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A report on

Non communicable diseases screening in India

By

Suhani Rastogi

(Roll number: 1219)

Under the guidance

Of

Dr. Dhirendra Kumar

MBA Hospital and Health Management

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IIHMR UNIVERSITY

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ABBREVATIONS

• NCD	Non communicable diseases
• CBAC	Community based assessment list
• ANM	Auxiliary nurse midwife
• ASHA	Accredited Social Health Activist.
• MO	Medical officer
• NPCDCS	National Programmed for Prevention and Control of Cancer, Diabetes, Cardiovascular diseases, and Stroke
• CPHC	Comprehensive Primary Healthcare
• WHO	World Health Organisation
• CCU	Cardiac Care Units
• CVDs	Cardiovascular diseases
• CCPD	Chronic Obstructive Pulmonary Disease
• NCCP	National Cancer Control Program
• NNMS	National NCD Monitoring Survey
• PHC	Primary Health Centre
• CHC	Community Health Centres
• NHM	National Health Mission

ORGANISATIONAL LEARNINGS

INTRODUCTION: ABOUT VIWEZEN LABS

The company provides end, to end data analytics services. Smaller entities can use company's data collection platforms to quickly create a data repository. Preconfigured templates are available industry wise which can be quickly customised to further accelerate data gathering. Entities already having data can simply plug into company's Analytics Platform to visualize the data and generate insights.

Company's aim is to

- Simplify data.
- Make data available and usable by all and
- Reduce the disparities and competitive disadvantages that data is creating.

Platforms are designed to help company's stakeholders collect data quickly, visualize and benefit from it at very low costs. Clients can focus on their core business while company can manage their data and provide actionable insights. Their solutions have been built on core technology platforms by bringing together deep industry research and domain expertise.

The aim is to develop an app to collect data on screening the population above 30 years of age for the identification of Non-Communicable Diseases (NCDs). The app will be used by ASHAs, ANMs, Staff Nurse and Medical Officers when they screen the population according to the guidelines of the NPCDCS (national program for prevention and control of cancer, diabetes, cardio-vascular diseases, and stroke of the Government of India. To know about the current risk factors associated with NCDs survey outcomes from National Non communicable disease monitoring survey 2017-2018 have also been studied.

- CPHC NCD solution

Central Government in the 2018, Under the Ayushman Bharat programme aimed to provide comprehensive primary healthcare including services for maternal child health, communicable and non-communicable diseases to the entire population. Comprehensive Primary Healthcare (CPHC) program is embarked on a population based NCD (non-communicable diseases) program. The aim of the programme is to screen all men and women over 30 for non-communicable diseases (NCDs) including hypertension, diabetes, oral, breast and cervical cancers with referrals to secondary and tertiary level Government hospitals for diagnosis, treatment, and management.

Currently under the National Programmed for Prevention and Control of Cancer, Diabetes, Cardiovascular diseases, and Stroke (NPCDCS), it envisaged that the paper health records maintained by the Auxiliary Nurse Midwives (ANMs) and Accredited Social Health Activists (ASHAs) be digitalized for all the population-based

screening conducted for women and men aged 30 years and above in the community or in the health facility nearby for smoother and effective treatment and referral.

By using this application, one can create every individual's electronic health record, like a paper file/ record. Every time the patient/individual visits the facility for screening or treatment the relevant data is entered, and new information is added. This information can be viewed by the health officials for measuring the disease burden, update in program planning and evaluate the performance of health workers.

Role of ASHAs

ASHAs plays an important role in undertaking the population enumeration of all those aged 30 years and above through home visits. She is supposed to register or list all eligible adults (women and men), fill out the details specific to NCDs and then update them every 6 months. She will be given a specific register to record this information, such as:

1. To estimate the population to be screened

2. To enumerate adults 30 years and above in routine household visits

3. To Fill up family/household folder

After this, she will also record the following information manually by:

1. Completing community-based assessment checklist

2. Creating individual health records

3. Maintaining family folder

4. Assessing risk and mobilizing priority screening individuals

5. Identifying population with risk or no risk factors

Role of ANM

All the information collected by the ASHA must be entered by the ANMs later in the tablet. As this would enable proper follow up by the medical officer at the PHC level or at a higher level of facility. [1]

Their task is also to support the ASHA through the field visits in completing the enumeration. They will cross verify at least 10% population and they will undertake enumeration in some areas where ASHA's position is vacant. They will also ensure all ASHAs complete the Community Based Assessment Checklist (CBAC) of all individuals 30 years and above and make available registration and CBAC forms, measuring tapes, and other tools that may be necessary for the ASHAs to conduct screening.

Role of Medical officers

To Identify individuals who have NCDs is difficult since these are “silent” diseases with few or no symptoms in the early stages. For all the 5 NCDs screening & managing them early, results in better health outcomes, survival rates, and less financial impact on individuals. Hence, they will need to encourage and monitor ASHAs and ANMs in the conduct of this population-based screening program and use the technology more effectively.

To conduct risk assessment, screening, referral, diagnosis, and treatment for relevant diseases in the portal. Alongside they also do regular follow-ups with patients to ensure strict drug adherence, comply with lifestyle changes and understand the importance of having the NCD controlled. This technology solution will allow them to track every individual on a regular basis, catch those who have dropped out early and take action to bring them back, and escalate lost patient cases quickly. This is made possible through comprehensive workplans and dashboards.

1. As Medical officer at PHC, they will provide technical support for all the Staff Nurse/pharmacist/counsellors/lab technician/ANM/ASHA on maintenance of records and reports on tablets and portal for interventions such as screening, treatment, counselling, referral and follow up and timely submission to higher level

2. Raise awareness on risk factors of NCDs, healthy lifestyle, benefits of screening and social protection schemes and other treatment options that would cover the costs of care, through platforms

3. Map of the public health facilities which are equipped for confirmation and management of complications of NCDs/Cancers nearest to his PHC/CHC for appropriate and timely referral of the patient diagnosed with complications of NCDs/cancers.

4. Ensure timely follow up. Note, first follow up at three months is recommended for all, or sooner for patients with concerns/complications.

