFW is an online OPD service providing healthcare services to patients in their homes. The service has been introduced in the country in a phased manner for improved referral services and ensuring continuum of care. eSanjeevani has been utilised for NCD related services by beneficiaries and further it can be expanded to the whole of the country. Going forward, additionally, the eSanjeevani service can be used for: (i) emergency consultation, at appropriate levels; (ii) dedicated time for specialist consultation; (iii) capacity building, and (iv) standing orders for prescription. eSanjeevani has two variants:

eSanjeevani Ayushman Bharat-Health and Wellness Centre (AB-AAM (HWC))

A Doctor-to-Doctor telemedicine service under AB-AAM (HWC) to provide general and specialised health services in rural areas and isolated communities through a Hub-and-Spoke model. The service enables real-time virtual connection between the beneficiary (along with the paramedic and a generalist) at the spoke i.e. AAM (HWC) and the doctor/ specialist at the hub (tertiary healthcare facility/hospital/medical college). For this purpose, AAM (HWC) staff are to be equipped with tablets/ smart phones/ laptops to capture and transmit images, prescriptions and diagnostic reports. Additionally, use of platforms like Skype/Zoom can be explored for connecting with hubs identified for teleconsultation.

eSanjeevani OPD

This is a patient-to-doctor telemedicine service enabling outpatient services in the confines of their homes through a mobile app for smart phones.

9.2.13 Alternative Systems of Medicine (AYUSH)[12] :

Linkages can be formed with different healthcare programs under the Ministry of AYUSH for prevention and early diagnosis of NCDs, reduced complications, and reduced drug dependency through these systems. The Ministry of AYUSH through its three research organizations i.e. Central Council for Research in Ayurvedic Sciences (CCRAS), Central Council for Research in Homoeopathy (CCRH) and Central Council for Research in Unani Medicine (CCRUM) launched a programme to integrate Ayurveda, Homoeopathy and Unani with NP-NCD.

9.2.14 Rashtriya Bal Swasthya Karyakram (RBSK) and Rashtriya Kishor Swasthya Karyakram (RKSK)[12] :

Government of India's initiatives for children and adolescents' health and nutrition Rashtriya Bal Swasthya Karyakram (RBSK) and Rashtriya Kishor Swasthya Karyakram (RKSK) respectively, provide a good avenue for integration for NP-NCD for prevention, screening of NCDs in children and adolescents and promotion healthy behaviour. Most NCDs are life-course diseases, hence activities related to primordial prevention such

as health promotion, interpersonal communication, and social-behavioural change communication etc. about the importance of health eating, physical activity, and non-usage of alcohol/tobacco should be started at the earliest. Children and adolescents identified with any health condition related to NCD are referred to NCD clinics for further management and linking with tertiary care as and when required. Regular awareness activities can be conducted among the adolescents.

9.2.15 Inter-Sectoral Convergence with Non-Health Sector Groups[57] :

A wide spectrum of activities are required for the prevention of NCDs, and a majority of which fall in non-health sector and require engagement with non-health entities. Some examples include:

- Village Health Sanitation & Nutrition Committees (VHSNCs): for sensitization of PRIs for inclusion of NCDs in the discussion agenda.
- Education (Schools): for training of teachers in screening, and health promotion activities and involving Parent Teacher Association (PTA) for IEC activities.
- Law: for collaborating with district administration for strict enforcement of laws related to NCDs.
- Social Groups (Mahila Arogya Samitis/Youth Groups): for implementation of various activities related to NCD prevention and control under the programme.

Additional Reading Resources:

1. A National framework for joint TB-Diabetes collaborative activities.
2. Operational Guidelines National Tobacco Control Programme
3. National Programme for Palliative care
4. National Oral Health Program
5. National Programme for Healthcare of Elderly (NPHCE)
6. National Programme for Control of Blindness and Visual Impairment (NPCB&VI)
7. National Guidelines for Diagnosis & Management of Gestational Diabetes Mellitus

57. National Multi-Sectoral Action Plan for Prevention of Non-Communicable Diseases, 2017-22

8. National Programme for Palliative Care (NPPC)
9. National Mental Health Programme
10. Rashtriya Arogya Nidhi
11. PMJAY
12. Janani Suraksha Yojana (JSY)

MODULE

10

PREPARING ACTION PLAN FOR STRENGTHENING NCD SERVICES

Learning Objectives:

At the end of this module, you will be able to answer the following questions:

1. What are the basic principles of developing an action plan?
2. What are the components in an action plan across different levels?
3. What are the key steps in development an action plan?

10.1 Introduction:

An action plan is a detailed and structured document that outlines the specific steps and activities required to achieve the goals and objectives of a programme. It serves as a roadmap for programme managers, providing a clear path for executing and monitoring the programme's various tasks and activities. It consists of a number of actions, steps or changes to be brought about in a given setting. Before preparing the action plan one should be clear of what needs to be achieved as a result of the plan, or what the programme objectives are. Each action step or change to be sought should include the following information:

- **How?** Resources and inputs required to prepare plan are made available.
- **Who** will prepare and who will carry out these changes?
- By **when** they will take place, and for how long?
- **What** actions or changes will be taken?
- **What** steps are needed to carry out these changes?

A good Action Plan is:

- **Complete:** It lists all the action needed to achieve the objectives.
- **Clear:** It is apparent who will do what by when.
- **Realistic:** The action plan based on the current situation and resource availability.

10.2 Basic Principles:

As discussed earlier, NP-NCD uses a bottoms-up planning approach, and the following basic principles should be abided by, while development of an action plan:

- Existing action plans under NP-NCD should be reviewed and revised to ensure all components are included.
- During analysis of the currently available action plans, it is important to also review additional background and programme data available for building contextual understanding, including, but not limited to basic demographic data, coverage data, reported data, and monitoring data (if any).

- While developing the sub-centre action plan with the ANM, it is advisable to take inputs from ASHA, Anganwadi Workers (AWWs) and PRI members. Block Medical Officer/MOIC should review and refine microplans with support of key assistants (CBO, Assistant, supervisors etc.).
- While preparing District Action Plan, incorporating NP-NCD strategies, physical and financial targets for implementation of NP-NCD should also be included. Additionally, District Nodal Officer should visit the PHCs/areas to review microplans.
- While preparation of State Action Plan, physical and financial targets for implementation of NP- NCD should be included.

