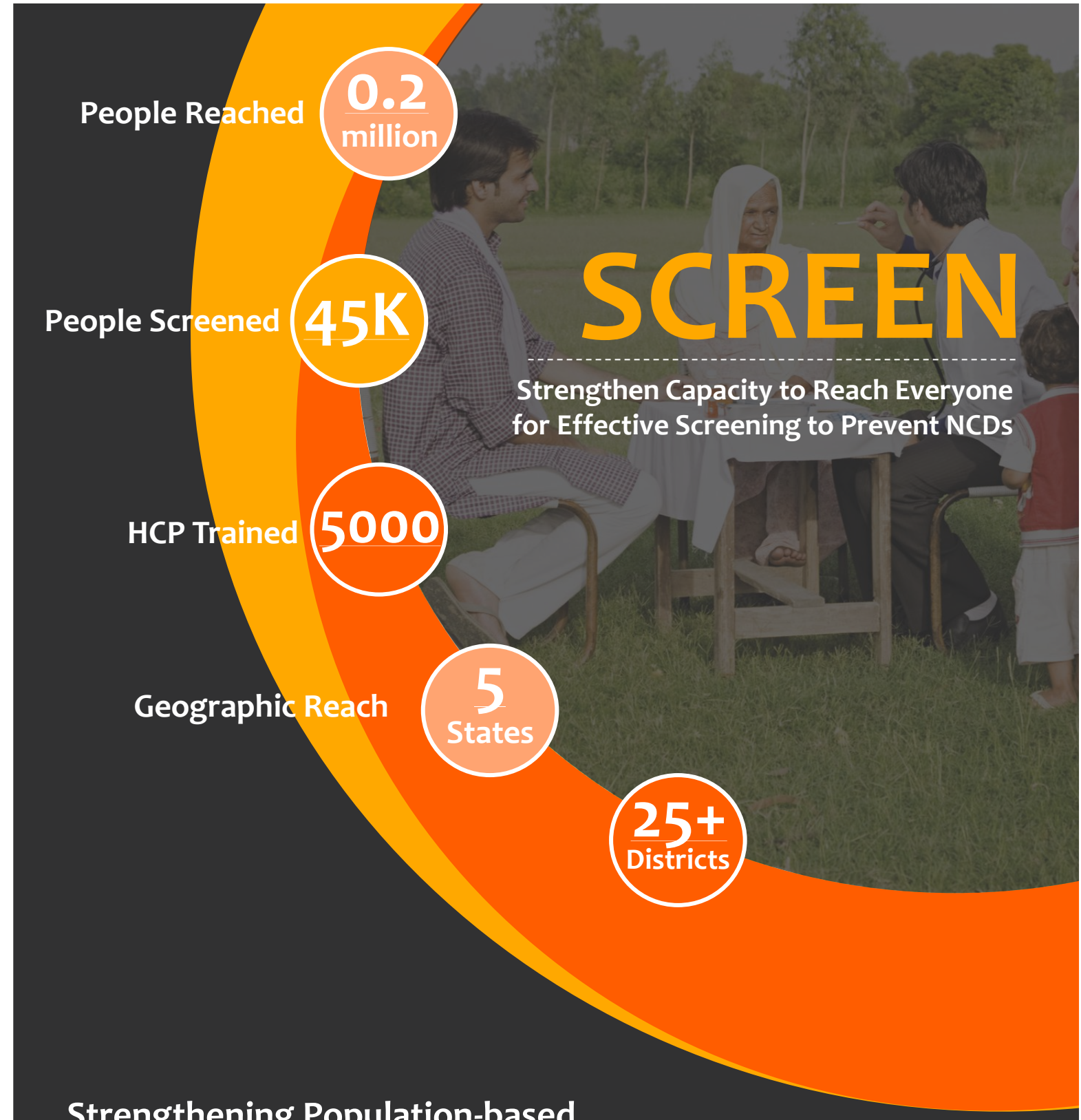


People Reached 0.2 million

People Screened 45K

HCP Trained 5000

Geographic Reach 5 States

25+ Districts

SCREEN

Strengthen Capacity to Reach Everyone for Effective Screening to Prevent NCDs

Strengthening Population-based Screening NCDs in Five States of India

Implementation Note

PPHF
PEOPLE TO PEOPLE HEALTH FOUNDATION

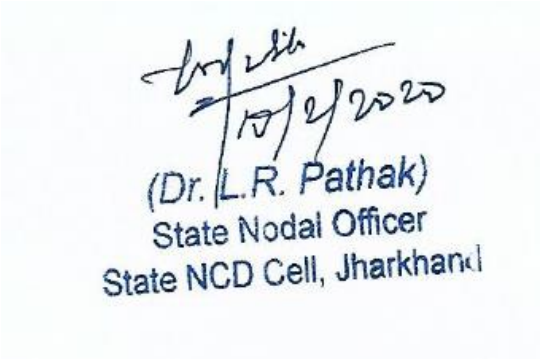
Foreword

By Dr. L. R Pathak
State Nodal Officer, State NCD Cell,
Jharkhand

The impact of non-communicable diseases to health loss, fueled by unhealthy diets, high blood pressure, blood sugar and overweight, has doubled in India over the preceding two decades. Air pollution and tobacco smoking continue to be major contributors to health loss. However, the extent of these risk factors varies considerably across the states of India.

