

# Operational Guidelines

## **Prevention, Screening and Control of Common Non-Communicable Diseases:**

*Hypertension, Diabetes and  
Common Cancers (Oral, Breast, Cervix)*

**(Part of Comprehensive Primary Health Care)**





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जगत प्रकाश नड्डा  
Jagat Prakash Nadda



स्वास्थ्य एवं परिवार कल्याण मंत्री  
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## Message

Non-Communicable Diseases (NCDs) are increasingly posing major public health challenge due to high morbidity and mortality associated with these diseases in India. In particular, four diseases, viz., CVD, Diabetes, Cancer and Chronic Obstructive Pulmonary Disease, account for large morbidity and mortality due to NCDs.

2. Government of India is already implementing National Programme for Prevention and Control of Cancer, Diabetes, CVD and Stroke (NPCDCS) with the objective, inter alia, to increase awareness on risk factors, to set up infrastructure, like NCD clinics, Cardiac Care Units and to carry out opportunistic screening. For cancer, the focus is on Oral, Breast and Cervical Cancer. In May 2013, WHO finalised a Global Action Plan and Monitoring framework to prevent and control NCDs. India was the first Country to adopt the National Action Plan in Country's context with 10 targets and 21 indicators.

3. Early detection is an important strategy to prevent and control NCDs. To facilitate early detection, it is necessary that we provide facilities for screening and, thereafter, link the population found to be positive for the diseases with higher level health facilities, for confirmation and further treatment.

4. It is common knowledge that timely detection, diagnosis and treatment lead to reduction in morbidity and mortality arising from common NCDs. I am glad that the Ministry has taken initiative to prepare and disseminate guidelines for mass screening for Hypertension, Diabetes and Common Cancer. I am sure that the health workers at the field level will find the screening guidelines very useful and I hope that with these guidelines, early detection of common NCDs will get a fillip.

(Jagat Prakash Nadda)

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## Message

The spectre of Non Communicable Diseases (NCDs) looms large over India's health horizon, contributing to nearly three fifths of mortality and morbidity. They affect not only the economically productive adult age group, but also the elderly, which is a growing population. Some NCDs are asymptomatic in the early stages, with the result that most patients do not seek care, or even if they do come to the health facilities, they are missed by the system.

While we must make efforts for health promotion and primary prevention, early detection and adequate management is the key to controlling these diseases.

These guidelines work towards population basing of interventions for NCD that were initiated through the National Programme for the Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases and Stroke (NPCDCS). The chronic nature of NCDs and the lack of interventions focused on ensuring a continuum of care from community to secondary care, results in a higher risk of financial vulnerability. The guidelines should be considered by states as a document that provides inputs to enable moving from a district and sub-district intervention to reaching the community, through the network of the public health system for NCD interventions focused on hypertension and diabetes.

The National Health Mission has supported substantial augmentation of infrastructure and human resources, particularly in the form of frontline workers- the ANM and the ASHA and these platforms need to be leveraged to implementing this effort.

Data for large scale surveys show that the use of services at the primary health care levels, namely at the sub centre and the PHCs is low, representing a significant missed opportunity. Providing screening facilities for common NCDs are likely to increase the use of these centres and improve access to the public health system.

I am happy to note that these guidelines set out with some level of detail, the contours for implementation, but retain significant flexibility, allowing states to adapt the guidelines to local contexts. I urge states to use these guidelines as a framework to move expeditiously towards adding NCDs to the basket of services being provided at the most peripheral levels.

  
(B.P. Sharma)



**Dr. Jagdish Prasad**  
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21<sup>st</sup> June, 2016  
दिनांक/Dated.....

## Message

The launch of the National Programme for the Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases and Stroke (NPCDCS) scheme in 2010, marked the shift in moving policies and programmes towards the emerging threat of non-communicable diseases. Today the programme is operational in nearly 468 districts of the country. We have also started the screening of diabetes and hypertension in 100 districts and so far more than 65 million people have been screened and now we are going to launch cancer screening programme especially Breast Cancer, Oral Cancer and Cervical Cancer.

I am happy to note that through these guidelines, the national Health Mission (NHM), building on the framework of the NPCDCS, is making an effort to expand the reach and coverage of the programme by integrating early detection and management of hypertension and diabetes into the service package at the most peripheral levels.

States have successfully demonstrated that focused efforts at tackling maternal and child health and communicable diseases have resulted in positive outcomes. We now need to replicate such determined attention to addressing noncommunicable disease. States should use this guideline to build upon the implementation of the NPCDCS while integrating into the health systems. The NPCDCS has demonstrated several useful lessons. We need to extend such learning to the periphery and ensure that patients who are detected are not lost to follow up, and that we are able to provide a continuum of care for patients with NCDs.

(Dr. Jagdish Prasad)





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## Message

The National Health Mission (NHM) provided the platform for health systems strengthening and thereby enabled several focused initiatives that resulted in the near universal coverage for several conditions related to Reproductive and Child Health and Communicable diseases. Given the contribution of Non Communicable Diseases (NCD) to mortality and morbidity, in rural and urban areas, our journey is far from over.

These guidelines represent an effort to enable states to integrate the early detection and management of NCDs programme in the context of the NHM. The aim is to integrate the intervention within a health systems framework rather than implement it as a vertical intervention. The MOHFW has also initiated support to states for comprehensive primary health care to be available at the level of the sub centre through a primary care team. The recent launch of the free drugs scheme and free diagnostics scheme and strengthening of secondary hospitals are all part of the comprehensive approach.

Non communicable diseases are complex conditions, associated with multiple comorbidities and require lifelong care. This guideline is the first of a series, to support states to effectively undertake programming for adding early detection and management for non-communicable diseases into the services offered at the sub- centre level. This will mean a paradigm shift and will need sensitization of service providers and programme managers, so that care for NCDs beyond diabetes and hypertension and move into providing more comprehensive primary health care.

One area that I would like to highlight is the need for us collectively improve our understanding on how well health systems adjust to urbanization. Our experience to date has been largely in rural areas, and we have with varying success, in NHM, tried to replicate this within urban contexts. In the case of NCD, this may not always yield expected results. States will need to test the feasibility of using these within the implementation structures of the National Urban Health Mission (NUHM) in urban areas, where the problem of NCD is high.