5. Consider annual referral to specialist for HT/diabetes

Introduction

Non-communicable diseases (NCDs) comprise a vast group of diseases such as cardiovascular diseases, cancer, diabetes, and chronic respiratory diseases. Around 38 million (68%) of all the deaths globally and to about 5.87 million (60%) of all deaths in India are because of NCDs. Four NCDs mainly responsible for the total NCD mortality and morbidity are cardiovascular diseases, chronic respiratory disease, cancers, and diabetes, contributing to about 82% of all NCD deaths.[2]

Most of NCD deaths happen in low and centre pay nations like India, which is going through an epidemiological wellbeing change attributable to fast urbanization, which thus has prompted a generally financial ascent, yet with certain related flipsides (hazard factors) [3]. The conduct and natural danger factors, with an inclination to the improvement of NCDs, are utilization of tobacco and liquor, actual idleness, overweight and weight, expanded fat and sodium consumption, low organic product, and vegetable admission, raised pulse (BP), blood glucose and cholesterol levels.

The National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases and Stroke (NPCDCS) was launched in 2010 to prevent and control major NCDs, with focus on strengthening infrastructure, human resource development, health promotion, early diagnosis, management, and referral.[4] Under National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases and Stroke, NCD Cells are being established at different levels like National, State and District levels for programme management. NCD Clinics are being set up at District and CHC levels, to provide services for early diagnosis, treatment, and follow-up for common NCDs. Provision has been made under the programme to provide free diagnostic facilities and drugs for patients attending the NCD clinics. Cardiac Care Units (CCU) are also being set up in identified districts for providing facilities for emergency Cardiac Care. Day Care Centres at the identified districts are setup to provide facilities for Cancer care.

1.1 Background

NON-COMMUNICABLE DISEASES (NCDs)

Global burden of non-communicable disease

Non-communicable diseases (NCDs) are the leading public health challenges globally in the twenty-first century, resulting in ill health, economic loss, life loss, diminished quality of life, and poor social development equally in both high-resourced and low-resourced countries [5]. According to the World Health Organisation Global Status Report (GSR) on non-communicable disease, from 38 million deaths due to NCDs each year, more than 40% were premature and were preventable [6]. Based on the projection of the WHO, by 2025 NCDs will account for over 70% of all deaths globally, with 85% of these occurring in developing countries [7]

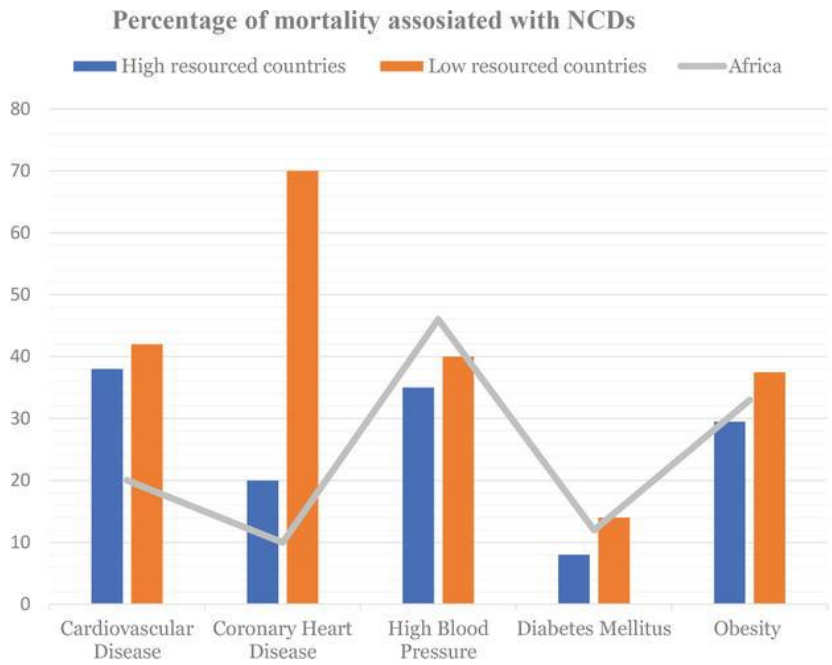


Figure 1 illustrates that common NCDs account for most of the avoidable morbidity and preventable mortality, these being cardiovascular disease, coronary heart disease, high blood pressure, diabetes, and obesity. The percentage of mortality associated with the major NCDs across three regions of the world, such as high-resourced countries, low-resourced countries, and Africa varies. In high-income countries, the percentage of mortality related with NCDs such as cardiovascular disease, coronary heart disease, high blood pressure, diabetes, and obesity decreases, whilst in low-resourced countries and Africa, it continues to raise.

Magnitude of Noncommunicable Diseases and their associated risk factors in India

63% of all deaths in India are estimated due to non-communicable diseases. The weight of NCDs have outperformed transmittable illnesses presenting new difficulties in the 21st century and this change is clear in recent many years. Ages who had endure the youth illnesses are currently inclined to way of life sicknesses. The key determinants driving NCD hazard factors have been connected to maturing populace, globalization, tireless urbanization, which has prompted way of life changes, opening business sectors for food, liquor, and

tobacco enterprises. Additionally, low degrees of training, destitution, helpless lodging conditions and deficient spaces for active work mixtures to the weight endangering the maintainable development and usefulness of the Nation.

The table 1, shows the total percentage of deaths from NCDs in India for the year 2016.

Major NCDs	**Total deaths in %**
Cardiovascular diseases (CVDs)	21.8
Stroke	7.1
Hypertension	1.3
Chronic respiratory diseases	10.9
Chronic Obstructive Pulmonary Disease (COPD)	8.6
Cancer	8.3
Diabetes Mellitus	3.1

A “risk factor” is any attribute, characteristic, or exposure of an individual which increases the likelihood of developing a disease. The prevailing risk factors to major NCDs have been well documented and are common to both men and women. Behavioral risk factors like unhealthy diet, inadequate physical activity, tobacco use, exposure to tobacco smoke, air pollutants and excessive alcohol use, alter the physiology contributing to the development of metabolic risk factors like overweight, obesity, raised blood pressure, raised blood glucose and high cholesterol. The risk factors have also been categorized in two types: non-modifiable risk factors and modifiable risk factors. Non modifiable risk factors include age, sex, and family history. Modifiable risk factors can be changed by specific action by reducing the harmful effects with changes in lifestyle and treatment. These risk factors involve-

Unhealthy diets (high fat, sugar, and salt content; and low fruit and vegetable and fibre intake)

Physical inactivity

Tobacco use

Harmful use of Alcohol.

At the individual level, some modifiable risk factors can be changed if the person changes her/his individual behaviours. However, some factors also require changes at the government level. For e.g., government should provide smokeless chulhas (stove) to reduce indoor pollutions or reduce air pollution by imposing fine on industries setup in residential areas.