As per the Disease Burden profile 2016, the disease burden due to NCDs alone is 48.3% in the state of Jharkhand. In order to control this increasing tide a multisectoral approach is needed. Project SCREEN is an integrated approach for prevention, early detection and intervention on cardiovascular diseases and cancers (cervix, breast and oral).

I am confident that this project would serve as an important intervention towards screening, prevention and control of common Non-Communicable Diseases. I am also convinced that the project will help the health sector for tackling preventable morbidities and mortalities due to common non-communicable diseases.

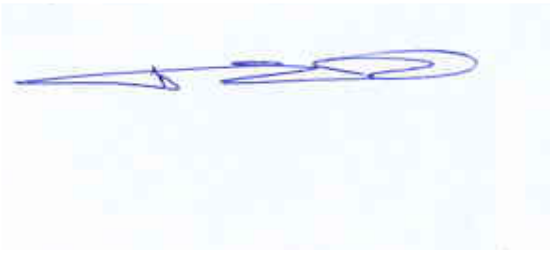


Foreword

By Dr. Rangaswamy H.V
Deputy Director, NCD
I/c Joint Director, DJD Office, Bangalore Division, Karnataka

In India, the burden of non-communicable diseases (NCDs) is well established. Government of India has been working proactively to dilute the density of NCDs through NPCDCS, population- based screening guidelines for NCDs and the Ayushman Bharat initiatives. In such favorable policy environment, NCDs do not hold much chance of flourishing if implementation and management of the program is robust at the national and sub-national level. And for this to happen, all the key stakeholders, whether public or private must come together in the most efficient ways to exchange and create innovations for effective processes.
In the same context, I see SCREEN as a model program that has really worked around public private partnership model of leveraging resources for providing technical assistance to the various NCD program components in Karnataka and many other states of our nation. The programs has assisted in seeding strong mechanisms for building the capacity of healthcare staff including medical officers, paramedical staff and frontline health workers like ASHAs and setting up of proper NCD screening and referral protocols for efficient prevention and early detection of NCDs. The screening data has been used to enrich our HMIS with which we see a lot of long-term positive impacts on the over-all program deliverables and goals.

I would like to congratulate SCREEN for commendable work and hope for the team to continue working for better further impact.



Foreword

By Dr. Sandeep Singh Gill
Asst. Director /State Nodal Officer
NPCDCS at Director Health services
Punjab

Non-communicable diseases (NCDs) are a growing epidemic, surpassing infectious diseases and adversely affecting health systems, policies, and socio-economic developments. Management of NCD and its risk factors such as tobacco use, poor diet, physical inactivity, and obesity has garnered paramount importance under the Sustainable Development Goals (SDGs). However, stronger actions are required to prevent and manage NCDs at the national and sub-national level through use of 360- degree approach models like the continuum of care to prevention and management of NCDs.

SCREEN, a multi-state NCD program, has not just worked on strengthening the health system but also on addressing the challenges related to community mobilization, acceptance of services which is what Government requires in the forefront. We can create excellent healthcare services, but utilization will be ensured once community is ready to accept those services. Both capacity building of healthcare providers and building robust pre, during and post screening mechanisms, referral and follow-up are critical for successful NCD program implementation. When these are combined with proper documentation, data reporting, surveillance, and advocacy at all levels, we can confidently say, we are going to have a positive impact in any health program.

I am happy that SCREEN has benefitted both demand and supply side equally and has a vision to intensify actions further to support the NCD program. I wish SCREEN team all the best for all their endeavors.

17/9/2020
(Dr Sandeep S. Gill)
Assistant Director
SPO - NPCDCS

Background

Non-Communicable Diseases (NCDs) constitute a major public health challenge, impacting both the social and economic development of India. The increasing epidemic of NCDs in India is a blockade to attain sustainable development. The sustainable Development Goal (SDG) 3.4 targets to reduce premature mortality due to non-communicable diseases (NCDs) by a third by 2030. Over a half of all NCD deaths world-wide are reported from India. Global progress towards SDG 3.4 hinges heavily on India's performance.

India is the major contributor to the global burden of non-communicable diseases:

- 1 in 4 Indians runs the risk of premature death due to NCD. (1)
- Hypertension (HTN) is the major contributor (4-6). In 2016, HTN caused 1.6 million deaths.(7,8)
- Prevalence of HTN and diabetes mellitus (DM) among adults in India is 11.3% and ~7.7% respectively.(6)
- Given the rapid urbanization and epidemiologic transition in India, NCDs pose an increasing risk to population health, healthcare provisions and overall economic development of the country. (7)

Institutionalization, extension and universalization – India aspires comprehensive capacity but faces challenges:

- The Government of India (GOI) in 2010, launched the National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases and Stroke (NPCDCS) that institutionalized NCD care.

- NPCDCS faces challenges in ensuring a continuum-of-care from the community to secondary level. These challenges are both at population (healthcare access, affordability, treatment compliance, issues of disempowerment) and system levels (e.g., worker competence, referral linkages, outreach services, and continued sharing and learning from programmatic experience, inadequate allocation of resources for delivering interventions).

National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases and Stroke (NPCDCS)

Objectives

- Health promotion through behaviour change with involvement of community, civil society, community based organizations, media etc.

- Opportunistic screening at all levels in the health care delivery system from subcentre and above for early detection of diabetes, hypertension and common cancers. Outreach camps are also envisaged.