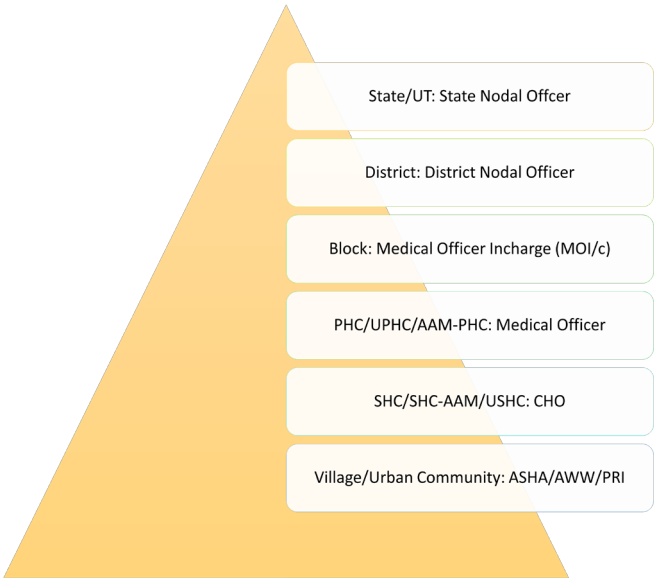

Figure 16: Bottom-up planning approach under NP-NCD

10.3 Components of NP- NCD Action Plan:

The NP-NCD action plan is a structured and comprehensive document providing details on all aspects of the NP-NCD. Below is a list of the key components that should be included in all action plans:

- Targets for Screening for HTN, Diabetes, CA-oral, Brest and cervix
- Service Provision Details
  - Who while provide the services
  - Where the services will be provided
  - When will be the services provided
  - Where to refer patients
    - Identified high risk individuals

  - Patients with complication
  - Screened positive cases
  - Other conditions
- Estimation of drugs and other logistics requirements
- Supervisor allocation
- Referral- follow up plan
- Contingency plan
- Budgetary Plan (PIP)

NP-NCD action plans are developed across levels in the public health care system, and below are the key details or components that should be included in the action plan across different levels.

Table 18: Components of NP-NCD Action Plan across Different Levels

Sub Centre Plan	PHC Plan	District Plan	State Plan
• Rural: name of village including all hamlets; • Urban: name of area including all wards/sub wards/ mohalla • ASHA/AWW/ Mobilizer responsible for the area with clear demarcation of areas • Map of sub-centre area • Estimation of beneficiaries	• Map of PHC • Compiled sub-centre plans • Estimation of beneficiaries • Estimation of drugs and logistics • Supervision plan • IEC and social mobilization plan	• Map of district • Compiled microplans from PHCs • Plan for DTF-NP-NCD and supervision plan of district officials • Distribution of drugs and logistics • District-specific activities for intensification of activities under NP-NCD	• Compiled district plans • State-specific activities • Plan for State task force for NP-NCD • Training of District Nodal officer, MOs • IEC, media sensitization Plan

• Estimation of drugs and logistics • CHO workplan • Communications and social mobilization plan	• Training plan and budget preparation	• IEC and social mobilization plan • Training plan and budget preparation	• Supervisory Plan

10.4 Key steps to be followed for NP-NCD Action Planning at District Level:

While preparing the NP-NCD Action Plan at the district level, one of the first steps should be to plan a meeting with Medical Officers at the district level, to ensure inclusion of all areas and review of existing block level plans. This should be followed by the review of budget and fund utilization for different activities under the NP-NCD at the district level. Next clear targets for the district must be set. And the final step in the process is the review and development of district level action plan.

Draft action plan templates are given below summarizing steps.

1. Develop Objectives for Action Plan:

Table 19: Example of objectives for action plan

Domain	Objectives
Health System Strengthening	• Improve Coverage with Screening and early detection of HTN, DM and Cancers • Improve access to acute cardiac and stroke care services
Capacity Building	• Increase the proportion of staff trained under NP-NCD • Conducting periodic retraining of staff under NP-NCD
Health Promotion	• Increase awareness of the population regarding NCD risk factors • Conducting regular health promotion activities like monthly Ayushman Arogya shivirs, celebration of 42 annual health calendar days pertaining to NCD care

Integration with other Programs/NHM	• Integrating implementation of NTEP for bi-directional screening for diabetes and TB. • integration with the NPCB& VI program for identification/screening of Diabetic Retinopathy and Hypertensive Retinopathy.
Multi-sectoral Action	• Involving non-health sector in NCD control activities. • Inclusion of PRIs/SHG members in NCD control activities

Do not have more than more than two in any one domain. Some examples are given to get you started. You can change them or keep them as appropriate.

2. Define Activities for Action Plan:

Table 20: Example of strategies and activities for action plan

Objective	Strategy	Activity	Responsibility
Improve control of hypertension among patients on treatment	Improve drug availability to the patients	• Review the drugs used for treatment – look at cheaper but equally effective options • Rationalize the amount of drugs purchased/ indented • Giving patients one month's quota of drugs rather than 1-week quota	State & District Nodal Officer
	Improve counselling services to the patients	• Facilitate training of counsellors • Make space and time available to the counsellors • Prepare job responsibilities, plan of work including reporting for counsellor	District Nodal Officer

3. Set targets for Action Plan

- • Examples
  - Improve the population coverage with screening for hypertension from 20% to 50% in district over three years
  - 75 by 25 initiative i.e., 75 million people with hypertension and diabetes to be put on Standard Care by 2025 at PHC level.
  - Ensuring 100% availability of blood pressure apparatuses in all health facilities over one year
  - Include some schools (e.g. 10% schools in the district) for health promotion activities.
  - All concerned units to implement the bi-directional screening for DM and TB in the district.

Table 21: Template for setting targets for action plan

Indicators	Current Level	Desired Level in 5 years	Desired Level next year

4. Define Activities for Action Plan:

Table 22: Example of stra

S.No	Activities	Responsibility	Quarter 1	Quarter 2	Quarter 3	Quarter 4

MODULE

11

FINANCIAL MANAGEMENT

Learning Objectives:

At the end of this module, you will be able to answer the following questions:

1. 1What are the steps involved in financial management under NP-NCD, at state and district levels?
2. How to prepare the budget for planned activities?
3. What are the key accounting procedures and reporting formats?

11.1 Financial Management under NP-NCD:

In the context of NP-NCD, the main aim of financial management is to operationalize an effective and accountable financial management system for budgeting, release, monitoring, and utilization of funds under NHM at the central, state, district, block, and facility levels. NP-NCD is funded under the common NCD flexi-pool of NHM that includes both the State/UT budget and that within the State NHM Programme Implementation Plan (PIP). Financial management groups (FMGs) of Programme Management support units at the state and district level, are responsible for the maintenance of accounts, release of funds, expenditure reports, utilization certificates, and audit arrangements through the Finance and Logistics Consultant of the NCD Division. Detailed operational manual for financial management under NHM[58] is available online for ready reference.