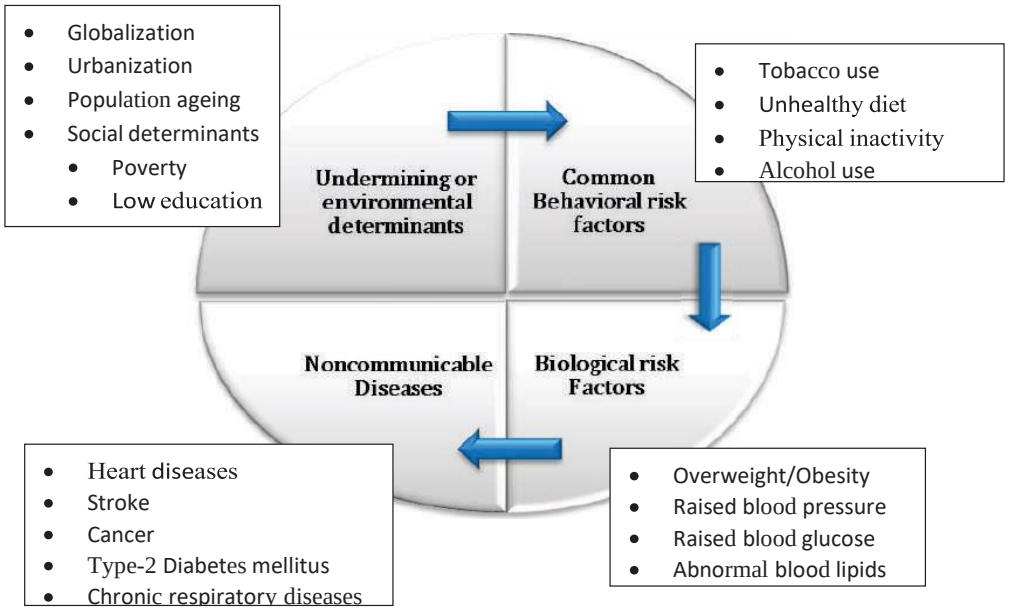


Figure 2: Causal pathway for NCDs

Table 2: Targets and indicators for NCD prevention and control in India under National NCD Monitoring Framework

SL. NO	FRAMEWORK ELEMENT	TARGETS			INDICATORS
		OUTCOMES	2020	2025	
Mortality and Morbidity					
1.	Premature mortality from NCDs	Relative reduction in overall mortality from cardiovascular disease, cancer, diabetes, or chronic respiratory disease	10%	25%	1. Unconditional probability of dying between ages 30-70 from cardiovascular disease, cancer, diabetes, or chronic respiratory diseases 2. Cancer incidence, by type of cancer, per 10,00,00 population
NCD risk factors					
2.	Alcohol use	Relative reduction in alcohol use	5%	10%	3. Age-standardised prevalence of current alcohol consumption in adults aged 18+ years
3.	Obesity and diabetes	Halt the rise in obesity and diabetes prevalence	No mid-term target set	Halt the rise in obesity and diabetes prevalence	4. Age-standardised prevalence of obesity among adults aged 18+ years (defined as body mass index greater than 30 Kg/m²) 5. Prevalence of obesity in adolescents (defined as two standard deviations BMI for age and sex overweight according to the WHO Growth Reference)

					6. Age-standardised prevalence of raised blood glucose/diabetes among adults aged 18+ years (defined as fasting plasma glucose value 126 mg/dl or on medication for raised blood glucose)
4.	Physical inactivity	Relative reduction in prevalence of insufficient physical	5%	10%	7. Age-standardised prevalence of insufficient physical activity in adults aged 18+
		activity			years (defined as less than 150 minutes of moderate- intensity activity per week, or equivalent) 8. Prevalence of insufficiently physically active adolescents (defined as less than 60 minutes per day of physical activity)
5.	Raised blood pressure	Relative reduction in prevalence of raised blood pressure	10%	25%	9. Age-standardised prevalence of raised blood pressure among adults aged 18+ years (defined as systolic blood pressure ≥140 mmHg and/or diastolic blood pressure ≥90 mmHg) and mean systolic blood pressure
6.	Salt/sodium intake	Relative reduction in mean population intake of salt, with aim of achieving recommended level of less than 5 g per day	20%	30%	10. Age-standardised mean population intake of salt (sodium chloride) per day in grams in persons aged 18+ years
7.	Tobacco use	Relative reduction in prevalence of current tobacco use	15%	30%	11. Age-standardised prevalence of current tobacco use (smoking and smokeless) among adults aged 18+ years 12. Prevalence of current tobacco use (smoking and smokeless) among adolescents
8.	Household indoor air pollution	Relative reduction in household use of solid fuels as a primary source of energy for cooking	25%	50%	13. Proportion of households using solid fuels as a primary source of energy for cooking
		Additional indicator			14. Age-standardised prevalence of adults (aged 18+ years) consuming less than 5 total servings (400 g) of fruit and vegetables per day

NCD prevention and control in India

Non-communicable diseases (NCDs) are leading cause of adult mortality and morbidity worldwide. Keeping in view that there are common preventive risk factors for Cancer, Diabetes, CVD, Stroke, Government of India initiated a National Program for Prevention and control of Cancer, Diabetes, Cardiovascular diseases, and stroke (NPCDCS) during 2010-11 after integrating the National Cancer Control Program (NCCP) with National Program for Prevention and control of Diabetes, Cardiovascular diseases, and stroke (NPDCS). The focus of NPCDCS is on promotion of healthy lifestyle, early diagnosis and management of diabetes, hypertension, cardiovascular diseases & common cancer example cervix cancer, breast cancer and oral cancer.

Program includes:

- National Program for Prevention and control of Diabetes, Cardiovascular diseases, and stroke (NPDCS).
- National Programme for control of Blindness& Visual Impairment (NPCBVI)
- National Mental Health Programme (NHMP)
- National Programme for healthcare of elderly (NPHCE)
- National Programme for the Prevention and control of Deafness (NPPCD)
- National Tobacco control programme (NTCP)
- National Oral health Programme

PROGRAMME PERFORMANCE

From March 2016, the programme is under implementation in all 36 States/UTs. A total of 298 District NCD Cells and 293 District NCD Clinics have been established in the country.[8] Also, there are 103 functional Cardiac Care Units for emergency cardiac care and 64 Day-Care Centres for Cancer care at the district levels in the country.

During 2015-2016, more than 1.29 crore persons have been screened in the designated NCD Clinics. Among these NCD Clinic attendees, around 8% were diagnosed to be Diabetics and 12% were Hypertensives. Also, around 90,000 persons were diagnosed to be suffering from cardiovascular diseases and over 13,000 persons were detected to be having common Cancers (including Oral, Cervical and Breast Cancers) among them. During 2015-2016, around 96 lakh persons were screened under various outreach activities for common NCDs (in Camps and PHC/SC), and they were referred to higher Centres for diagnosis and management.