- To prevent and control chronic Non-Communicable diseases, especially Cancer, Diabetes, Cardiovascular diseases and Stroke.

- To build capacity at various levels of health care for prevention, early diagnosis, treatment, information-education-communication (IEC)/ Behaviour Change Communication (BCC), operational research and rehabilitation.

- To support for diagnosis and cost effective treatment at primary, secondary and tertiary levels of health care.

- To support for development of database of non-communicable diseases (NCDs) through Surveillance System and to monitor NCD morbidity and mortality and risk factors.

- In 2016, GOI released the guidelines for population-based screening (PBS) for HTN, DM and common cancers. The philosophy was to leverage upcoming learnings from NPCDCS and its infrastructure to extend screening and diagnostic services further into the community through the sub-centres as part of comprehensive primary health care. States were urged to adapt these guidelines to their local implementation contexts. This called for further capacity building at the frontline and identification of a mechanism for feasible and effective implementation through partnerships and resource sharing for scale up.

- The National Health Policy 2017 has reiterated GOI's commitment to reduction of premature mortality due to NCDs. The 2018 Prime Minister's Jan Arogya Yojana (PMJAY) has put in efforts for universal health coverage and strengthening of the primary health care services. The Health and Wellness Centres (HWCs) proposed across India through PMJAY also focuses on care for NCDs at the primary level, including provisions for free essential drugs and diagnostic services. Thus, the situation has become conducive for reinforcing NPCDCS. Implementation models with demonstrated performance in real world settings can help in informing such efforts.

It is in this backdrop People to People Health Foundation (PPHF) and Wipro GE Healthcare have entered into a partnership named `SCREEN project'.

Approaches and Methods of Implementation

Strengthen Capacity to Reach Everyone for Effective Screening to Prevent NCDs (SCREEN)

Approach: The project developed, tested and refined a clearly articulated process for identifying and assessing the strengths, capacity and resources within public health system under National Health Mission mandate, and positioned an approach that integrates components of the intervention into existing program on NCDs and specifically contributing to population-based screening efforts for NCDs.)

PROJECT SCREEN
(November, 2017 – July, 2020)

Goal: To contribute to the national goal of reducing mortality and morbidity from non-communicable diseases (NCDs)

Key Objectives:

- Improve capacities of health teams, primary care physicians for timely identification of Diabetes, Hypertension, Cardiovascular diseases, and cancers (breast, cervix and oral) in the selected districts
- Improve community awareness and knowledge about prevention, timely screening, and management of NCDs
- Document program learnings for advocacy to scale up successful interventions

Figure: 1

Sites

- 35 districts across 5 states of Punjab, Haryana, Jharkhand, Maharashtra and Karnataka
- 13 of the 35 districts are aspirational districts under Pradhan Mantri Jan Arogya Yojana and with an aspirational goal of NCD management
- Selection of the project districts was made in consideration of functional NCD unit and availability of trainable staff at the district level.

Milestones

Nov 2017 – Jan 2018: Preparatory Activities

Dec 2017 – Jan 2018: Formation of Technical Advisory Group

May 2018 – Nov 2018: Formative Research

Jan 2018 – May 2019: Capacity Building of Healthcare Workers (ASHA, Medical Officer and Paramedical Staff)

Jan 2018 – Mar 2019: Implementation (Screening Camps)

Pre-Intervention Phase

Rapid Formative Assessments: Identification of Gaps and Challenges to Effective Implementation of NPCDCS

Purpose: Qualitative studies were undertaken in all the five states to understand the community needs, behaviours, and perceptions on NCDs and to explore various factors (both demand and supply side) affecting appropriate care seeking and management for NCDs.

Sampling: The assessments were carried out in consultation with the State Nodal Officers/ Mission Director of National Health Mission (NHM). Blocks were identified through purposive sampling in discussion with each of the district administration.

Data collection: Assessments were undertaken at two levels:

- **Community:** In depth interviews (IDIs; n-86) and focus group discussions (FGDs; n-115) were conducted in 16 districts of the 05 states (Jharkhand-03, Haryana-02, Punjab-02, Karnataka-05 and Maharashtra-04) between May to November 2018. The assessment engaged nearly 500 people which included community members and local stakeholders (men and women aged 30 - 80 years, members from Panchayati Raj Institutions including the Sarpanch, Village Health Sanitation and Nutrition Committees, Rogi Kalyan Samitis, Self-Help Group members) and healthcare providers (nodal officers, medical officers, paramedical staff like staff nurse, counsellors, and pharmacists).

- **Health facility**: 16 health facilities (one Community Health Centre from each selected district) were assessed for the availability of NCD management services and equipment.

Key findings: The assessments reflected gaps at the system and community levels which impeded effective implementation of NPCDCS and other NCD related intervention packages. Information gained through this assessment identified the needs to complement GOI's ongoing initiatives for strengthening population-based screening of common NCDs.

Gaps and Challenges Identified at Community Level

- Limited outreach of community-based screening and referral services to the vulnerable population especially, the elderly and women.
- Limited understanding and awareness of NCDs in the community.
- Poor health seeking practices in the communities for NCDs.
- Insufficient infrastructure and human resource at the outreach.
- Poor access to primary healthcare facilities.
- Lack of treatment adherence by patients and follow-up mechanisms.