Figure 17: Activities permissible under NCD flexi-pool for NP-NCD

58. https://main.mohfw.gov.in/?q=departments/departments-health-and-family-welfare/nhm-finance/financial-management-groupfmg/operational-guidelines-financial-management

11.2 Steps in Financial Management:

In the context of NP-NCD, the main aim of financial management is to operationalize an effective and accountable financial management system for budgeting, release, monitoring, and utilization of funds under NHM at the central, state, district, block, and facility levels. NP-NCD is funded under the common NCD flexi-pool of NHM that includes both the State/UT budget and that within the State NHM Programme Implementation Plan (PIP). Financial management groups (FMGs) of Programme Management support units at the state and district level, are responsible for the maintenance of accounts, release of funds, expenditure reports, utilization certificates, and audit arrangements through the Finance and Logistics Consultant of the NCD Division. Detailed operational manual for financial management under NHM[58] is available online for ready reference.

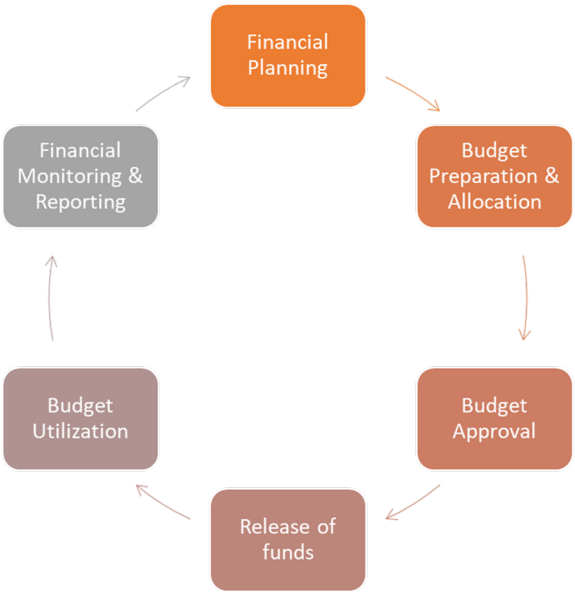

Figure 18: Steps of financial management

11.2.1 Financial Planning:

The first step in financial management is financial planning. In this step, achievable goals and targets set by the facility/ district/ state need to be considered. It results in a detailed budget reflecting service priority, and acts as the framework for spending money and assessing financial performance. A detailed justification of all items in the budget needs to be prepared too. It is important to note that NHM follows a bottom-up approach to planning and budgeting. The process begins with the district health plan and these are then used to prepare state project Implementation plans.

11.2.1.1 Development of State Project Implementation Plan (PIP):

The purpose of PIP is to make budgetary proposals for both regular as well as need-based activities for once in two years. To ensure efficient financial management a separate financial management group (FMG) is established at the central level (Government of India), which is supported by respective finance units at state, district and block levels.

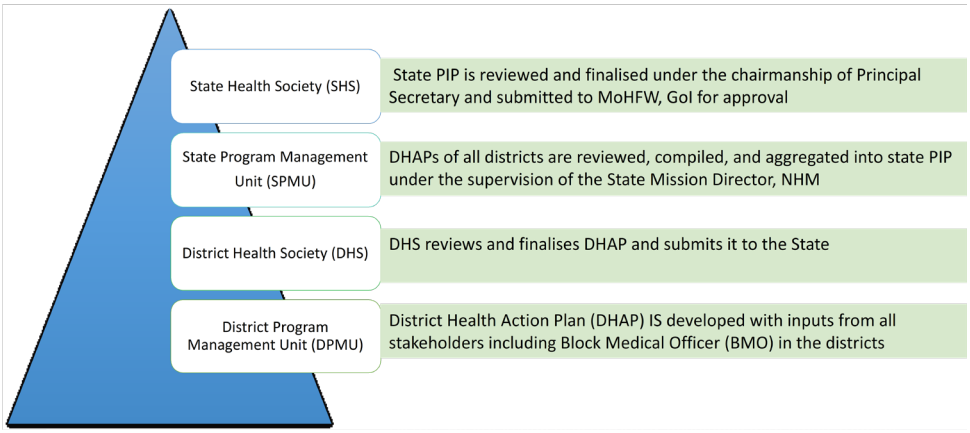

Figure 19: Process for development of State PIP

11.2.2 Budget Preparation and Allocation:

All state and district program managers are involved in preparing the budget for themselves and those under them. The planning must be done as per the different activity heads under PIP under the NP-NCD. States have the flexibility for inter-usability of funds from one component to another under the NCD Flexi- pool as per NHM guidelines, under intimation to the GoI.

11.2.3 Allocation and Release of Funds:

Once the budget proposal reaches the central government – the same is reviewed by the FMGs, programme division, and sub-groups (comprising MoHFW and state government officials) – and if need be, the states are asked to revise their PIPs. These are then discussed in the National Programme Coordination Committee (NPCC) meetings, chaired by the Mission Director, and finalized. Post approval of the State PIPs, Record of Proceedings (RoPs) are issued to respective States and funds are released in a phased manner under the NCD Flexi-pool for the NP-NCD activities.

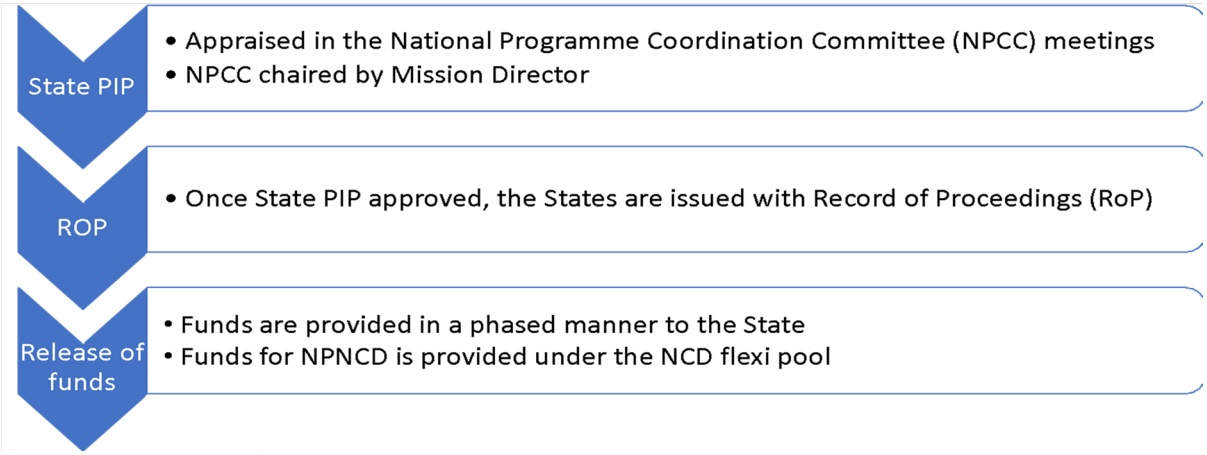

Figure 20: Process for development of State PIP

11.2.4 Accounting:

Accounting includes a proper recording of all transactions through vouchers in different books of accounts including cash books, journals, ledgers, etc. All financial transactions must be recorded, classified, and summarised. Various types of books (records) need to be maintained to capture the financial transactions in a proper way. This is important as it helps organize and prepare the financial statements, budget, and financial plans and facilitates auditing.