1.2 RATIONALE FOR NATIONAL NCD MONITORING SURVEY

With increasing burden of NCDs in India, Govt. of India has paved the way for a nation-wide NCD risk factor monitoring survey to arrive at national estimates for the identified indicators. The pivotal role of measuring risk factors for NCDs in predicting future NCD burden in the population is a useful advocacy tool for disease

prevention and control programmes. There is a need for a specific sustainable system for monitoring NCDs in India.

1.3 OBJECTIVES

Primary objective

- To generate national level estimates of key NCD related identified in the national NCD monitoring framework from the year 2017-18.
- To review CPHC NCD software

Secondary objectives

- To set a baseline to track changes and monitor future trends in the prevalence of risk factors associated with NCDs at the national level.
- To recommend interventions that can be implemented strategically to overcome the gaps for screening process in NNHM and NCD software.

2. METHODOLOGY AND DATA COLLECTION

2.1 TARGET STUDY POPULATION

The target study population for National NCD Monitoring Survey (NNMS) – 2017-18 was the entire adult population between age 18-69 years which includes both gender, and those living in the urban and rural areas of the country. The country was divided into six zones mainly north, south, east, west, central and northeast zone. For NPCDCS target population is 30+ age people.

2.2 SAMPLE SIZE AND DESIGN

The National NCD Monitoring Survey (NNMS) was a cross-sectional survey, conducted during the period 2017–18.

2.3 Methodology for NHM software- CPHC portal for ASHA and ANMs

1) Population enumeration: To guarantee impartial population coverage to address issues of marginalization, the frontline workers would create population-based household list. ASHA will do home visit for undertaking population enumeration for all aged above 30 years. She will register or list all eligible adults (both men and women) fill in details about Non communicable diseases and update the form after every 6 months. ASHA will also fill the medical card for people which will have unique ID/Aadhar card number issued by state/district. The card will record health events (screening/diagnosis/treatment/complications, etc.). This would enable follow-up by the medical officer at the PHC level, or at a higher level of facility. They will also record their treatment decisions and other findings on the card. This will help to know about the treatment plan required by the individual thus help in ensuring continuity of care. ANM support the ASHA through field visits in completing this enumeration. ANM will be responsible for cross verification of 10% population.

2) Total Individuals Enumerated: In case of NDC's only 30+ individuals are registered for population -based household listing within the catchment area.

3) CBAC forms- Community Based Assessment checklist for early detection of NCD's, The CBAC is designed to collect details related to history of symptoms and Behavioural factors. They include tobacco and alcohol consumption, amount of physical activity, measurement of waist circumference, family history of high blood pressure, diabetes, heart disease and presence of common symptoms for common cancers, epilepsy, and respiratory diseases. The ASHA is responsible for filling the CBAC for all women and men aged 30 years and above. CBAC is helpful to the ASHAs to remember the key risk factors, helps identify those who must be prioritized to attend the screening day and refer the individuals. People with a CBAC score of 4 and above will need to be prioritized for screening. ANM's task is to review the completed CBAC filled by the ASHA in your coverage area to ensure that it is filled and correct. The ASHA facilitator can also undertake this task.

4) Screening: is a process of identifying a disease condition among apparently healthy individuals, who may be at increased risk of a disease or condition. Screening Programmes can be undertaken for a population at large

or targeting high-risk groups. Screening serves a platform of increasing awareness in the community about common Non-Communicable Diseases, risk factors and the need for periodic screening. It also enables an understanding of better health and the need to avoid risk factors in the general community. Screening requires careful planning and implementation. Once the individual has been suspected to have a disease condition, the individual should be motivated to go the PHC or CHC and meet the concerned medical officer to confirm the diagnosis and start treatment. The health system should be ready to take care of those who are screened positive through diagnosis, treatment, and care.

5) General considerations:

- Approx.37%of the population is over 30years.
- Ina normative village of 1000: Total case load:370
- No. of men over 30years=51%of the total case load:188
- No. of women over 30years=49%of the total case load:182
- For Hypertension and Diabetes:370- (annual screening)
- For Oral Cancer:370–every five years.
- For Breast and Cervical Cancer:182–every five years.

6) NCD Software: This software is used by districts and state for entering the data from facility level, the data is entered in the form of line list and not in numbers. Some information from CBAC forms (filled by ASHAs) are updated from facility level, every month and that can be seen at state.

3. DATA COLLECTION

Secondary data was taken from NNMS 2017-2018 factsheets. The information about NPCDCS and CPHC NCD software was taken from MofHW website and NHM website.

4 SURVEY RESULT

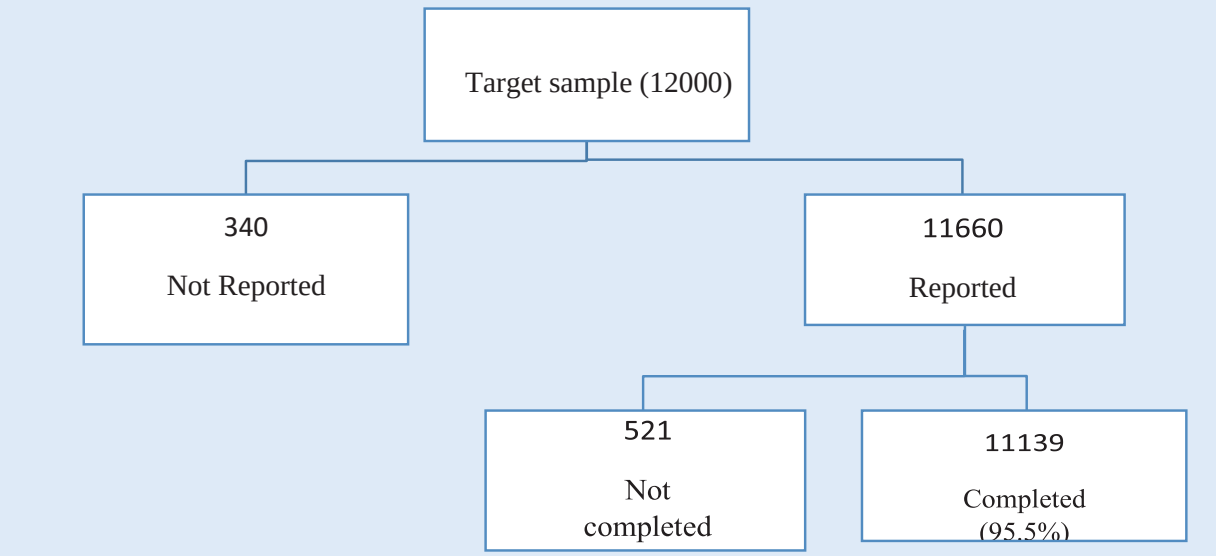
4.1 Characteristics of respondents

- SAMPLE COVERAGE AND SURVEY RESPONSE RATES

Response rates for the National Noncommunicable disease Monitoring Survey – 2017-18 are shown. Reported includes those who completed the survey, not consented to participate, refused participation in the survey midway, not available at the time of interview, postponed the interview, and incompletely filled forms; and not reported includes households being locked or no eligible study participants found. [9]