Gaps and Challenges Identified at Health Facility Level

- Limited availability and capacity of health care workers in concern to counselling, screening for early diagnosis and referral to appropriate facility.
- Insufficient infrastructure and human resources for NCD management.
- Underperforming/ underutilized primary care facilities.
- Overcrowded secondary and tertiary care facilities.
- Interrupted supply of equipment and consumables.
- Unavailability of logistics (e.g. counselling material, screening kits).
- Communication gap between health facility staff, frontline functionaries, and community.

Outcome: The findings from the formative assessment helped in building the intervention packages (NCD program implementation toolkit), training of healthcare workers, and strategizing for (community mobilization, screening activities, follow up) timely detection and appropriate treatment of the people with NCDs.

Implementation Toolbox

The NCD Program Implementation Toolkit: empowering community and personnel across levels of the health system

Activities: A toolkit was developed and shared with the district administration and interested stakeholders for use. The toolkit was provided to the system-based stakeholders and frontline workers to facilitate their performance for NCD related services. With this NCD program implementation toolkit, we tried to simplify the existing processes by putting all of them into one box in a logical sequence to make the tasks easy for users. The toolkit also had materials and audio-visual aids for counselling and communicating with the community members to sensitize about NCD risk factors.

Summary of the NCD Toolkit		
Domain	**Tool**	**User**
Planning for NCDs programme interventions	• Health Centre Assessment Checklist	State & District Managers
Capacity Building of Health Providers	• ToT Facilitator and Participants Manuals for Training on Prevention and Management of NCD-for FLHWs	Trainer; ASHA and ANM-Participants
	• Poster on role clarity for frontline functionaries	Trainer, ASHA, ANM
	• ToT Facilitator and Participants Manuals for Training on Prevention and Management of NCD-for MOs	Trainer; MO-Participants
	• PPT for training of MO • PPT for training of Allied Health Professionals (AHPs) • Video on screening	Trainer
Community Awareness Building	• Flashcards on modifiable & non-modifiable risk factors • Set of six posters on Common NCD • WhatsApp videos on importance of timely screening	CHO, ANM, ASHA, Community
Population based screening	• NCD Reporting Format • Community Based Assessment Checklist (CBAC)	ASHA
	• Step wise administration of CBAC and Family Folder poster	ANM & ASHA
	• Screening Checklist	CHO, ANM, ASHA
	• Set of three posters on screening protocols for common cancers	CHO & ANM
	• Patient Health card, NCD screening and referral slip	Patient, CHO & ANM
	• Pocket booklet on lifestyle management	CHO, ANM, Community
Treatment and Management	• Poster on health signals • Set of posters-Food pyramid • Flip book-My health is my responsibility • Diabetes and Hypertension FAQ booklet	ANM, ASHA, Community
	• Posters on screening and treatment protocols for common NCDs	MO
Monitoring Tools	• NCD Register • NCD Reporting Performa for Sub-Centre	ANM
	• NCD Reporting Performa for Primary Health Centre	MO
	• Village wise NCD Tracking Sheet	CHO, ANM, ASHA

AHPs: Allied Health Professionals; ANM: Auxiliary Nurse Midwife; ASHA: Accredited Social Health Activist; CBAC: Community Based Assessment Checklist; CHO: Community Health Officer; FAQ: Frequently asked questions; FLHW: Frontline health worker; MO: Medical Officer; NCD: Non-communicable disease; PPT: Power-point presentation; ToT: Training of trainers.

Intervention 1

Capacity of health workers for service delivery: maximising capacity through comprehensive training

Scope: The SCREEN project provided technical assistance for capacity building of health care workers for better understanding of prevention, management and importance of early diagnosis of common NCDs, followed by supportive supervision and mentorship support for effective implementation of NCD guidelines at different levels of the health system, and reporting and data management.

Activities: Training of physicians, paramedics and ASHA workers was developed to meet the requirements and expectations of the government and health care workers at the grassroot level for NPCDCS and population-based screening. Regional government hospitals were also connected to seek support of the medical professionals for the training of physicians. The State Governments nominated Master Trainers who could provide spearhead the trainings. The training ranged from 1-5 days based on the respective State Government's advice. The participants were selected by the state government for attending the trainings. The training programs involved State and district level authorities.

Outcome:

Development of training module and method: The SCREEN technical team developed the training module and method as per the GOI NCD guidelines, programs and policies. The training content was reviewed and approved by national NCD experts, technical teams from various states and national level, and by the Ministry of Health and Family Welfare (GOI).

Development of communication materials: SCREEN in consultation with the State Government developed WhatsApp videos for a screening call to action. The videos were developed with the purpose to mobilize the community and provide information on the importance of getting screened for NCDs. The videos were developed and pretested with the community, state officials and district officials.

Additional Information, Education and Communication (IEC) materials were developed for two levels-

- **Community Level:** Prevention, management and care related posters for various NCDs (diabetes, high blood pressure, heart diseases, oral cancer, breast cancer, cervix cancer) were developed. The developed prototypes were then adapted by the States for future use. Health screening cards and referral slips were also developed for screening camps.

- **Health Provider Level:** Posters were developed on the roles and responsibilities of physicians in population-based screening, and on steps for screening of NCDs and management algorithms.

Many of these tools were also translated in local languages by the respective state governments.