I urge states to use these guidelines as an instrument to test the feasibility of this approach, adapt the guidelines as necessary and most importantly provide feedback to us so that policy and programme modifications are based on field experience.

(C.K. Mishra)





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## Message

As India moves into the epidemiological and demographic transition, we are faced with an increasing burden of non-communicable diseases. One of the goals of the newly developed Sustainable Development Goals is the reduction of premature mortality. If we are to work towards this, screening and early detection of non-communicable diseases become crucial.

These guidelines use the health systems strengthening framework of NHM, and build on the existing NPCDCS programme in selected districts. States should use these guidelines and the provisions herein to enable the programme to strengthen community based screening and early detection.

States should consider initiating this screening programme in districts where the NPCDCS programme is well functional, so that an effective continuum of care can be assured. I would also like to emphasize that states must equally focus on prevention and promotion, and enable lifestyle changes to prevent NCDs.

The introduction of these guidelines also brings us to consider a new way of doing things. Screening programmes demand increased awareness and improved referral. This would require the states to play a proactive role - the role of the Centre is in guidance and financial support but ultimately states will need to take the responsibility to ensure scaling up of this effort to assure people that the public health system indeed can fulfil their aspirations related to health care.

  
(Arun K Panda)

Healthy Village, Healthy Nation



एड्स - जानकारी ही बचाव है  
Talking about AIDS is taking care of each other



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## Message

It gives me great pleasure to introduce guidelines for screening and early detection for major Noncommunicable Diseases (NCDs), namely, diabetes, hypertension and three common cancers, for use by front-line healthcare workers and health institutions. These guidelines have been formulated after extensive consultations with experts, including both clinicians and public health professionals, and will address the felt need to make available a document for easy reference and use for decentralised community level screening and early detection of identified major NCDs.

The Government is already implementing a National Programme for Prevention and Control of Cancer, Diabetes, Cardio-vascular Diseases and Stroke, commonly known as NPCDCS, under the National Health Mission. The said programme is rapidly enhancing the much needed physical and human resource infrastructure to deal with major NCDs. However, for effective utilisation of this infrastructure, it is necessary that we actively encourage screening and early detection so that the affected population can seek referral treatment well in time, resulting in lowering of morbidity and mortality.

The guidelines can only facilitate early screening. What is also required is active stewardship of the State Governments and their district level functionaries, so that the vision of prevention and control of NCDs can be translated into reality. We also envisage active support from the Civil Society. Under the National Health Mission, parallel and synergistic action is being taken in terms of strengthening health systems, free drugs and diagnostic facilities, campaigns for improving lifestyles with focus on regular exercise, healthy diet, and avoiding other risk factors of NCDs.

The guidelines are indicative and there will be certain flexibility and adaptation during local implementation. Besides, the guidelines are to be viewed in a dynamic context and further refinement will certainly take place over a period of time. In this regard, we welcome feedback from all relevant stakeholders.

My best wishes to our dedicated healthcare work force who will be the major users of these guidelines.

A handwritten signature in blue ink, appearing to read 'Anshu', with a horizontal line underneath.

**(Anshu Prakash)**





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21<sup>st</sup> June 2016

## Message

Programmes for Non Communicable Diseases (NCD) in India are not new. The National Programme for the Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases and Stroke (NPCDCS) scheme, launched in 2010, is being implemented as part of the National Health Mission (NHM). These guidelines denote a shift towards moving towards prevention, early detection and management as part of a comprehensive primary health care package.

Prioritizing provision of services for NCDs at the level of sub-centre and primary health centre care that are well linked into an appropriate referral system and ensuring a continuum of care, relies on existing evidence that NCDs account for a substantial proportion of mortality and morbidity and also on the financial burden, particularly on the poor and that prevention, early detection and management can significantly improve health and development outcomes.

Efforts under the National Health Mission have hitherto been focused on select packages of health services such as RCH and Disease Control Programmes. This guideline is the first of a set of guidelines to integrate NCDs and other components for comprehensive Primary Health Care that will work under the rubric of the National Health Mission. States need to strengthen the health system platform to be able to meet the health challenges that continue to emerge as the demographic and epidemiologic transition.

The interventions proposed in these guidelines particularly related to population enumeration, screening, referrals and follow up, creating IT systems and providing team based incentives, will test the responsiveness of the health system and the resilience. However, this will also strengthen our ability for a comprehensive approach to primary health care. States will need to provide leadership and governance to this effort in order to carefully observe implementation and document key processes.

The states are at different stages of health systems strengthening. The nature of response in each state will thus differ based on local context. I hope that states will use these guidelines to enable the primary health care team to work in a coordinated manner and converge their efforts to obtain the best possible health outcomes for the population in their coverage area.

(Manoj Jhalani)



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# Operational Guidelines

Prevention, Screening and Control of  
Common Non-Communicable Diseases:

*Hypertension, Diabetes, and  
Common Cancers (Oral, Breast, Cervix)*

## i. Background and Rationale

- (i) Comprehensive Primary Health Care has an important role in the primary and secondary prevention of several disease conditions, including non-communicable diseases which today contribute to over 60% of the mortality in India. The provision of Comprehensive primary health care reduces morbidity, disability and mortality at much lower costs and significantly reduces the need for secondary and tertiary care. Estimates suggest that almost 52% of all conditions can be managed at the primary care level.
- (ii) In order to ensure comprehensive primary health care, close to where people live, Sub- Centres should be strengthened as Health and Wellness Centres (H&WC), staffed by appropriately trained primary health care team. The Medical officer of the Primary Health Centre would oversee the functioning of the SC/HWC that falls in that area.
- (iii) Services include those that (i) can be delivered at the level of the household and outreach sites in the community by suitably trained frontline workers, (ii) those that are delivered by a team headed by a mid-level health provider, at the level of the Sub-Centre/Health and Wellness Centre and (iii) the referral support and continuity of care within the district health system in rural and urban areas. The package of services is in Box<sup>1</sup>. States would need to either phase in these services or add on additional services based on state specific and local context.