Fig 3: Household Response rate

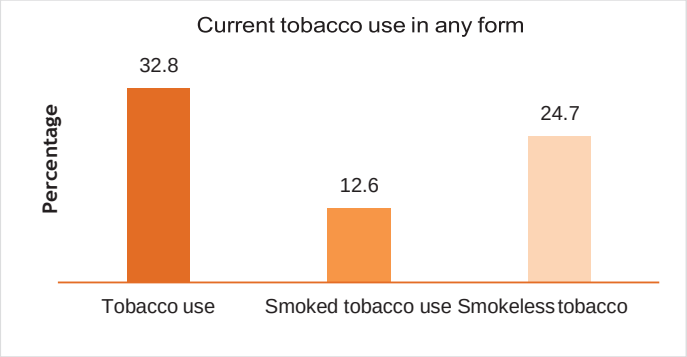
Of the target sample of 12,000 households, 11139 households completed the survey with a response rate of 95.5 percent (92.7% urban and 98.4% rural).

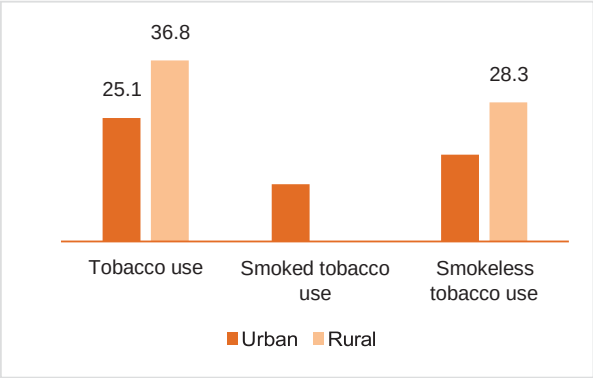


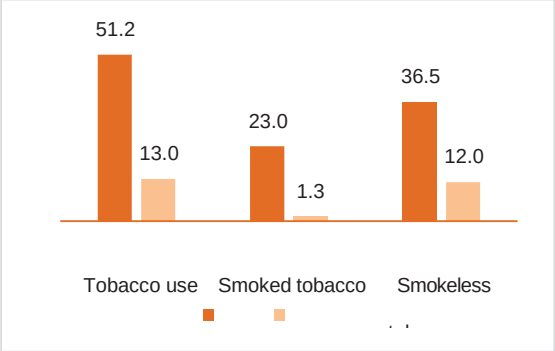
4.2 NCD risk factors - adults (18-69 years)

4.2.1 Tobacco

Fig 4: Current tobacco use (in any form; smoked or smokeless)







The overall prevalence of current tobacco use was 32.8% [(25.1% urban and 36.8% rural) and (51.2% men and 13.0% women)]. 19.4% women from older age group (45–69 years) and 10.2% in the younger age group (18-44 years) were currently using tobacco.

The prevalence of smoked tobacco and smokeless tobacco was 12.6% (11.6% urban and 13.1% rural) and 24.7% (17.6% urban and 28.3% rural) respectively. While 7.9% urban and 14.0% rural women currently used smokeless tobacco.

Table 3 Current daily tobacco use by area of residence and gender (Percentage)

18 – 69 years	Urban			Rural			Total		
	Men	**Women**	**Combined**	**Men**	**Women**	**Combined**	**Men**	**Women**	**Combined**
Smoked tobacco	15.4	1.0	8.7	18.6	1.3	10.1	17.5	1.2	9.7
Smokeless tobacco	21.0	6.9	14.4	35.7	12.3	24.3	30.6	10.5	21.0
Both smoked & smokeless tobacco	4.6	0.3	2.6	5.1	0.2	2.7	4.9	0.2	2.7
Either (smoked or smokeless) tobacco	31.8	7.6	20.5	49.2	13.3	31.7	43.2	11.4	28.0

Table 3 shows that, 28.0% of adults either smoked or used smokeless tobacco daily. This proportion was higher in the older age group of 45-69 years Smokeless tobacco (21.0%) was the preferred choice of tobacco among the current daily tobacco users.

4.2.2 Alcohol use

The respondents were categorised based on alcohol consumption Respondents who had never consumed alcohol during their life, were classified as lifetime abstainers. The other categories consisted of those who reported using alcohol during past 30 days, 12 months and those who had ever consumed alcohol.