Training of healthcare workers: A total 4793 health workers (1647 physicians (82% of targeted 2000), 1856 paramedics (93% of targeted 2000) and 1290 ASHA workers (training of ASHAs was not initially planned for)) were trained from 5 states against an initial target of training 4000 health workers (target achieved: 119%). We, however, could train fewer physicians and para-medicals than that targeted initially. We had to reallocate our human resources to meet the requests from States for undertaking extended duration training for physicians and paramedical staff and, additional trainings for ASHAs and the community. This extra effort was possible due to additional funding from the States and was a reflection of the strong working relations, amicable reputation and co-shared commitments between State Governments and Project SCREEN

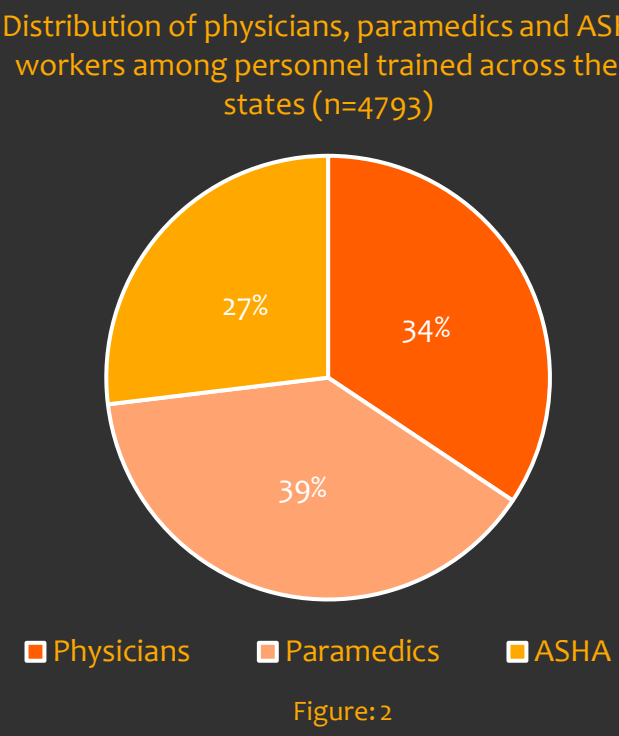


Figure: 2

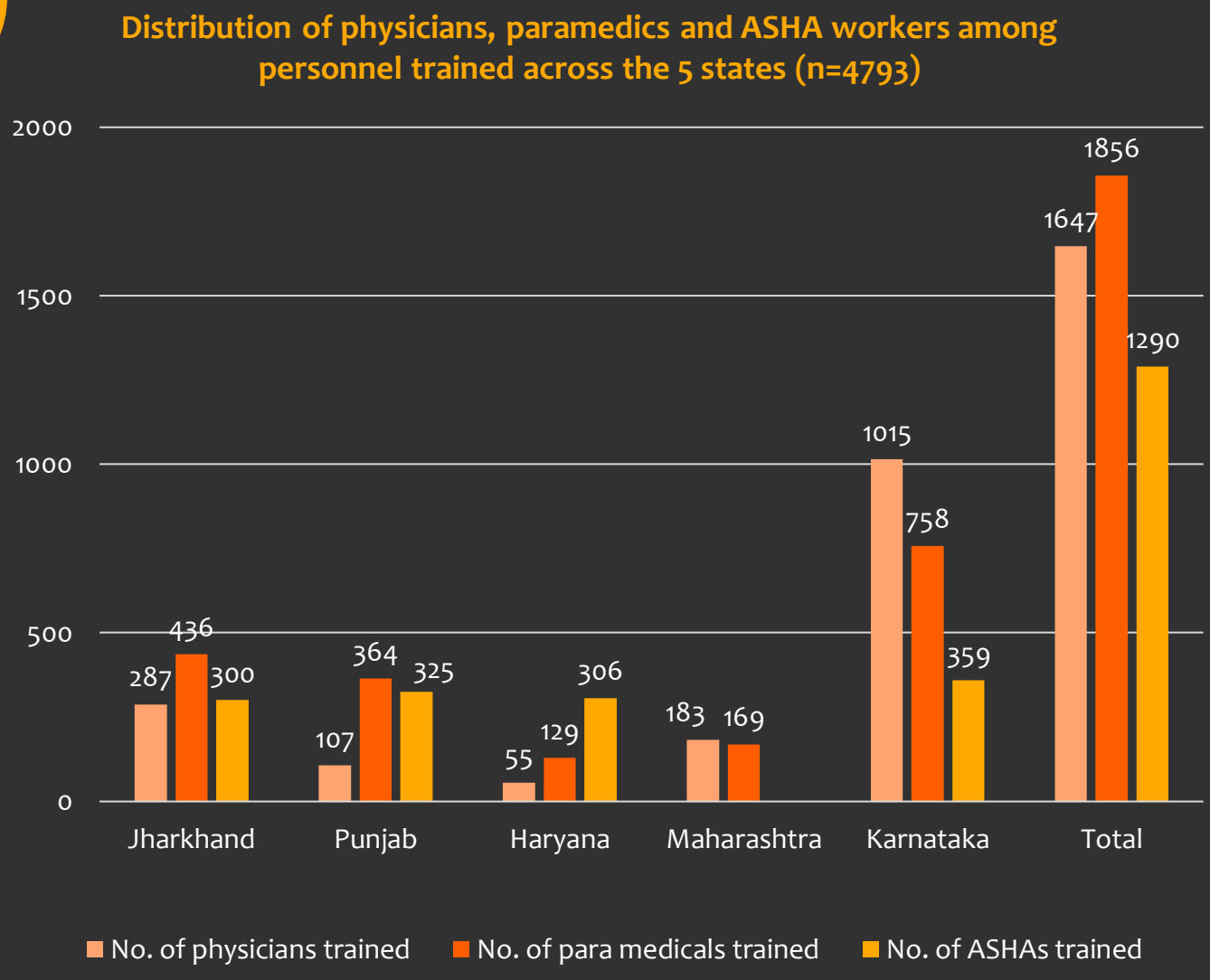


Figure: 3

The efficacy of the trainings were assessed using pre and post training tests:

Physicians: A 35% improvement in scores was noted among the trainees (average pre and post-test score: 49% and 66% respectively) when aggregated across the 5 states. All the states (except Haryana) had average pre-test scores below 50%. At post-test, the minimum average score among the states was 56%. Jharkhand demonstrated the greatest improvement by 51% (average pre-test score: 45%; post-test score: 68%). Haryana demonstrated the best average scores for both pre and post-tests, 60% and 78% respectively.

Paramedical staff: The average pre-test score was 39% and post-test score was 68% (for all 5 states aggregated) indicating 74% improvement. The maximum average pre-test score for any of the five states was 54%; at post-test, the scores were at least 60% for any state. Jharkhand demonstrated the greatest improvement by 140% (average pre-test score: 25%; post-test score: 60%). Haryana demonstrated the best post-test scores with an average of 78% correct.
Engaging with the ASHAs: Training of the ASHAs through Project SCREEN was a value addition to the original proposal. It strengthened the screening process since the ASHAs were often the first line contact with the health system for the community members. ASHAs and SCREEN community mobilizers worked hand-in-hand to mobilize the community to the screening camps. This also ensured hand-holding support to ASHAs and ANMs for confidently engaging with community using the videos and other counselling tools developed.

Intervention 2

Screening camps for NCDs

Scope:

- The screening activity was taken up to streamline, strengthen and support the state government's existing NCD program.
- The planning for NCD screening included site plan, deployment plan and pre and post screening activities, follow ups which was done closely with the government.
- Screening execution support was provided in terms of communication and monitoring tools, role clarity, counselling support, mobilize additional technical experts, onsite mentoring of health teams and resource leveraging with the government.

Activities:

- The screening activities were conducted on a resource-sharing basis with the district health administration. While the care providers and camp site were from the public health system, the detailed micro-planning and pre, during and post-screening processes were facilitated by SCREEN Project.
- Adults aged 30 years and above were screened at selected Primary Health Centres (PHC), Community Health Centre (CHC) and the Health and Wellness Centre (HWC). These facilities were identified by the district health administration.
- Individual were screened for body mass index, random blood sugar level, and blood pressure (systolic and diastolic levels), oral, breast and cervical cancer
- All individuals with deranged levels were counselled and referred to the nearest public health facility for confirmatory tests and follow up.

- All the NCD screening cards and referral slips were compiled, and data was managed by a dedicated person. Coverage was reported at the end of each screening day. Guidance and onsite counselling were also provided to the individuals and families regarding the prevention and control of NCDs. Additionally, participants were counselled for cancers (oral, breast and cervix).

SCREEN - Screening Camp Plan

Pre-Screening

- Ensuring adequacy of drugs and supplies and advising timely procurement, if needed
- Arranging and distributing information-education-communication (IEC) materials e.g., posters on prevention, management, and screening of NCD, WhatsApp videos for community sensitization and tools for health workers for effective mobilization were prepared
- Keeping screening cards and referral slips ready (These were prepared as part of the NCD toolkit and prototypes were handed over to the government for adaptation and translation)

During Screening

- Dedicated counters for registration and screenings was set up
- Arranging a dedicated team of health experts for screenings
- Supervisory visits by PPHF team and government officials for quality checks
- Local media and social media coverage were organized to escalate awareness in the community

Post-Screening

- Stock maintenance and proper waste disposal was ensured in all the screening sites.
- The screening data was submitted to respected districts and taken up by the district and state for monthly HMIS reporting.
- District-wise coverage and screening data was shared at the district and state level for all the 5 states to help them report on targets set for NPCDCS

Outcome: Between January 2018 and March 2019, Project SCREEN conducted 755 screening activities across 5 states, powered by pre-post mobilization of community. In these camps, 45112 adults were screened

Prevalence % (95% CI) of Non-Communicable Diseases and Pre-morbid Conditions among Individuals Attending the Screening Camps*