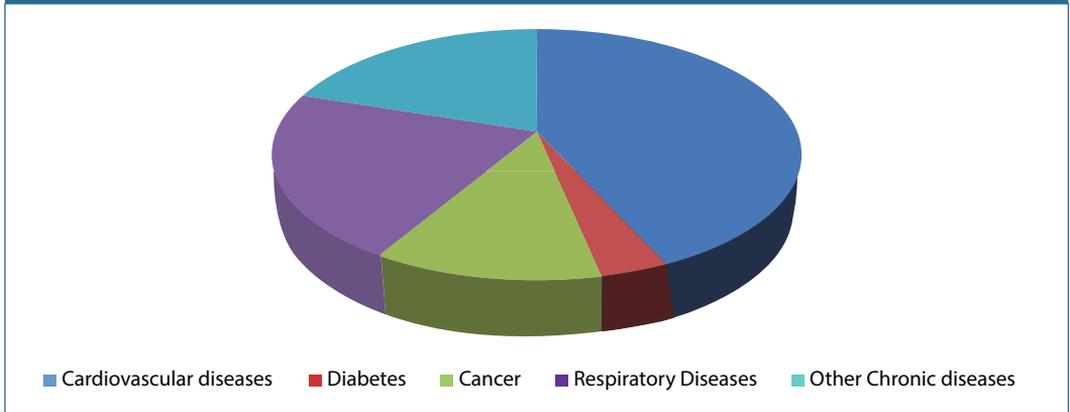
1 Report of the Task Force on Comprehensive Primary Health Care Rollout, Ministry of Health and Family Welfare, Government of India, 2015

## Box 1: Package of Primary Health Care Services

- (i) Care in pregnancy and child-birth
  - (ii) Neonatal and infant health care services
  - (iii) Childhood and adolescent health care services including immunization.
  - (iv) Family planning, Contraceptive services and Other Reproductive Health Care services
  - (v) Management of Common Communicable Diseases and General Out-patient care for acute simple illnesses and minor ailments
  - (vi) Management of Communicable diseases: National Health Programmes
  - (vii) Prevention, Screening and Management of Non-Communicable diseases
  - (viii) Screening and Basic management of Mental health ailments
  - (ix) Care for Common Ophthalmic and ENT problems
  - (x) Basic oral health care
  - (xi) Geriatric and palliative health care services
  - (xii) Trauma Care (that can be managed at this level) and Emergency Medical services
- (iv) Over the past decade, interventions for components (i) through (vi) have been supported by the National Health Mission (NHM), through a continuum of care from the community to the first referral point. For the remaining components support is provided by NHM through a plethora of national programmes, that have not always conformed to a continuum of care approach, resulting in fragmentation of services. The health systems strengthening approach under the NHM, allows states to expand the existing selective primary health care package.
- (v) The World Health Organization (WHO) has identified four major NCDs - Cardiovascular Diseases (CVD) such as heart attacks and stroke, Diabetes, Chronic Respiratory Diseases (Chronic Obstructive Pulmonary Diseases and Asthma) and Cancer. The list of non-communicable disease is of course much longer than these four. However, these four conditions account for a high proportion of premature mortality in India. (WHO 2014). Data from community based NCD programmes in India, suggest that other NCDs also account for a significant proportion of illness.

- (vi) In India, the four major NCDs are the leading cause of death, accounting for over 60% of mortality, placing them ahead of Injuries, Communicable diseases, Maternal, Prenatal, and Nutritional conditions. From the WHO's NCD Country Profile for India released by the World Health Organisation, it is estimated that the mortality profile from the NCDs is as follows:

**Figure 1: Proportionate Mortality from Various NCDs, WHO, 2014**



Over the last thirty years, the problem of diabetes has changed from being a mild disorder of the elderly to one of the major causes of morbidity and mortality affecting youth and middle aged people. A recent ICMR-INDIAB (2014) study, estimated that there are about 6.24 crore people with diabetes in 2014 and 7.7 crore with pre-diabetes, making it one of the largest non-communicable epidemics.

In 2008, 26% of all deaths in India were from Cardiovascular diseases, for which hypertension is a leading metabolic risk factor (WHO, 2011a). The estimated prevalence of high blood pressure amongst India's adult population in 2008 was 32.5% (33.2 males and 31.7 for females) (WHO, 2011a).

- (vii) Cardiovascular diseases and diabetes represent a set of conditions which share common risk factors and for which there are a set of similar public health approaches related to health promotion, prevention and management. Key factors linked to the onset and course of these four NCDs are Tobacco use and exposure, unhealthy diet, physical inactivity, alcohol mis-use, Indoor and ambient air pollution, stress, poverty (as a cause and consequence), poor health seeking behaviours and low access to health-care services. Diabetes and hypertension can

cause stroke, heart attack or kidney failure, and all are amenable to prevention, early detection and treatment.

- (viii) The three most commonly occurring cancers in India are those of the breast, uterine cervix and lip/oral cavity. Together, they account for approximately 34% of all cancers in India, and constitute a public health priority. Breast cancer has emerged as one of the leading causes of cancer among women (14.3%) in India with 1,44,937 new cases and 70,218 deaths reported in 2012 (Globocan 2012). Cervical cancer in India is the second most common cancer in women (12.1%). Every year, around 1.23 lakh new women are diagnosed with cervical cancer and 67,500 of these women die of the disease in India (Globocan 2012). Oral cancer accounts for around 7.2% of all cancers in India with 77,003 new cases and 52,067 deaths reported in 2012 (Globocan 2012).
- (ix) The National Programme for the Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases and Stroke (NPCDCS) was initiated in 100 districts in 2010, and expanded to about 468 districts in 2012. The focus of NPCDCS is to enable opportunistic screening for common non communicable diseases, at District and CHC levels, through the setting up of NCD clinics. At the PHC and sub centre levels, additional funding for glucose testing was provided for all those over 30 years of age and all pregnant women from 2012 onwards. Several states have leveraged this funding support and expanded beyond the selected districts and have used state funding to scale up and expand the programme, encompassing greater outreach, better follow up through systematic monitoring and data collection to enable improved surveillance, including the use of IT for patient records, follow -up and referral.
- (x) However, in order to expand the basket of services available for primary health care in the public health system, it is necessary to integrate screening, early detection and management of these common non communicable diseases as close to communities as possible. Accordingly, these Operational Guidelines have been developed in consultation with the experts and based on learnings from experiences of the states.
- (xi) These guidelines envisage that risk assessment, screening, referral, and follow up for selected NCDs amongst all women and men aged 30 years and above, would be included in the set of services being offered as part of comprehensive primary health care. This intervention would be a part of the NPCDCS and leverage existing resources under this programme. States should consider initiation of

this intervention in those districts where the NPCDCS is well established and fully operational and then only scale up based on readiness, learnings and availability of resources.