11.2.5 Financial Reporting and Monitoring:

A program manager must be aware of the key financial reports that need to be submitted at regular intervals. Below is a brief description of the commonly used reporting formats at different levels.

11.2.5.1 Financial Monitoring Report (FMR):

FMR is one of the primary financial reports that provide component-wise utilization against the allocated budget. The report should include only actual expenses, unsettled advances should not be reported as expenditures. It also must include physical progress against the target determined and information for the specific period (Monthly/ Quarterly) and cumulative 'year to date". The FMR must be signed by the head of the unit with a counter signature by the finance head of the unit.

11.2.5.2 Utilization Certificate (UC):

Utilization Certificate (Provisional & Final Audited) is a form to be submitted by the spending unit certifying the amount actually spent against the grant disbursed to it. It has to be provided by all units, providing sanction-wise details of the grant received, the purpose of the grant, the amount spent, and the unspent balance in a timely manner. Expenses shown in the UC should include expenditure as per the Income and Expenditure account plus the amount of Capitalized assets. SHSs should submit the UC in 'Form No. GFR 19A'

and it should be signed by the Mission Director/Project Director/ State Programme Officer and Statutory Auditor to MoHFW along with audited annual financial statements.

11.2.5.3 Statement of Expenditure (SoE):

The Statement of Expenditure (SoE) provides expenditure against the funds received under various components of the programme monitoring financial activities. In addition to financial reporting, certain ancillary monitoring activities need to be carried out under NHM at each level:

- Monitoring timely submission of financial reports: Timelines need to be set up and rigorously followed up, and any reasons for delay must be intimated to higher units.
- Periodic financial analysis: This includes different types of analysis at state and national levels e.g. 'Budget vs. Expenditure analysis', 'Physical vs. Financial performance', etc.
- Monitoring concurrent audit activities: Done by independent Chartered Accountants, a concurrent audit is a systematic examination of financial transactions on a regular basis to ensure accuracy, authenticity, and compliance with procedures and guidelines.
- Periodical meetings at supervisory level: These happen at block/district/state levels to review performance, provide feedback to improve performance, address queries, or inform new guidelines related to financial management.
- Common/Joint review missions/Mid-term review: These are conducted by external agencies.
- External Reviews: These are conducted by external agencies.

11.3 Audit:

The key objectives of conducting an audit include:

- To assess and provide an opinion on whether the financial statements present a "True and Fair" view of
  - The financial position (balance sheet) at the end of the period; and
  - The financial performance (income and expenditure account) during the period.
- To test whether requisite internal controls are in place, commensurate to the size and volume of operations of the entity.

The two types of audits done under NHM include Statutory Audits and Concurrent Audits. The primary objective of **'Statutory Audit'**, in the context of NHM, is to ensure that the respective programme expenditures are eligible for financing under the relevant grant/ credit agreements (under programmes supported by development partners) and that the funds have been utilized for the purpose for which they were provided. Statutory audit of State and District Health Societies is supposed to be carried out by Chartered Accountant firms appointed by the SHSs.

ANNEXURES

Annexure 1: Training Details

Name of the training program	Level of Training	Eligible Staff	Duration	Batch Size
Training of NP-NCD for program managers	State/District	SNO/ SPO/ SPC/ DNO/ DPO/ DPO	3 days	30-40
Training of NP-NCD for program managers	State/District	DEO/FLO	2 days	30-40
Training on the Comprehensive Primary Health care and continuum of care spanning health promotion, NCD prevention, screening, treatment, referral and follow ups*	State/District	CHOs/ MPW M & F/ ASHA	2 days	30-40
Training on cervical cancer screening using VIA	State/District	Staff Nurses/ LHVs/ CHOs/ANMs	10 days	10-14
PBS training for District pool of program managers for ANM/ASHA training	State	DNO/ DPO/ DPC/ SIHFW/ Medical College	2 days	30-40
Training for Prevention, Control and PBS training of NCDs	State	MOs	1-2 days	
Training of Staff Nurses on NCD care spanning health promotion, prevention, screening, treatment and follow up	District/Sub-district	SNs	2 days	
Training of ANMs/LHVs on NCD care spanning health promotion, prevention, screening, treatment and follow up	District/Sub-district	ANM/LHVs	2 days	

Please note: The CHOs have already been given induction training of 15 days upon joining which includes CPHC. Also, the CHO, ANM/MPW (F) are given training on EPS which includes NCD care.

Annexure 2: Suggested Template for Training Calendar

Category of staff to be trained	Duration of training	Venue	Batch size	Training Load			Target number of batches for 2024-25	April 2024	May 2024	June 2024
				Sanctioned in strength	In position	Total Untrained				
Medical Officers										
CHOs										
ANMs										
ASHAs										

**Please note: The CHOs have already been given induction training of 15 days upon joining which includes CPHC. Also, the CHO, ANM/MPW (F) are given training on EPS which includes NCD care.*

Annexure 3: Indicative list of medicines at health facilities

*Ensure all State specific standard treatment protocol medicines are available in sufficient quantities

Indicative list of medicines – district hospital level

S.No	Name of drug
Anti-Neoplastic Medicines	
1	5-Fluorouracil Injection 250 mg/5 ml (*Protect from light in a single dose container and store at temperature not exceeding 30^{o}C) (Injection should not be allowed to freeze)*
2	Actinomycin D Injection 0.5 mg (5 mcg)
3	All-Trans Retinoic Acid Capsule 10 mg
4	Arsenic Trioxide Injection 1 mg/ml
5	Bleomycin Powder for Injection 15 units3
6	Calcium Folinate Tablet 15 mg
	Calcium Folinate Injection 3 mg/ml
7	Capecitabine Tablet 500 mg
8	Carboplatin Injection 10 mg/ml
9	Chlorambucil Tablet 2 mg/5 mg3 Chlorambucil Powder for Injection 500 mg
10	Cyclophosphamide Powder for Injection 500 mg 3 (*Store in refrigerator (2 to 8^{o}C). Avoid long exposure to temperature above 30^{o}C)*
11	Docetaxel Powder for Injection 20 mg
12	Etoposide Capsule 50 mg2 Etoposide Capsule 100 mg (*Capsules should not be stored in refrigerator*)
13	Imatinib Tablet 100 mg Imatinib Tablet 400 mg
14	Paclitaxel Injection 30 mg/5 ml Paclitaxel Injection 100 mg/16.7 ml
15	Trastuzumab Injection 440 mg/50 ml
Hormones and Anti-Hormonal Medicines used in Cancer Therapy	
16	Bicalutamide Tablet 50 mg
17	Prednisolone* Tablet 5 mg Prednisolone Tablet 10 mg