Condition#	PUNJAB		HARYANA		JHARKHAND	
	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN
N	1857	5105	1369	4198	2435	6481
Overweight	16.9 (15.2-18.6)	16.4 (15.4-17.4)	18.4 (16.4-20.5)	17.5 (16.4-18.7)	16.7 (15.3-18.2)	13.5 (12.7-14.4)
Pre-hypertension	10.3 (8.6-12.1)	09.7 (08.6-10.7)	18.6 (16.0-21.3)	17.6 (16.1-19.0)	16.9 (14.8-19.1)	14.1 (13.0-15.2)
Pre-Diabetes	14.3 (12.7-15.9)	13.1 (12.2-14.1)	10.6 (9.0-12.2)	10.1 (9.2-11.0)	13.0 (11.6-14.3)	12.1 (11.3-12.9)
Obese	45.6 (43.4-47.9)	46.9 (45.5-48.2)	34.4 (31.9-36.9)	41.5 (40.1-43.0)	19.7 (18.1-21.3)	15.5 (14.6-16.4)
Screen positive Hypertension	44.6 (41.7-47.4)	27.9 (26.4-29.4)	26.7 (23.8-29.7)	20.5 (19.0-22.0)	36.3 (33.6-39.0)	17.5 (16.3-18.7)
Screen positive Diabetes mellitus	10.2 (08.9-11.6)	10.3 (09.5-11.2)	03.9 (02.8-04.9)	04.2 (03.6-04.8)	02.9 (02.2-03.5)	02.7 (02.2-03.1)
Screen positive Oral Cancer	0.7 (0.3-1.1)	0.7 (0.5-1.0)	1.6 (0.9-2.3)	1.3 (1.0-1.7)	0.3 (0.19-0.32)	0.1 (0.0-0.8)
Screen positive Cervical Cancer	--------	1.6 (1.2-2.0)	--------	0.8 (0.5-1.0)	--------	0.8 (0.6-1.1)
Screen positive Breast Cancer	--------	0.7 (0.5-1.0)	--------	3.3 (2.6-3.9)	--------	1.2 (1.0-1.5)

*45112 individuals were screened. About 1.7% (n-756) data was lost during cleaning. The table reports information from 44356. Negative lower limit for the 95% confidence intervals have been truncated to zero. These are reported as per one-time screening results conducted as per Government of India's guidelines for population-based screening. Overweight – body mass index (BMI) 23.0-24.9; Obesity – BMI ≥ 25.0; Pre-hypertension – Systolic Blood Pressure (SBP) 120-139 and/ or Diastolic Blood Pressure (DBP) 80-89 mm Hg; Hypertension – SBP ≥140 and/ or DBP ≥ 90 mm Hg and/or on anti-hypertensive medication; Pre-diabetes – random blood sugar <140 mg/dl; Diabetes mellitus – random blood sugar 140 mg/dl and/or on anti-diabetic medication; the breast cancers were screened through physical examination for lumps,eczematous skin changes, nipple retractation, peau d'orange, ulcérations, lump in axilla etc.,visual acetic acid examination for cervical cancer, physical examination of mouth white patch that cannot be characterized as any other disease clinically or pathologically, Bright, velvety area sometimes surrounded by faint plaques which cannot be characterized as any other lesion clinically or pathologically

Prevalence % (95% CI) of Non-Communicable Diseases and Pre-morbid Conditions among Individuals Attending the Screening Camps*

Condition#	MAHARASHTRA		KARNATAKA	
	MEN	WOMEN	MEN	WOMEN
N	2162	3876	6097	10776
Overweight	17.7 (16.1-19.3)	16.9 (15.7-18.1)	19.0 (18.0-20.0)	18.3 (17.6-19.1)
Pre- hypertension	05.2 (04.0-06.4)	04.1 (03.3-04.8)	10.9 (09.9-11.9)	09.9 (09.2-10.6)
Pre-Diabetes	15.9 (14.4-17.5)	13.7 (12.6-14.8)	12.2 (11.4-13.0)	13.5 (12.8-14.1)
Obese	23.4 (21.6-25.2)	23.7 (22.3-25.0)	37.5 (36.3-38.7)	39.5 (38.6-40.4)
Screen positive Hypertension	20.6 (18.4-22.7)	17.8 (16.3-19.3)	21.6 (20.3-22.9)	19.2 (18.2-20.1)
Screen positive Diabetes mellitus	05.0 (04.1-05.9)	04.2 (03.5-04.8)	09.5 (08.7-10.2)	09.6 (09.1-10.2)
Screen positive Oral Cancer	0.8 (0.4-1.2)	0.4 (0.2-0.6)	0.8 (0.6-1.0)	0.7 (0.5-0.8)
Screen positive Cervical Cancer	--------	0.7 (0.4-1.0)	--------	1.3 (1.1-1.5)
Screen positive Breast Cancer	--------	0.1 (0.0-0.1)	--------	0.3 (0.2-0.5)

*45112 individuals were screened. About 1.7% (n-756) data was lost during cleaning. The table reports information from 44356. Negative lower limit for the 95% confidence intervals have been truncated to zero. These are reported as per one-time screening results conducted as per Government of India's guidelines for population-based screening. Overweight – body mass index (BMI) 23.0-24.9; Obesity – BMI ≥ 25.0; Pre-hypertension – Systolic Blood Pressure (SBP) 120-139 and/ or Diastolic Blood Pressure (DBP) 80-89 mm Hg; Hypertension – SBP ≥140 and/ or DBP ≥ 90 mm Hg and/or on anti-hypertensive medication; Pre-diabetes – random blood sugar <140 mg/dl; Diabetes mellitus – random blood sugar 140 mg/dl and/or on anti-diabetic medication; the breast cancers were screened through physical examination for lumps,eczematous skin changes, nipple retractation, peau d'orange, ulcérations, lump in axilla etc.,visual acetic acid examination for cervical cancer, physical examination of mouth white patch that cannot be characterized as any other disease clinically or pathologically, Bright, velvety area sometimes surrounded by faint plaques which cannot be characterized as any other lesion clinically or pathologically

Even as there were variations across the sites,

- The prevalence of NCDs was quite high both among men and women. These needed optimal management for prevention of complications

- Over 70% of the men and women had at least one NCD (either obesity, HTN or DM) with about 14% having two or more co-existing conditions.