- (xii) These operational guidelines are intended for state and district programme and service providers to strengthen and expand risk assessment, screening, early detection and management of Hypertension and Diabetes Mellitus including referral and follow up. In the case of common cancers, the emphasis is on screening, early detection, and appropriate referral, with follow-up being undertaken by frontline workers.
- (xiii) Essentially the focus of these guidelines is on: screening and diagnosing common NCDs; identifying and addressing modifiable risk factors, referral of pre-cancerous conditions, hypertension and diabetes, based on protocols, and community level follow up. The guidelines are an adjunct to and build on the relevant recommendations of the NPCDCS guidelines<sup>2</sup> and recently developed Operational Framework for Cancer Screening and management. Thus details of roles and responsibilities of the MOs, Staff nurses, etc, above are not elucidated, since they are already covered in the NPCDCS Operational Guidelines and Operational Framework.
- (xiv) These guidelines are the first in a series intended to support states to add on NCDs and other packages for delivery of comprehensive primary health care. Other companion documents include training manuals and standard treatment guidelines that would be updated and disseminated on a periodic basis.
- (xv) As part of the health systems strengthening effort, NHM also supports states to institutionalize mechanisms for ensuring access to free drugs and diagnostics, and create IT enabled tracking and monitoring systems. It is expected that these would further reinforce continuity of care. Strengthening of the health system for provision of primary health care to patients with these selected conditions, will also pave the way for other NCDs to be gradually addressed through the primary health care approach.
- (xvi) For cancer screening, not all sub centres need to be equipped to provide services for screening and early detection. States could consider undertaking screening at selected sub centres and PHCs. Thus, in a PHC area if two to three sub-centres

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2. NPCDCS guidelines Revised 2013-2017

and the main PHC itself were to offer screening facilities, additional investments in terms of equipment and Human Resources could be focused only on them. The Operational Framework for screening and management of common cancers provides operational details on screening, early detection, treatment, referral and follow-up.

- (xvii) In urban areas, states would need to evolve strategies that combine effective outreach and facility based primary health care services to serve as a platform for the delivery of this intervention. Screening is envisaged to take place at the level of the Urban PHCs and the CHCs.
- (xviii) The range of facilities and outreach mechanisms vary widely between and within states, and local, context specific mechanisms would need to evolve through a process of piloting and study before being scaled up. Existing platforms and partnerships would be strengthened to implement the intervention.

## **ii. Population Enumeration to Cover the Eligible Population**

- (i) The first step in the process is the active enumeration of the population and registration of families through individual health cards placed within a family health folder. A process of enumeration of eligible couples, women and children in need of maternal, newborn and child health services already exists. Such listing will be expanded to include all members over 30 years. The initial enumeration would also list existing health issues/diseases/disabilities and exposure to risk factors among individuals to estimate disease/risk burden; which can be utilized to prioritize health interventions.
- (ii) While initially register based, the cards will be converted to electronic formats. First time population enumeration will be a manual process which will take time to be completed. Once these manual records are converted into electronic database; the ANM using Tablets/laptops would be able to update the population record based on information provided by the ASHA/AWW as and when any event (birth/death/migration) occurs in the community.
- (iii) ASHAs will normally undertake completion of the health cards. In some urban areas where ASHAs are currently not available, the ANM will undertake such enumeration. Each HWC/Sub centre would maintain these family folders to ensure

that the population within its coverage area is registered. Anyone resident in the area, for more than six months, would qualify to be registered.

- (iv) The family and individual member would be allocated a unique health ID; which will help in identification of family members. Ideally, individual ID should be the Unique Identification (UID), AADHAR and for the family, the family code used in the National Population Register (NPR), or the Socio-Economic Caste Census (SECC) may be used. Where the Aadhar card is available or a card under the Rashtriya Swasthya Bima Yojana (RSBY) has been provided, these numbers would be part of the registration process. The health cards issued to each family member would be used to document health events (screening/disease/treatment/complications, etc) and would also help in generation of population based statistics.
- (v) The Ministry is also working to develop an IT application to develop and maintain Electronic Health Records (EHR), to facilitate continuum of care. This would be shared with the states as and when finalized.

### iii. The Service Delivery Framework

- (i) At the start of the programme, ASHAs will complete a Community Based Assessment Checklist (CBAC) (Annexure 1) for all women and men over 30 years in their population (we assume a normative population of 1000 in the service area of one ASHA). This form is intended to capture data related to age, family history, treatment for any of the NCDs, waist circumference, and risky behaviours such as physical inactivity, use of/ or exposure to tobacco and alcohol use. There is some overlap also with the individual health card. This section of the form has questions that are allocated a score. A score of below four implies Low risk. ASHA/ANM will be sensitized to the fact that a low risk score **does not mean** that the individual is to be exempted from screening, as NCDs could exist, even in the absence of risk factors. **The scoring is not a point of elimination but a means to highlight risk factors.** In addition, the tool includes questions related to symptoms for cancer cervix, breast cancer, oral cancers, epilepsy and COPD, so that such cases may be identified and referred to appropriate centres.
- (ii) The purpose of the form is to help the frontline workers use it as memory trigger, highlight the fact that the six variables in the tool increase the risk of these NCDs, and generally serve as a way of educating the community on these issues. The form will also be used as a key training instrument. The frontline workers would also be trained to understand that it is important for all those over 30 to be screened, but that the form helps them emphasise certain aspects of causation, prevention, and

prioritization. The information from the form should not be used for estimating population prevalence or for elimination of individuals from screening and early detection.