Figure 5: Alcohol use

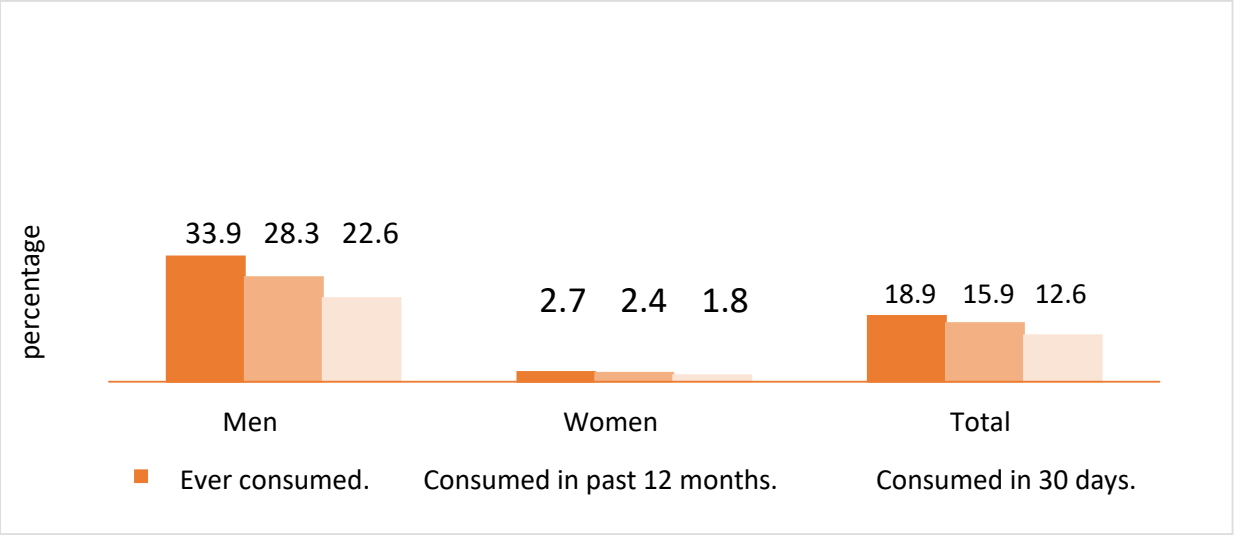
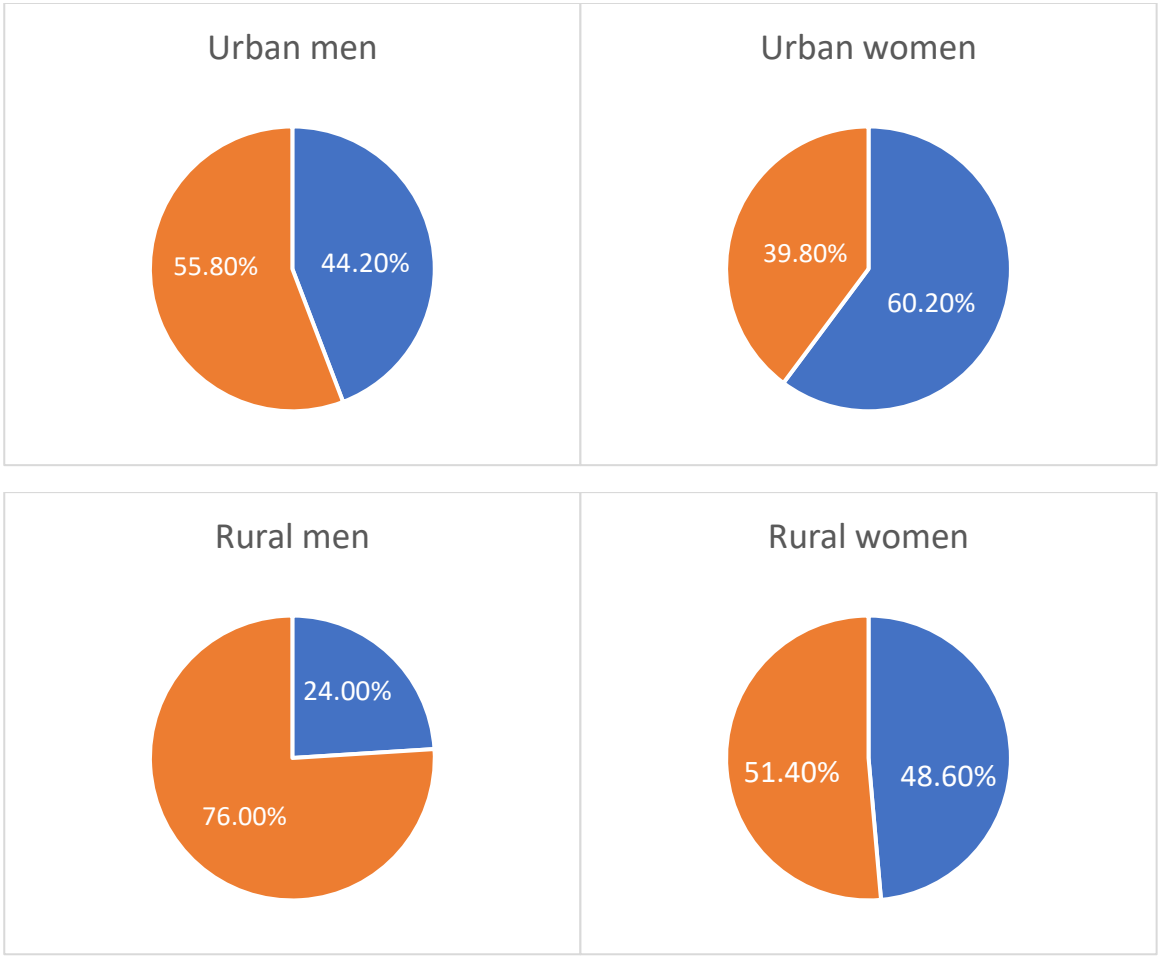


Figure 5 depicts overall, 18.9% of the respondents had ever consumed alcohol, while 15.9% and 12.6% were alcohol users in the past 12 months and 30 days, respectively.

4.2.3 Physical Activity



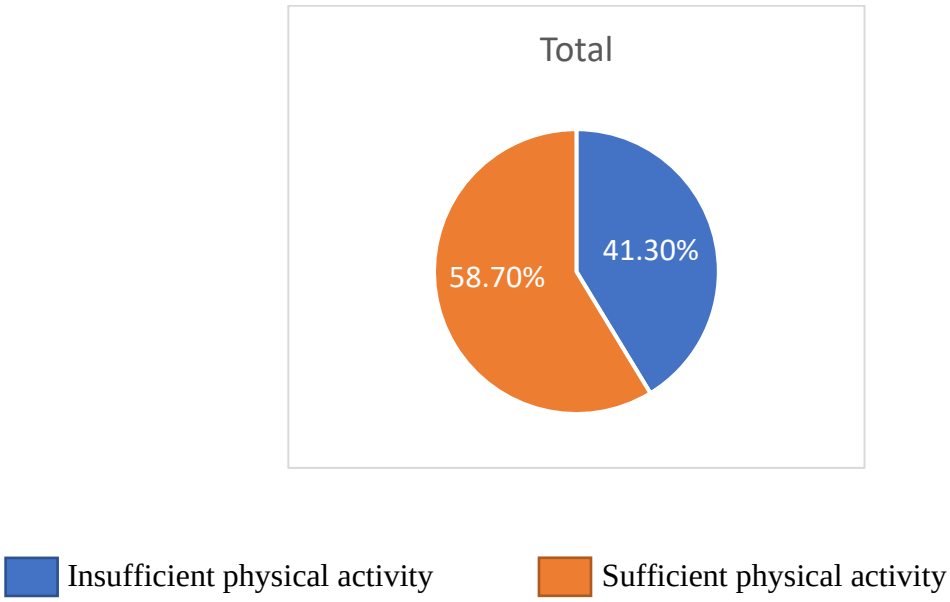


Figure 6: Physical activity

Total physical activity per day was recorded, considering all domains (work at home/workplace, transport, and recreation related activities). Analysis of the collected data showed that 41.3% of the adults in the surveyed population did not meet the WHO recommendations on physical activity. Insufficient physical activity among urban women was 60.2% and rural women was 48.6%.