	Prednisolone Oral Liquid 5 mg/5 ml Prednisolone Oral Liquid 15 mg/5 ml *(Protect from light and store at temperature not exceeding 30^{0}C)*
18	Letrozole Tablet 2.5 mg
19	Tamoxifen Tablet 10 mg3 Tamoxifen Tablet 20 mg
Immunosuppressive Medicines	
20	Mycophenolate Mofetil Tablet 250 mg
21	Cyclosporine Capsule 10 mg, 25 mg, 50 mg, 100 mg, Oral Liquid 100 mg/ml Injection 50 mg/ml
22	Tacrolimus Capsule 0.5 mg, 1 mg, 2 mg
Cardiovascular Medicines	
23	Clopidogrel Tablet 75 mg
24	"Diltiazem Tablet 60 mg Diltiazem SR Tablet 90 mg Diltiazem Injection 5 mg/ml"
25	"Glyceryl Trinitrate Sublingual Tablet 0.5 mg (Glyceryl trinitrate tablets are unstable) Glyceryl trinitrate Injection 125 mg/5 ml (Protect from light and moisture in glass container of not more than 100 tablets and store at temperature not exceeding 30^{0}C)"
26	"Isosorbide-5- mononitrate Tablet 10 mg, Isosorbide-5- mononitrate SR Tablet 30 mg"
27	"Isosorbide Dinitrate Tablet 5 mg Isosorbide Dinitrate Tablet 10 mg"
28	Atenolol Tablet 50 mg, 100 mg
29	"Metoprolol Tablet 25 mg Metoprolol Tablet 50 mg Metoprolol Tablet 100 mg Metoprolol SR Tablet 25 mg Metoprolol SR Tablet 50 mg"
30	"Amiodarone Tablet 100 mg Amiodarone Injection 50 mg/ml"
31	"Amlodipine Tablet 2.5 mg Amlodipine Tablet 5 mg Amlodipine Tablet 10 mg (Protect from moisture)"
32	"Hydrochlorothiazide* Tablet 12.5 mg Hydrochlorothiazide Tablet 25 mg Hydrochlorothiazide Tablet 50 mg"

33	"Labetalol Injection 5 mg/ml Labetalol Tablet 100 mg Labetalol Injection 20 mg/2 ml"
34	"Methyldopa Tablet 250 mg Methyldopa Tablet 500 mg"
35	"Enalapril Tablet 2.5 mg Enalapril Tablet 5 mg Enalapril Tablet 10 mg"
36	Captopril Tablet 25 mg
37	Lisinopril Tablet 5 mg
38	"Verapamil Tablet 40 mg, 120 mg Verapamil Injection 5 mg/2 ml"
39	Ramipril Tablet 2.5 mg/5 mg
40	Telmisartan Tablet 40 mg
41	"Digoxin Tablet 0.25 mg Digoxin Tablet 250 mg"
42	Dobutamine Injection 50 mg/ml
43	"Dopamine Injection 40 mg/ml (Store in an airtight container protected from light)"
44	"Protamine Injection 50 mg/5 ml (Injection: Protect from light in a single dose container)"
45	"Noradrenaline Injection 2 mg/ml (Store in single dose containers. Store at room temperature (25^{0}C). Store in tight, light resistant containers as it is readily oxidized. Do not use if discolored (e.g. pink, dark yellow, brown) or if there is a precipitate)"
46	Enoxaparin LMWH Injection
47	Clofibrate Tablet 500 mg
48	"Streptokinase Injection 15 lac/Vial Sterptokinase Injection 7.5 lac/Vial (Store in a sealed container protected from light in refrigerator (2 to 8^{0}C). The container should be sterile and sealed so as to exclude micro-organisms)"
49	Finofibrate Tablet 40 mg, 160 mg
50	"Atorvastatin Tablet 10 mg Atorvastatin Tablet 40 mg (Protected from moisture and store at temperature not exceeding 30^{0}C)"
51	Esmolol Injection 10 mg/ml
52	"Sodium nitroprusside Injection 10 mg/ml (Protect from light)"

53	"Alteplase Powder for Injection 20 mg Alteplase Powder for Injection 50 mg (Protect from heat, light and moisture and store at room temperature (<30°C). Use reconstituted solution within 8 hours)"
Dialysis Solution	
54	Haemodialysis Fluid
55	Intraperitoneal Dialysis Solution*
Diuretic Medicines	
56	"Furosemide Tablet 40 mg Furosemide Injection 10 mg/ml"
57	Indapamide Tablet 1.5 mg
58	Chlorthalidone Tablet 12.5 mg3
59	Mephentermine Injection 15 mg/ml
60	"Mannitol Injection 10% (Store at temperatures between 20^0 and 30^0C) Mannitol Injection 20% (Exposure to lower temperatures may cause the deposition of crystals)"
61	"Spironolactone Tablet 25 mg Spironolactone Tablet 50 mg"
62	Methyl Cellulose Tablet, Powder Hormones, other Endocrine Medicines and Contraceptives (Diabetes)
63	"Glimepiride Tablet 1 mg Glimepiride Tablet 2 mg"
64	Gliclazide Tablet 40 mg
65	"Insulin (Soluble) Injection 40 IU/ml2,3 Insulin Lente Basal, Injection Insulin Rapid, Injection Insulin Mixtard"
66	"Metformin Tablet 500 mg3 Metformin Controlled released 750 mg"
67	"Premix Insulin 30:70 Injection (Regular: NPH)2 Premix Insulin 30:70 Injection 40 IU/ml3"
68	"Glibenclamide Tablet 2.5 mg3 Glibenclamide Tablet 5 mg"
Medicines Acting on the Respiratory Tract	
69	"Budesonide Inhalation (MDI/DPI) 100 mcg/dose Budesonide Inhalation (MDI/DPI) 200 mcg/dose Budesonide Respirator solution for use in nebuliser 0.5 mg/ml