- (iii) Once this exercise is completed, the ASHA will ensure that all those in this age category, particularly those who appear to be at risk for an NCD are informed of the benefits of being screened and actively mobilized to attend the screening day at a fixed location on a specific day.
- (iv) Screening for cancers will take place once in five years, and for hypertension and diabetes it should be done annually.
- (v) There are several options through which states could undertake screening at the lowest level. The principles of screening at the community level are: that no individual should need to travel more than half an hour to be screened, that screening is conducted in a site where privacy is assured, that screening for all conditions, including cervical cancers( where Visual Inspection by Acetic Acid is to be undertaken) are carried out according to standard protocols.,
- (vi) While Hypertension, Diabetes, oral and breast cancer screening can be offered in the outreach services at the village level, since the processes are relatively simple, cervical cancer screening requires a space where speculum examinations and visualization with acetic acid can be done, including facilities for sterilization of equipment.
- (vii) Where Cervical cancer screening is also involved, it should be done at least at the SHC/ HWC. It should be supported and supervised by a trained Lady Health Visitor/ Staff Nurse or even a Medical officer, and that the screening days should be preceded by mobilization events in coverage area to enable awareness and high levels of participation. The screening days should be conducted with the ambience of a mela or festive gathering to highlight the importance of the process.
- (viii) States could rollout the screening for all five conditions at the selected sub-centres and PHCs in Year One, and expand progressively to cover all sub centres. Alternatively, similar to the Village Health and Nutrition Day/Urban Health and Nutrition Day, screening for Hypertension, Diabetes, Oral and Breast Cancers can be undertaken at the level of the village, provided the principles elucidated above are adhered to. For cervical cancer screening alone, women could be screened at SC or PHC equipped for the purpose. As and when states establish the Health and

Wellness Centers (at Sub centres), a lady Mid level provider could undertake the screening.

- (ix) Such screening should be prioritised in PHCs and UPHCs and at such sub centres that have two ANMs (or one ANM and one MPW (M), and the requisite number of ASHAs in the coverage area of the Sub-Centre. Village Health, Sanitation and Nutrition Committees (VHSNC) and Mahila Arogya Samiti (MAS) would be actively involved in this endeavour
- (x) Concerned ANMs, LHVs, SNs, and mid-level providers would be trained in Oral Visual Examination (OVE) and Clinical Breast Examination (CBE). They would also be trained in Visual inspection using Acetic Acid (VIA) for cervical cancer screening.
- (xi) LHVs and SNs should serve as mentors and trainers to the sub centre staff and also assist when there are shortages/absences.
- (xii) States could consider engaging one additional staff nurse/Lady AYUSH provider/Rural Medical Assistant (Chhattisgarh model), or Rural Health Practitioner (Assam model) to manage the screening programme for the entire PHC area. At the District Level, an additional position of one Programme Officer and an MIS officer would be required to oversee the planning and entire implementation of the NPCDCS programme (at all levels), including facilitating and supervising the continuum of care. Existing HR of the NPCDCS programme would also be involved at various levels as appropriate.
- (xiii) For cancers of the oral cavity and breast, the first level of referral is the CHC/ SDH/ DH and then to the DH for a biopsy for confirmed cases. For cervical cancer, the CHC could offer colposcopy, wherever possible, for those that are VIA positive and cannot be managed by cryotherapy at the level of the PHC. The biopsy cases would need to be referred to the DH, or to the nearest tertiary centre. Management and treatment of cancers above the level of the PHC are dealt with in the Operational Framework for cancer screening and management.
- (xiv) On a fixed day in a week-Village or Sub centre based, depending upon the distance/ terrain, the ANM, assisted by the ASHA and members of the VHSNC, would screen for HTN, DM, and Oral Cancers, Cervical cancer (sub-centre or above) and Breast cancer. In a population of 1000, the proportion of people in the age group over 30 years, is about 37%, implying about 370 people (182 women and 188 men). In a normative sub centre population of 5000, this would roughly mean about 1850 people.

- (xv) The target population for screening is as follows:
- All men and women over 30 years for Oral Cancer, Hypertension and Diabetes Mellitus;
  - All women over 30 years for Cervical and Breast Cancer

Although the yield for breast cancers is higher after the age of 40 years, for operational and programmatic purposes, a uniform age of 30 years is being maintained. This can be revisited after a few years, once sufficient programmatic experience is gained, large data is studied and community awareness is significantly better.

- (xvi) Key tasks on the screening day include: community awareness and active mobilization, organising the venue, history taking, management of patient flow, recording, feedback to patients, monitoring of already diagnosed cases, and referral advice. This will need a coordinated team effort: ANM, ASHA, ASHA facilitator, AWW), and volunteers. Such volunteers could be members of the VHSNC/MAS or adolescent groups, or local organizations. Roles and responsibilities of team members are at Annexure 2..
- (xvii) In order to roll out this component at scale, it would first need to be implemented in different contexts for better estimates of how to organize work processes in different contexts and the allocation of roles and responsibilities.

Rationale for Population based screening: Studies in health seeking behaviour have shown that most people with diabetes and hypertension do not seek health care even when they know they have the condition, until symptoms appear. Thus in the early phases of the programme, the guidance would be to undertake population based screening. Initiating the programme through a population based screening programme, has several benefits. It creates an environmental milieu and increases awareness in the community regarding NCDs. Buttressed by active IEC, the risk assessment questionnaire undertaken by ASHA/ASHA facilitator trained to do this, would enable an increased understanding among respondents of risk factors and the need to be screened. Thus population based screening could serve as an entry point strategy. As awareness increases, states could gradually move towards opportunistic screening. Currently neither is being done. Such population based enumeration and mobilization for population based screening also enables women, to present for screening for HT, diabetes and cancers.

(xviii) Implementation of this programme would be through the regular health system, supported by the District NCD cell for planning, monitoring and reporting.