4.3 Health seeking behaviours and management indicators (30-69 years)

4.3.1 RAISED BLOOD GLUCOSE

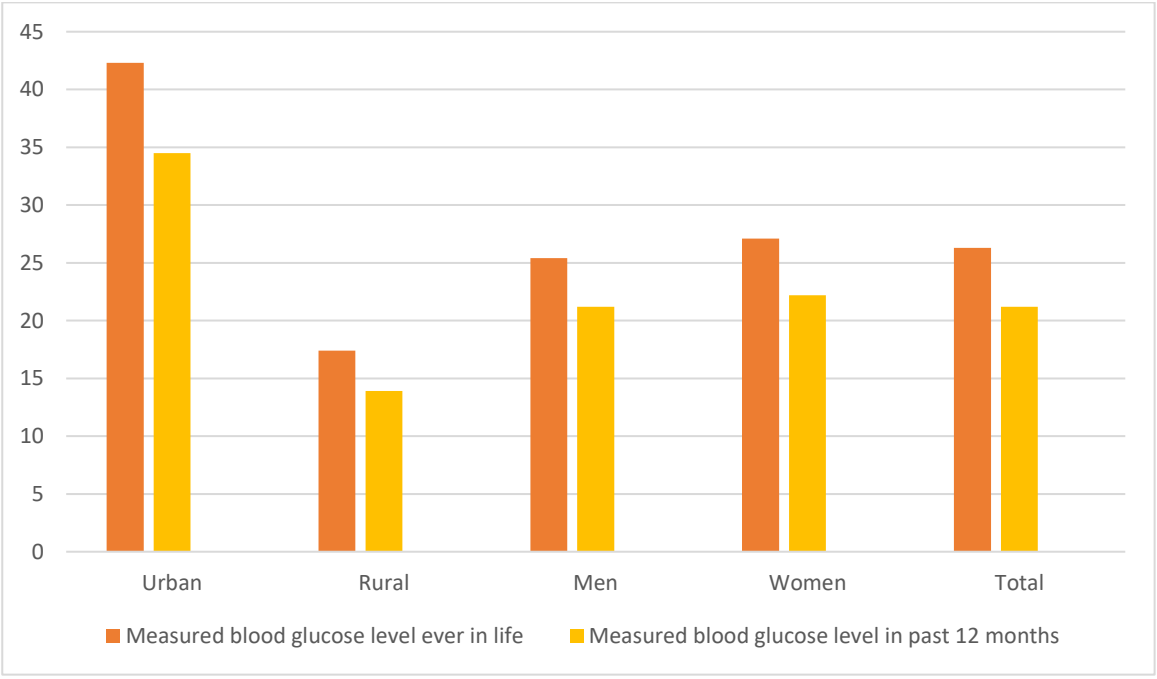


Figure 7: Blood glucose measurement by area of residence and gender (Percentage)

Figure 7 presents the practices related to measurement of blood 42.3 glucose ever in life and in last 12 34.5 months. Overall, 26.3% (42.3% urban and 17.4% rural; 25.4% men and 27.1% women) and 21.2% (34.5%

urban and 13.9% rural; 21.2% men and 21.2% women) of respondents had their blood glucose measured ever in life and in last 12 months, respectively. Age wise 20.9% aged 50-69 years and 30-49 years had reported getting their blood glucose measured ever in life while, 32.1% and 16.2% had it measured in the last 12 months, respectively.

4.3.2 CARDIOVASCULAR CONDITIONS

This section presents results on history of CVDs including stroke and their treatment status in the past 2 weeks by area of residence and gender.

Table 4: Adults aged 30–69 years with known cardiovascular conditions and the source of diagnosis by area of residence and gender (Percentage)

30-69 Years	**Urban**			**Rural**			**Total**		
	Men	Women	Combined	Men	Women	Combined	Men	Women	Combined
Known CVD condition	4.3	2.4	3.4	3.2	4.0	3.6	3.6	3.5	3.5
Govt health facility as source of diagnosis	1.2	0.6	0.9	0.8	1.1	1.0	1.0	0.9	1.0

Nearly equal proportion of men and women (3.6% men and 3.5% women) reported a history of heart attack or chest pain from heart disease and 1.0% of them reported to be diagnosed at a government health facility.

4.3.3 Cancer screening

Reported status of oral cancer screening among men and women, breast and cervical cancer screening among women aged between 30-69 years ever in life by area of residence and gender.

(a) Oral cancer screening

Table 5 Adults aged 30–69 years who had ever undergone oral cancer screening by area of residence, gender, and age categories (Percentage)

Oral cancer screening	**Urban**			**Rural**			**Total**		
	Men	Women	Combined	Men	Women	Combined	Men	Women	Combined
30-49	1.1	1.7	1.4	2.4	0.4	1.4	1.9	0.9	1.4
50-69	4.4	2.5	3.5	2.1	1.1	1.6	2.9	1.6	2.2
30-69	2.1	2.0	2.0	2.3	0.6	1.5	2.2	1.1	1.7

Of all the adults (aged 30-69 years), only 1.7% had ever undergone a screening test for oral cancer, (2.0% urban and 1.5% rural) and (2.2% men and 1.1% women). It was also observed that, 3.5% adults from urban areas of the older age group (50-69 years) reported to have ever undergone screening for oral cancer.

(B) Breast cancer screening

Table 6 Women aged 30–69 years who had ever undergone clinical breast cancer screening* by area of residence and age categories (Percentage)

Breast cancer screening	Urban	Rural	Total
30-49	2.5	0.9	1.5
50-69	3.0	1.4	2.0
30-69	2.7	1.1	1.6

All the female participants aged between 30–69 years were asked whether they had ever undergone any clinical breast examination by a doctor for screening for breast cancer. It was observed that only 1.6% reported that they have undergone clinical breast examination, 2.7% urban, 1.1% rural, and 2.0% aged 50-69 years (3.0% urban and 1.4% rural).