	Budesonide Respirator solution for use in nebuliser 1 mg/ml"
70	"Combination of LABA+ICS (Formoterol, Salmeterolol/Fluticasone) MDI, DPI (Protect from light, moisture and store at temperature not exceeding 30^{0}C)"
71	Budesonide Nebulisation Solution
72	Ipravent/Levoline Nebulisation Solution
73	"Budesonide (A)+ Formoterol (B) Inhalation (MDI/DPI) 100 mcg (A)+ 6 mcg (B) Inhalation (MDI/DPI) 200 mcg (A)+ 6 mcg (B) Inhalation (MDI/DPI) 400 mcg (A)+ 6 mcg (B)"
74	"Etofyllin B Plus (A), Anhydrous Theophylline IP (B) combination injection 84.7 mg/ml (A) + 25.3 mg/ml (B)"
75	"Ipratropium Inhalation (MDI/DPI) 20 mcg/dose Ipratropium Respirator solution for use in nebuliser 250 mcg/ml"
76	Levosalbutamol 50mcg/dose
77	"Salbutamol Tablet 2 mg Salbutamol Tablet 4 mg Salbutamol Oral liquid 2 mg/5 ml Salbutamol Inhalation (MDI/DPI) 100 mcg/dose, Salbutamol Respirator solution for use in nebuliser 5 mg/ml"
78	Formoterol Inhaled Bronchodilator
79	Salmeterol Inhaled Bronchodilator
80	"Tablet Theophylline (Store protected from moisture)"
81	"Tiotropium Inhalation (MDI) 9 mcg/dose Tiotropium Inhalation (DPI) 18 mcg/dose"
82	Deriphyllin Tablet SR
83	"Montelukast Tablet 5 mg Montelukast Tablet 10 mg Montelukast syrup"

Indicative List Of Medicines – Sub- District Hospital Level

S.No	Name of drug
Anti-Neoplastic Medicines	
1	All-trans Retinoic Acid Capsule 10 mg
2	Arsenic Trioxide Injection 1 mg/ml
3	Calcium Folinate Tablet 15 mg Calcium Folinate Injection 3 mg/ml
4	Capecitabine Tablet 500 mg
5	Carboplatin Injection 10 mg/ml
6	Chlorambucil Tablet 2 mg/5 mg3 Chlorambucil Powder for Injection 500 mg
Hormones and Anti-hormonal Medicines used in Cancer Therapy	
7	Prednisolone* Tablet 5 mg Prednisolone Tablet 10 mg Prednisolone Oral Liquid 5 mg/5 ml Prednisolone Oral Liquid 15 mg/5 ml *(Protect from light and store at temperature not exceeding 30^{o}C)*
Cardiovascular Medicines	
8	Clopidogrel Tablet 75 mg
9	Diltiazem Tablet 60 mg Diltiazem SR Tablet 90 mg
10	Glyceryl Trinitrate Sublingual Tablet 0.5 mg *(Glyceryl trinitrate tablets are unstable)* Glyceryl trinitrate Injection 125 mg/5 ml *(Protect from light and moisture in glass container of not more than 100 tablets and store at temperature not exceeding 30^{o}C)*
11	Isosorbide-5- mononitrate Tablet 10 mg Isosorbide-5- mononitrate SR Tablet 30 mg
12	Isosorbide dinitrate Tablet 5 mg Isosorbide dinitrate Tablet 10 mg
13	Atenolol Tablet 50 mg, 100 mg
14	Metoprolol Tablet 25 mg Metoprolol Tablet 50 mg
15	Amiodarone Tablet 100 mg Amiodarone Injection 50 mg/ml
16	Amlodipine Tablet 2.5 mg Amlodipine Tablet 5 mg Amlodipine Tablet 10 mg *(Protect from moisture)*

17	Hydrochlorothiazide* Tablet 12.5 mg Hydrochlorothiazide Tablet 25 mg Hydrochlorothiazide Tablet 50 mg
18	Labetalol Injection 5 mg/ml Labetalol Tablet 100 mg Labetalol Injection 20 mg/2 ml
19	Methyldopa Tablet 250 mg Methyldopa Tablet 500 mg
20	Enalapril Tablet 2.5 mg Enalapril Tablet 5 mg Enalapril Tablet 10 mg
21	Captopril Tablet 25 mg
22	Lisinopril Tablet 5 mg
23	Verapamil Tablet 40 mg, 120 mg Verapamil Injection 5 mg/2 ml
24	Ramipril Tablet 2.5 mg/5 mg
25	Telmisartan Tablet 40 mg
26	Digoxin Tablet 0.25 mg Digoxin Tablet 250 mg
27	Dobutamine Injection 50 mg/ml
28	Dopamine Injection 40/ml (*Store in an airtight container protect from light*)
29	Protamine Injection 50 mg/5 ml (Injection: Protect from light in a single dose container)
30	Noradrenaline Injection 2 mg/ml (Store in single dose containers. Store at room temperature (25^{0}C). Store in tight, light resistant containers as it is readily oxidized. Do not use if discoloured (e.g. pink, dark yellow, brown) or if there is a precipitate)
31	Enoxaparin LMWH Injection
32	Clofibrate Tablet 500 mg
33	Streptokinase Injection 15 lac/vial Streptokinase Injection 7.5 lac/vial *sealed so as to exclude micro-organisms)*
34	Fenofibrate Tablet 40 mg, 160 mg

35	Atorvastatin Tablet 10 mg Atorvastatin Tablet 40mg (Protect from moisture and store at temperature not exceeding 30°C)
Dialysis Solution	
36	Haemodialysis Fluid
Diuretic Medicines	
37	Furosemide Tablet 40 mg Furosemide Injection 10 mg/ml
38	Indapamide Tablet 1.5 mg
39	Chlorthalidone Tablet 12.5 mg3
40	Mephentermine Injection 15 mg/ml
41	Mannitol Injection 10%, Mannitol Injection 20% (*Store at temperatures between 20° and 30°C. Exposure to lower temperatures may cause the deposition* of crystals.)
42	Spironolactone Tablet 25 mg Spironolactone Tablet 50 mg
43	Methyl Cellulose Tablet, powder
Hormones, other Endocrine Medicines and Contraceptives (Diabetes)	
44	Glimepiride Tablet 1 mg Glimepiride Tablet 2 mg
45	Gliclazide Tablet 40 mg
46	Insulin (Soluble) Injection 40 IU/ml 2,3 Insulin Lente Basal Injection Insulin Rapid Injection Insulin Mixtard
47	Metformin Tablet 500 mg3 Metformin Controlled released 750 mg
48	Premix Insulin 30:70 Injection2,3 (Regular: NPH) Premix Insulin 30:70 Injection 40 IU/ml
49	Glibenclamide Tablet 2.5 mg3 Glibenclamide Tablet 5 mg
Medicines Acting on the Respiratory Tract	
50	Budesonide Inhalation (MDI/DPI) 100 mcg/dose Budesonide Inhalation (MDI/DPI) 200 mcg/dose Budesonide Respirator Solution for use in Nebuliser 0.5 mg/ml Budesonide Respirator Solution for use in Nebuliser 1 mg/ml