#### **iv. Health Promotion Including the use of IEC for Behaviour Change Communication**

- (i) Promoting healthy behaviours to effect lifestyle behaviour change, is critical for prevention and control of hypertension and diabetes and some other forms of non-communicable disease. States would develop context specific strategies for lifestyle modification and for promoting healthy behaviours for primary prevention. Such strategies would need to be targeted at individuals, families, and communities. States should develop an Integrated health promotion strategy that envisages convergence, multitasking and pooling of resources from various programmes.
- (ii) IEC messages would aim at increasing awareness on risk factors of NCDs, healthy lifestyle and benefits of screening. They would also focus on the benefits of improving lifestyle behaviours such as cessation of tobacco and harmful use of alcohol, poor dietary habits, and lack of exercise. The district NCD cell will collect information on locally available healthy foodstuffs that should be encouraged and use this in the development of messages for healthy lifestyles. Linkages would be made with existing tobacco cessation programmes. States must also use MMUs to display audio visual messages related to prevention and health promotion.
- (iii) Individual and family counselling will be needed for those who are started on treatment for compliance to treatment and for lifestyle modifications. IEC material and patient brochures/leaflets that promote healthy behaviours, exercise routines, dietary advice, avoiding substance abuse and compliance with treatment including through use of IT would need to be developed. IEC leaflets would be distributed to those who are diagnosed with NCD to enable them to develop individual health plans (diet/exercise).
- (iv) States should make the effort to link with AYUSH systems to incorporate appropriate prevention and promotion strategies, including practice of Yoga. For community level awareness raising, platforms such as meetings of Gram Sabha, SHGs, VHSNCs would be used. The use of traditional media such as Kala Jathas, use of folk/local media, and flip charts, flash cards, IT and social media etc, would be promoted. Local folk media could also be used creatively to raise community

awareness and mobilize for screening and ensuring treatment compliance. States could also consider dissemination of NCD related communication messages at local gatherings, religious festivals, camps, and targeted messages using IT for patients and those at risk etc.

- (v) Among those diagnosed with NCD, patient support groups facilitated by the ASHA/ASHA facilitator to improve motivation and share challenges and success related to life style changes, behaviour modification, reduction of substance abuse and adherence to treatment should be created.
- (vi) The VHSNC and MAS which represents a community collective besides PRIs and ULBs would play an important role in raising community awareness about NCD screening among community leaders and influencers. Similar to the role in the Village Health and Nutrition Day, the VHSNC/MAS members would support the ASHA and ANM during the screening day to help manage patient flows, support and direct referrals. In addition, the VHSNC would advocate with the block/district administration with the support of other community groups and influential leaders to heighten public understanding of the benefits of regular exercise and Yoga and create public parks and other spaces for exercise and encourage physical activity in schools.
- (vii) The Rogi Kalyan Samiti at the level of the Primary Health Centre/ Community Health Centre, would be sensitized to the intervention, to enable addressing issues of procurement and supply of drugs and diagnostics, support for diagnostics, and referral to secondary or tertiary care centres and follow up.

## v. Referral and Treatment: Ensuring Continuity of Care

- (i) Those with a **systolic BP of over 140 and a diastolic BP of over 90 mm of Hg, or random blood sugar of 140 mg/dl and above**) would be referred to a Medical officer (MBBS), at the nearest facility, for confirmation, conducting relevant laboratory investigations, and initiation of treatment.
- (ii) Those who are found positive for cancer/precancerous lesions will be referred by ANM/Staff Nurses in specified screening sites to the appropriate PHCs/CHC/DH for confirmation and treatment by trained specialists, as per the Operational Framework developed for Cancer Screening and Management. While the most effective approach for cervical cancer is the single visit approach in which screening and treatment can be offered on the same visit, states will need

to assess if they are currently able to meet the objectives of decentralising screening close to the community and minimising patient visits.

- (iii) It will be unethical to screen patients without ensuring the appropriate treatment plan. There should be measures to ensure the referral to appropriate CHC/ SDH/ DH and tertiary health centres (medical colleges), so that each patient can be followed up. Providers would be oriented in the use of standard treatment guidelines for diagnosis and treatment of common NCDs. The ANM and ASHA should also be aware of the complete treatment protocol.
- (iv) Once the diagnosis of HT/Diabetes is established, the patient must receive at least a month's supply of drugs from the PHC. Once the condition is stable, the state could also decide to provide the patient with a three-month supply, with the ANM/ASHA visiting the patient each month for ensuring compliance, checking on diet and life style modification, and measuring the blood pressure/ blood glucose. Alternatively, a three-month drug supply could be stocked with the ANM at Sub Centre, to be given each month. Either way, sufficient drug supplies need to be made available at the PHC.
- (v) The patient will need to go the PHC for the first follow up at the end of the first three months after diagnosis, and sooner if required. An annual specialist consultation at the nearest nodal CHC with an NCD clinic, is also recommended, based on the decision of the MO at the PHC.
- (vi) For those individuals who are already on treatment under the care of a private practitioner, they could be offered the choice of taking drugs from the public health system, after appropriate confirmation. However, these individuals would be visited regularly by the frontline workers, monitored for compliance with treatment/lifestyle changes and recorded in the health card.
- (vii) Community Follow up of these individuals would be by the ASHA making visits to enable positive behaviour modifications, treatment compliance, and encouraging patients to go the sub centre for regular check-up of BP/blood glucose. Some states have also provided the ASHA with BP apparatus and glucometers to undertake regular examinations at the village level. The ASHA will prioritize those households where there are treatment defaulters or those who experience complications. The aim is to minimize treatment defaulters and to achieve hypertension and glycaemic control at an individual and population level. The ANM would also conduct regular home visits.

## vi. Drugs and Diagnostics

- (i) The ANM/ASHA team would need to have a glucometer, sufficient strips, a BP apparatus, a tape measure, and a torch in working condition. This would be reviewed at the monthly meeting, and supplies ensured. Equipment for screening of cancers are as follows: examination lamp with white light, autoclave, Cusco's speculum, Dental Mouth Mirrors, and torch with white light. All BP instruments and glucometers have to be periodically calibrated. This would be facilitated by the Biomedical Equipment Maintenance programme.
- (ii) Patient refills of drugs for HT and Diabetes would be made available by the PHC and recorded and reported by the ANM while distributing at the SC/HWC. A tablet count of remaining drugs would be made at the time of each refill.
- (iii) Drug supplies would be as per the state Essential Drug List, facility wise and buffer stocks would be maintained at all levels.
- (iv) An ICT mechanism to capture complaints about shortfall/ defect/ likely shortfall would also need to be created.