(C) Cervical cancer screening

Table 7: Women aged 30–69 years who had ever undergone cervical cancer screening* by area of residence and age categories (Percentage)

Cervical cancer screening	Urban	Rural	Total
30-49	4.5	1.1	2.3
50-69	3.0	1.4	2.0
30-69	2.7	1.1	1.6

2.2% of women aged 30–69 years reported that they had undergone screening for cervical cancer by visual inspection with acetic acid, pap smear or Human Papilloma Virus test. The proportion of women reported being screened was three times lower in the rural areas than in the urban areas (4.0% urban and 1.3% rural).

4.4 Health system response indicators

As per the survey methodology framework, a total of 537 public primary care facilities, 415 community health centres (CHCs) and 335 districts hospitals (DHs) serving the selected PSUs were surveyed in the public health care system. Additionally, 512 private primary care facilities were also surveyed in the same PSUs. A health facility mapping was used to select the health facilities serving that or near the cluster being surveyed. One primary level, one CHC and one district hospital government facility and one private primary level equivalent health facility were covered for each cluster. Information on implementation of National Program for Prevention

and Control of Cancer, Diabetes and Cardiovascular Disease and Stroke (NPCDCS), availability of human resources; technologies and medicines; and services being provided at these facilities were collected. The data pertaining to the coverage of different services (e.g., screening and treatment for specific NCDs) were also obtained in the survey.

4.4.1 PUBLIC PRIMARY HEALTH CARE FACILITIES

Table 8: Average number of patients with major NCDs attending public primary care facilities in the month before the survey.

NCD category	Urban (n=257)	Rural (n=280)
Diabetes mellitus	107	64
Hypertension	134	101
Cardiovascular diseases with Stroke	9	7
Chronic Obstructive Pulmonary Disease (COPD)	60	35
Cancer	9	6

It was observed that the average number of patients attending the public primary care facilities (urban and rural) with cancer and CVDs were less compared to the other major NCDs.

4.4.2 PUBLIC SECONDARY HEALTH CARE FACILITIES

The public secondary health facilities which include Community Health Centres (CHCs) and the district hospitals (DHs) were surveyed. As of February 2019, of all the surveyed health facilities, the NPCDCS implementing CHCs were 281, and DHs were 290, while NPCDCS no implemented CHCs were 105 and DHs were 44. Twenty-nine CHCs and one DH reported status of NPCDCS as unknown, these have been excluded from the analysis.[10]

Table 9: Average number of patients attending public secondary health centres in the month before the survey.

NCD category	**CHCs**		**DH**	
	NPCDCS (implemented)	NPCDCS (non-implemented)	NPCDCS (implemented)	NPCDCS (Non-implemented)
Diabetes mellitus	199	265	508	432
Hypertension	272	271	587	518
Cardiovascular diseases	42	36	147	134
Stroke	9	6	40	33
Cancer	22	1	20	37

RECOMMENDATIONS

(A) For survey NNMS

1. Regularisation of such surveys: It is important that such surveys as NNMS be carried out at regular intervals to fulfil the requirements of the monitoring of the NCD action plan. The funding and mandate must be earmarked so that timely planning, completion, and reporting of the information can be achieved. Simultaneously all states and UTs must also carry out similar surveys on core agreed indicators to strengthen their NCD policies and programs.

2. Linkages with multi-sectoral actions: For an effective use of this data, several actions need to be taken by non-health sectors (government and private). Sharing of the results and monitoring suitable actions will be crucial. The National Multisectoral NCD Action Plan and the National SDGs plan can be optimally used for these linkages.

3. Developing a prioritised national NCD research agenda: An appropriate research agenda needs to be put in place for at least 10 years to guide research and funding priorities and stakeholder engagements to fill the knowledge and operational gaps as relevant to the policies and program requirements.

4. Strengthen advocacy and dissemination: Many of the actions for tackling NCDs require an empowered community to participate. Such actions can begin with extensive advocacy and dissemination of information to various sections and regions of the society. An appropriate strategy in this regard would be useful.

(B) For CPHC NCD software

1. Discrepancy in data input: Use of third-party verification system. They can do this by independent logging page load events via their own tracking pixels, provided with additional verification metrices in their respective dashboards.

2. Difficulty in interpretation due to unawareness and multiple proficiency level among data entry operators.

3. Homogenised portals should be designed keeping it systemised and separate sub headers should be there for medical officers.

References

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9. https://ncdirindia.org/nnms/resources/Chapter_4_2_4.pdf

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ANNEXURES

Annexure 1:

Community based assessment checklist (CBAC) for early detection of NCDs

general information	
Name of ASHA	Village
Name of ANM	Sub Centre
PHC	Date
Personal Details	
Name	Any Identifier (Aadhaar Card, UID, Voter ID)
Age	State Health Insurance Schemes: (Y/N)
Sex	Telephone No.
Address	

part A: risk Assessment				
Question	**range**		**circle Any**	**write score**
1. What is your age? (in complete years)	30-39 years		0	
	40-49 years		1	
	≥50 years		2	
2. Do you smoke or consume smokeless products such as gutka or khaini?	Never		0	
	Used to consume in the past/ Sometimes now		1	
	Daily		2	
3. Do you consume alcohol daily?	No		0	
	Yes		1	
4. Measurement of waist (in cm)	Female	Male		
	80 cm or less	90 cm or less	0	
	81-90 cm	91-100 cm	1	
	More than 90 cm	More than 100 cm	2	
5. Do you undertake any physical activities for minimum of 150 minutes in a week?	At least 150 minutes in a week		0	
	Less than 150 minutes in a week		1	
6. Do you have a family history (any one of your parents or siblings) of high blood pressure, diabetes and heart disease?	No		0	
	Yes		2	
Total Score				

Annexure 2:

Reporting format for ASHA

(A) Individual health records

Known medical illness for NCDs	**Yes/No**
Date of diagnosis	Dd/mm/yyyy
Treatment	Currently under Treatment - Yes/no
	Discontinued
Any complications	Write your response
Others	Write your response

(B) Screening for NCD

Screened for (specify date of the screening)	Hypertension	
	Diabetes	
	Oral Cancer	
	Breast cancer	
	Cervical cancer	
	COPD (respiratory disorder)	
Screening result	Hypertension	
	Diabetes	
	Oral Cancer	
	Breast cancer	
	Cervical cancer	
	COPD (respiratory disorder)	

(C) Treatment details

Condition		
Date of diagnosis		
Treatment initiation	Health facility	
	Date	
	Details	
Treatment Compliance	Health Facility	
	Date of visit	
	Supply of medicine received	
	Side effect/complications	
Treatment discontinued	Reason for discontinuation	
	Date of discontinuation	
Other remarks		