51	Combination of LABA+ICS (Formoterol, Salmeterol/Fluticasone) MDI, DPI *(Protect from light and moisture and store at temperature not exceeding 30^{0}C)*
52	Budesonide Nebulisation Solution
53	Ipravent/Levoline Nebulisation Solution
54	Budesonide (A)+ Formoterol (B) Inhalation (MDI/DPI) 100 mcg (A)+ 6 mcg (B) Inhalation (MDI/DPI) 200 mcg (A)+ 6 mcg (B) Inhalation (MDI/DPI) 400 mcg (A)+ 6 mcg (B)
55	Etofyllin B Plus (A), Anhydrous Theophylline IP (B) Combination injection 84.7 mg/ml (A) + 25.3 mg/ml (B)
56	Ipratropium Inhalation (MDI/DPI) 20 mcg/dose Ipratropium Respirator Solution for use in Nebuliser 250 mcg/ml
57	Levosalbutamol 50 mcg/dose
58	Salbutamol Tablet 2 mg Salbutamol Tablet 4 mg Salbutamol Oral Liquid 2 mg/5 ml Salbutamol Inhalation (MDI/DPI) 100 mcg/dose Salbutamol Respirator Solution for use in Nebuliser 5 mg/ml
59	Formoterol Inhaled Bronchodilator
60	Salmeterol Inhaled Bronchodilator
61	Tablet Theophylline *(Protect from moisture)*
62	Deriphyllin Tablet SR
63	Montelukast Tablet 5 mg Montelukast Tablet 10 mg Montelukast syrup

Indicative List Of Medicines – Sub- District Hospital Level

S.No.	Name of Drugs
	Cardiovascular medicines
1	Clopidogrel Tablet 75 mg
2	Diltiazem Tablet 60 mg Diltiazem SR Tablet 90 mg
3	Glyceryl trinitrate Sublingual Tablet 0.5 mg Glyceryl trinitrate 125 mg/5ml (Glyceryl trinitrate tablets are unstable) (Store protected from light and moisture in glass container of not more than 100 tablets at a temperature not exceeding 30^{0}C.)
4	Isosorbide dinitrate Tablet 5 mg Isosorbide dinitrate Tablet 10 mg
5	Isosorbide-5- mononitrate Tablet 10 mg Isosorbide-5- mononitrate SR Tablet 30 mg
6	Atenolol Tablet 50 mg/100 mg
7	Metoprolol Tablet 25 mg Metoprolol Tablet 50 mg Metoprolol Tablet 100 mg Metoprolol SR Tablet 25 mg
8	Propranolol Tablet 40 mg
9	Amiodarone Tablet 100 mg
10	Amlodipine Tablet 2.5 mg/5 mg (Protect from moisture.) Amlodipine Tablet 10 mg
11	Indapamide Tablet 1.5 mg
12	Chlorthalidone Tablet 12.5 mg
13	Injection Mannitol
14	Labetalol Injection 20 mg
15	Methyldopa Tablet 250
16	Enalapril Tablet 2.5 mg Enalapril Tablet 5 mg Enalapril Tablet 10 mg
17	Captopril Tablet 25 mg
18	Lisinopril Tablet 5 mg
19	Telmisartan Tablet 40 mg

20	Digoxin Tablet 250 mg
21	Dopamine Injection 40 mg/ml (Store in an airtight container protected from light.)
22	Noradrenaline Injection 2 mg/ml (Store in single dose containers. Store at room temperature (25^{0}C). Store in tight, light resistant containers as it is readily oxidized. Do not use if discolored (e.g., pink, dark yellow, brown) or if there is a precipitate.)
23	Enoxaparin Injection LMWH
24	Atorvastatin Tablet 10 mg (Protect from moisture and store at temperature not exceeding 30^{0}C.) Atorvastatin Tablet 40 mg
Diuretics Medicines	
25	Furosemide Tablet 40 mg Furosemide Injection 10 mg/ml
26	Hydrochlorothiazide* Tablet 12.5 mg Hydrochlorothiazide Tablet 25mg
27	Spironolactone Tablet 25 mg
28	Methyl Cellulose tablet/powder
29	
30	
31	
32	
33	
34	
35	
Antidiabetic medicines	
36	Glimepiride Tablet 1 mg/2 mg
37	Insulin (Soluble) Injection 40 IU/ml 2,3
38	Metformin Tablet 500 mg 3 Metformin Controlled released 750 mg
39	Premix Insulin 30:70 Injection (Regular: NPH) 2,3 Premix Insulin 30:70 Injection 40 IU/ml.
40	Glibenclamide Tablet 2.5 mg/5 mg 3
41	
42	Gliclazide Tablet 40mg
Medicines acting on the respiratory tract	
43	Budesonide Inhalation (MDI/DPI) 100 mcg/dose Budesonide Respirator solution for use in nebulizer 0.5 mg/ml

44	Budesonide (A)+ Formoterol (B) Inhalation (MDI/DPI) 100 mcg (A)+ 6 mcg (B) Inhalation (MDI/DPI) 200 mcg (A)+ 6 mcg (B) Inhalation (MDI/DPI) 400 mcg (A)+ 6 mcg (B)
45	Combination of LABA+ICS (Formoterol, Salmeterol/Fluticasone) MDI, DPI (Protect from light, moisture and store at temperature not exceeding 30^{0}C) (Protect from light, moisture and store at temperature not exceeding 30^{0}C.)
46	Etofylline B Plus (A), Anhydrous Theophylline IP (B) combination injection 84.7 mg/ml (A) + 25.3 mg/ml (B)
47	Ipratropium Inhalation (MDI/DPI) 20 mcg/dose Ipratropium Respirator solution for use in nebulizer 250 mcg/ml.
48	Levosalbutamol 50 mcg/dose
49	Salbutamol Tablet 2 mg/4 mg Salbutamol 100 mg/dose Salbutamol Oral liquid 2 mg/5 ml
50	Theophylline Tablet (Protect from moisture.)
51	Syrup Salbutamol Salbutamol Nebulizing solution.
52	Tiotropium Inhalation (MDI) 9 mcg/dose Tiotropium Inhalation (DPI) 18 mcg/dose
53	Deriphyllin SR Tablet
54	Montelukast Tablet 5 mg Montelukast syrup
55	N Acetyl Cystine Tablet 600 mg/Dispersible
56	Betamethasone Injection 4 mg/ml

Indicative List Of Medicines For Health And Wellness Centre – Primary Health Centre Level