## vii. Capacity Building Plan

- (i) For HT/DM and screening of oral and breast cancers, ANMs/MPWs would be trained in a three -day module, and ASHAs in a five day module, with one day of overlap for integrated training, so that they are able to better function as a team. The contents would cover: the process of enumeration and family folder creation, signs, symptoms and sequelae of NCDs, early symptoms of hypoglycemia, presentations of common cancers, heart attacks and strokes, skills of measurement of Blood pressure and blood glucose, history taking/ completion of forms for community based assessment, recognising oral lesions, breast palpation, organizing work processes during screening days, referral, follow up to ensure continuity of care, drugs and side effects, and documentation and reporting. (Annexure 3).
- (ii) ANM's in selected sub centers, Staff Nurses and LHVs will require two weeks training at a DH/ tertiary care institutions for training in VIA.
- (iii) MOs will need training for a period of five days in a tertiary care setting.

- (iv) For HT/DM, MOs to be (re) trained in a one-day module covering programmatic elements, supportive supervision, standard treatment guidelines, cardiovascular risk assessments, (use telemedicine/consultation with internal medicine specialists CHC/DH), assessment for complications, etc.
- (v) A one-day orientation and training of VHSNC members on NCD: risk factors and to review preventable deaths – as a form of community monitoring, will be undertaken.
- (vi) A one day Orientation of Programme officers and BPM/DPM would be required so that they are in synergy with the programme features and understand the roles and responsibilities related to support (including availability of drugs and consumables), monitoring (reports, records) and supervision.

## **viii. Financial Requirement**

MOHFW already provides funds to states for screening, logistics and training under the NPCDCS programme. A tentative costing for additional costs is at Annexure 4.

## **ix. Monitoring and Supervision**

The overall responsibility for monitoring and supervision of field activities is with the Primary Health Centre Medical officer. Review of the programme should be an integral part of monthly review meetings, field supervision, and data monitoring. Recording and reporting at all levels would be aligned with NPCDCS guidelines.

The following indicators would be used to monitor the programme, and these would be synergized with existing records and reports under the NPCDCS programme. Data would also need to be disaggregated by age and sex to enable creation of a data base to enable learning and better focus programmatic efforts

- (i) % of population over 30 years whose blood pressure and blood sugar was measured in last two years.
- (ii) % of population over 30 years who were screened for Oral Cancer.
- (iii) % of women over 30 years screened for Cervical Cancer.
- (iv) % of women over 30 years screened for Breast Cancer.
- (v) % of those screened positive for HT/DM who were examined at the PHC/CHC

- (vi) % of those who were initiated on treatment at PHC or above who are still under treatment, un-interrupted for the last three months
- (vii) % of those currently on treatment who have achieved blood pressure/sugar control
- (viii) % of those who were screened positive for each of the cancers that underwent biopsy at the CHC/DH
- (ix) % of those who underwent treatment for each of the cancers who are screened periodically.

# Annexure 1: Community Based Assessment Checklist (CBAC) for Early Detection of Non- Communicable Diseases

General Information	
Name of ASHA	Village
Name of ANM	Sub Centre
PHC	Date
Personal Details	
Name	Any Identifier (Aadhar Card, UID, Voter ID)
Age	RSBY beneficiary: (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)	<b>Female</b>	<b>Male</b>		
	<80 cm	<90 cm	0	
	80-90 cm	90-100 cm	1	
	>90 cm	>100 cm	2	
5. Do you undertake any physical activities for minimum of 150 minutes in a week?	Less than 150 minutes in a week		1	
	At least 150 minutes in a week		0	

### Part A: Risk Assessment

Question	Range	Circle any	Write score
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	
<b>Total Score</b>			

A score above 4 indicates that the person may be at risk for these NCDs and needs to be prioritized for attending the weekly NCD day

### Part B: Early Detection: Ask if Patient has any of these Symptoms

B1: Women and Men	Yes/No	B2: Women only	Yes/No
Shortness of breath		Lump in the breast	
Coughing more than 2 weeks		Blood stained discharge from the nipple	
Blood in sputum		Change in shape and size of breast	
History of fits		Bleeding between periods	
Difficulty in opening mouth		Bleeding after menopause	
Ulcers /patch /growth in the mouth that has not healed in two weeks		Bleeding after intercourse	
Any change in the tone of your voice		Foul smelling vaginal discharge	

***In case the individual answers Yes to any one of the above mentioned symptoms, refer the patient immediately to the nearest facility where a Medical Officer is available.***

## Annexure 2 : Roles and Responsibilities of the Primary Health Care Team in Prevention, Early Detection and Management of NCD

This table delineates roles for the ASHA, ANM and the members of the team at the primary health centre. States with an adequate MPW (Male) workforce could also use them in a complementary role with the ANM, for HT/DM and oral cancer screening. Once in place, the proposed mid-level health care providers (MLHP) will have a prominent role in leading the effort at the level of the sub centre.

The table below illustrates the HR roles for NCD screening in primary care:

Activity	Role of ASHA	Role of ANM*	Role of PHC Team (MO, Lady Health Visitor, Laboratory Technician)
<b>Home visits</b>	<p>Enumeration of the population and creation of family folder/health card</p> <p>Complete CBAC for NCD screening, identify individuals with high risk behaviours</p> <p>Mobilization of community members to attend screening</p> <p>Raising awareness about NCDs, including about the effects of tobacco consumption, alcohol use, obesity, family history, lack of exercise, unhealthy diets.</p>	<p>Review completed CBAC for cancer symptoms/ epilepsy/ COPD and refers as appropriate.</p> <p>Supportive supervision - through joint visits with ASHA, where required in order to motivate people to attend the screening day</p>	