S. No.	Name of Drugs
Anti-hypertensive medicine	
1	Amlodipine Tablet 2.5 mg Amlodipine Tablet 5 mg
2	Enalapril Tablet 5 mg
3	Hydrochlorothiazide Tablet 12.5 mg Hydrochlorothiazide Tablet 25 mg
4	Labetalol Tablet 100 mg Labetalol Injection 5 mg/ml
5	Methyldopa Tablet 250 mg
6	Telmisartan Tablet 40 mg
Medicines used in shock and heart failure	
7	Adrenaline Injection 1 mg/ml
Hypolipidemic medicines	
8	Atorvastatin Tablet 10 mg
Diuretics	
9	Furosemide Tablet 40 mg Furosemide Injection 10 mg/ml
10	Mannitol Injection 10% Mannitol Injection 20%
Medicines used in diabetes mellitus	
11	Glimepiride Tablet 2 mg
12	Metformin Tablet 500 mg Metformin SR Tablet 500 mg
13	Insulin (Soluble) Injection 40 IU/ml
14	Premix Insulin 30:70 Injection (Regular: NPH) Injection 40 IU/ml
15	Glibenclamide Tablet 2.5 mg Glibenclamide Tablet 5 mg
16	Glucose Packet 75 mg for OGTT Test
Medicines acting on the Respiratory Tract	
17	Budesonide Inhalation (MDI/DPI) 100 mcg/dose Budesonide Respirator solution for use in nebu- lizer 0.5 mg/ml
18	Salbutamol Tablet 2 mg Salbutamol Oral liquid 2 mg/5 ml Salbutamol Respirator solution for use in nebulizer 5 mg/ml
19	Montelukast Syrup Montelukast Tablet
20	Syrup Dextromethorphan
21	Syrup Bromhexine Hydrochloride
22	Syrup Pheniramine Maleate
23	Ipratropium Inhalation (MDI/DPI) 20 mcg/dose Ipratropium Respirator solution for use in nebu- lizer 250 mcg/ml.

Indicative List Of Medicines For Health And Wellness Centre – Sub Health Centre Level

S. No.	Name of Drugs
Cardiovascular medicines (Medicines used in angina)	
1	Isosorbide-5- mononitrate Tablet 5 mg
2	Atenolol Tablet 50 mg
3	Metoprolol Tablet 25 mg Metoprolol SR Tablet 25 mg
4	Isosorbide dinitrate Tablet 5 mg (Sublingual)
Anti-hypertensive medicines	
5	Amlodipine Tablet 2.5 mg Amlodipine Tablet 5 mg
6	Enalapril Tablet 5 mg
7	Telmisartan Tablet 40 mg
8	Hydrochlorothiazide Tablet 12.5 mg Hydrochlorothiazide Tablet 25 mg
Hypolipidemic medicines	
9	Atorvastatin Tablet 10 mg
Medicines used in Diabetes Mellitus	
10	Glimepiride Tablet 2 mg
11	Metformin Tablet 500 mg Metformin SR Tablet 500 mg
12	Glibenclamide Tablet 2.5 mg/ Glibenclamide Tablet 5 mg
Medicines acting on the respiratory Tract	
13	Budesonide Respirator solution for use in nebulizer 0.5 mg/ml (Nebulizer Essential)
14	Salbutamol Tablet 2 mg Salbutamol Oral liquid 2 mg/5 ml Salbutamol Respirator solution for use in nebulizer 5mg/ml (Nebulizer Essential)
15	Normal Saline Drops
16	Dextromethorphan oral Syrup
17	Hyoscinebutylbromide Tablet 10 mg
Diuretics	
18	Furosemide Injection (Lasix) Furosemide Tablet 40 mg

Pool	FMR Code	Programme/ Theme	S.No	Scheme/ Activity	DBT	Infrastructure - Civil works (I&C)	Equipment (Including Furniture, Excluding Computers)	Drugs			Diagnostics (Consumables, PPP, Sample Transport)	Capacity building incl. training	ASHA incentives	Others including operating costs(OOC)	IEC & Printing	Planning & M & E
								Central supplies (Kind grants) (To be provided by the PDs)	Budget for Procurement done by States	Total						
	NDCP Sub Total			0	0	0	0	0	0	0	0	0	0	0	0	0
NCD Flexi Pool	NCD.1	National Program for Control of Blindness and Vision Impairment (NPCB+VI)	85	Cataract Surgeries through facilities												
			86	Cataract Surgeries through NGOs												
			87	Other Ophthalmic Interventions through facilities												

			88	Other Ophthalmic Interventions through NGOs												
			89	Mobile Ophthalmic Units												
			90	Collection of eye balls by eye banks and eye donation centres												
			91	Free spectacles to school children												
			92	Free spectacles to others												

			93	Grant in Aid for the health institutions, Eye Bank, NGO, Private Practioners												
			94	Other NPCB+VI components												
	NCD.2	National Mental Health Program (NMHP)	95	Implementation of District Mental Health Plan												
			96	State specific Initiatives and Innovations												
	NCD.3	National Programme for Health Care for the	97	Geriatric Care at DH												
			98	Geriatric Care at CHC/SDH												

		Elderly (NPHCE)	99	Geriatric Care at PHC												
			100	Community Based Intervention												
			101	State specific Initiatives and Innovations												
	NCD.4	National Tobacco Control Programme (NTCP)	102	Implementation of COTPA - 2003												
			103	Tobacco Cessation												
	NCD.5	National Programme for Prevention and Control of Diabetes, Cardiovascular Disease and Stroke	104	NCD Clinics at DH												
			105	NCD Clinics at CHC/SDH												
			106	Cardiac Care Unit (CCU/ICU)												
			107	Other NPCDCS Components												

		(NPCDCS)	108	State specific Initiatives and Innovations												
	NCD.6	Pradhan Mantri National Dialysis Programme (PMNDP)	109	Haemodialysis Services												
			110	Peritoneal Dialysis Services												
	NCD.7	National Program for Climate Change and Human Health (NPCCHH)	111	Implementation of NPCCHH												
	NCD.8	National Oral health programme (NOHP)	112	Implementation at DH												
			113	Implementation at CHC/SDH												
			114	Mobile Dental Units/Van												

			115	State specific Initiatives and Innovations												
	NCD.9	National Programme on palliative care (NPPC)	116	Implementation of NPPC												
	NCD.10	National Programme for Prevention and Control of Fluorosis (NPPCF)	117	Implementation of NPPCF												
	NCD.11	National Programme for Prevention and Control of Deafness (NPPCD)	118	Screening of Deafness												
			119	Management of Deafness												
			120	State Specific Initiatives												
	NCD.12	National programme for	121	Support for Burn Units												

		Prevention and Management of Burn & Injuries	122	Support for Emergency Trauma Care												
	NCD.13	State specific Programme Interventions	123	Implementation of State specific Initiatives and Innovations												
	NCD Sub Total			0	0	0	0	0	0	0	0	0	0	0	0	0

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