Activity	Role of ASHA	Role of ANM*	Role of PHC Team (MO, Lady Health Visitor, Laboratory Technician)
<p><b>HWC/SC or Village (fixed day/week)</b></p>	<p>Raise awareness and mobilize the community to attend weekly 'fixed day' NCD screening at the HWC/ village</p> <p>States to consider the possible role of ASHA for the delivery of screening (i.e. measuring blood pressure and blood glucose).</p> <p>Lifestyle counselling/ BCC for people with diabetes and hypertension,</p>	<p>Undertake blood pressure and blood glucose measurement;</p> <p>Refer cases with high BP and blood glucose, symptoms requiring investigation for cancer to the appropriate facility for confirmation and initiation of treatment plan.</p> <p>Provide follow-up management for patients (monthly drug supply, periodic BP/ blood sugar measurement, referral for complications)</p> <p>Supportive supervision for ASHAs conducting NCD screening</p>	<p>Technical support for the ANM/ ASHA</p> <p>Maintain records, analyse and submit to district.</p> <p>Supportive supervision on NCD Day.</p> <p>Plan review of select cases during routine visits.</p> <p>Confirmation of diagnosis** and initiation of a treatment plan for people with diabetes and hypertension at PHC/CHC/DH.</p> <p>Provide one-three months' supply of drugs.</p> <p>First follow up at three - months for all, or sooner for patients with concerns/ complications,</p> <p>Manage and/or refer complications and cases requiring diagnostic work-up for cancer/ COPD/ epilepsy referred by the ANM</p> <p>Consider annual referral to specialist for HT/diabetes</p>

Activity	Role of ASHA	Role of ANM*	Role of PHC Team (MO, Lady Health Visitor, Laboratory Technician)
<b>Navigation Services</b>	<p>ASHAs to accompany patients to health facilities/ referral centres and guide them through the consultation and diagnostic processes, on an as required basis.</p> <p>To be done by ASHA on the basis of need and availability (however to be compensated for travel and day wages)</p>		
<b>Document and record maintenance</b>	Maintains village register and record those cases on treatment including referral history.	Maintain NCD register (demographic details, symptoms, BP/blood glucose readings, symptoms requiring investigation for cancers, referral, treatment follow-up data and complications)	Maintain NCD register on patient management

\*Role of MPW(male) – In states with an adequate workforce of MPW(male), these functionaries could be used to support ANMs in NCD screening, especially for the conduct of screening during home visits/ outreach sessions for those unable to attend screening at the HWC/VHND and for those in difficult-to-access areas.

\*\* Role of lab technicians – Lab. technicians at the PHC/CHC/DH level should be well versed in measuring fasting, random and post-prandial blood glucose levels - and performing HbA1c tests, where appropriate.

## Annexure 3: Competencies required to conduct NCD screening

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These can be divided into three categories – general skills, administrative skills and clinical skills:

- ❖ **General skills:** Organizing work processes during screening days; communications skills
- ❖ **Administrative skills:** process of enumeration and family folder creation (ASHA); follow up to ensure continuity of care; documentation and reporting (ASHA/ANM)
- ❖ **Clinical knowledge and skills:** signs, symptoms and sequelae of hypertension and diabetes, history taking, skills for measurement of blood pressure and blood glucose, drugs and side effects, referral (ASHA/ANM), OVE, CBE, and VIA.

### Training Schedule

- (i) Suggested schedule for the three-day training for ANM and five day training for ASHA, with content suitably structured for the roles of each.
  - ❖ Principles and value of prevention, early detection and management
  - ❖ Signs, symptoms and basic pathology of HT and diabetes
  - ❖ Complications/sequel of HT and diabetes;
  - ❖ Skills - use of risk assessment tools, history taking, key messages in raising awareness, behaviour change modification.
  - ❖ Measurement of blood pressure
  - ❖ Measurement of blood glucose (Glucometer)
  - ❖ Drugs and side effects; referral;
  - ❖ follow up to ensure compliance with treatment, motivation and support for lifestyle changes, community meeting, patient support groups, continuity of care

- ❖ Overview of the NPCDCS programme; and the health systems approach to integrate primary care for NCDs
- ❖ Organizing weekly screening days, roles and responsibilities
- ❖ Enumeration and family folder creation; record keeping;

(ii) Orientation/sensitization workshop for MO's (one day):

**Session 1:** Overview of the NPCDCS programme; orientation on prevention, early detection and management through a health systems approach to primary health care.

**Session 2:** Standard Treatment Guidelines; drugs and diagnostics

**Session 3:** Referral pathways; follow-up arrangements;

**Session 4:** Understanding performance based incentives, supportive supervision for ANMs/ASHAs

## Annexure 4: Costs for Screening for HT/DM and Three Common Cancers (Oral, Cervical and Breast) at the Level of a Sub Centre

### Assumptions

1. Normative District Population: 20 lakhs covering both rural and urban areas.
2. Assuming 400 sub centres (each covering 5000 population) in a district, which would cover the total 20 lakh population
3. Population: 37% in age group over 30 years
4. Men and Women over 30 years in a SC area: (5000 population) : 1850 (HT/DM/Ca-oral)
5. Women over 30 years: 910: in a SC area: (5000 population)Ca Cx/Breast

### Costs

- a. Equipment for HT (Sphygmomanometer) - (Year 1 only): Rs. 1000
- b. Equipment for VIA: Examination lamp, Cusco's Speculum, autoclave, torch: Rs. 20,000
- c. Equipment: for OVE: Mouth Mirror, Led Torch: Rs. 3000
- d. Consumables: (Costing for cancer assumes 50% coverage in year 1, 65% coverage in year 2, and 80% coverage in year 3)
  - i. For Glucose testing Rs. 10/capita: (NPCDCS already provides Rs. 25,000):
  - ii. For VIA: (Rs. 10/capita – for gloves, cotton swabs, distilled water, acetic acid.
  - iii. For OVE - (Rs. 10/capita). Wooden sticks, gloves, cotton, gauze
- e. Training/Modules for SC team: Rs. 1750
- f. Cost of training one provider for VIA: Rs. 18,000 (could be ANM/MO/SN): Rs. 18000
- g. IEC: 5000
- h. Health cards: Rs. 46,250
- i. Team Incentives: Rs. 15,000

### Cost Per one SC and Cost Per 400 SC (or Total 20 Lakh Population)

	Year 1	Year 2	Year 3
Cost for one SC	1,61,300	50,390	50,390
NPCDCS provision	25,000	25,000	25,000
Additional budget/SC	1,36,300	25,390	25,390
Cost per 400 SC/PHC/	5,45,20,000	99,90,400	99,90,400





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