- States are in epidemiologic transition for major NCDs: From the camp data, Punjab has high rates of obesity, HTN and DM; Haryana has high burden of obesity; Karnataka has high burden of obesity and DM. Haryana and Jharkhand have relatively low prevalence of DM. However, most states have high rates of pre-morbid conditions (which may or may not match with the rates of obesity, HTN and DM in respective states). This is indicative of the fact that States are in epidemiological transition. Early screening and intervention is warranted to counter progress from pre-morbid to morbid status.

- Pre-morbid conditions were also much prevalent in both the genders. This is impending doom – unless intervened, these will soon convert into florid NCDs and add to the burden.

- Cancer screening requires further efforts at capacity building of health care workers and in ensuring an appropriate camp set up. About 1% of the individuals attending the camps were screened positive for cancer. Rates varied across states – Punjab and Karnataka had higher rates of cervical cancer, Haryana for oral cancer, Haryana and Jharkhand for breast cancer. However, this is likely to be an underestimated – firstly, the evaluations were based risk profile (as per the CBAC); secondly, not everyone could be screened for breast and cervical cancer (in particular) as the camps could seldom ensure adequate privacy; thirdly, these require consistent capacity across the healthcare workers and hence, needed a longer and more intense training and supportive supervision.

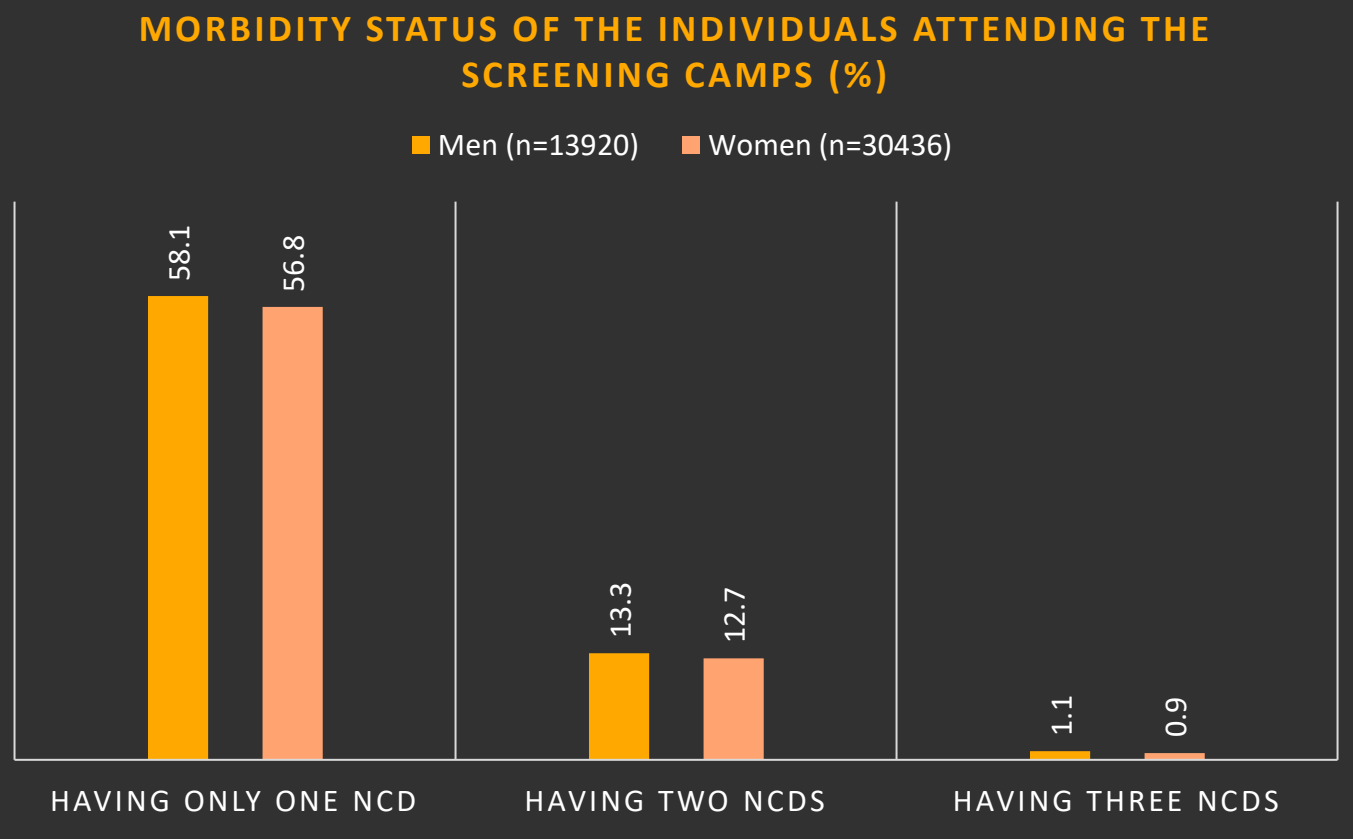


Figure: 4

Major learnings from SCREEN

India has policies and operational guidelines for NCDs but gaps exist on community level delivery of NCD services. Limited implementation experience exists for many NCDs. The SCREEN Project executed various factors (both demand and supply side) to improve the service delivery on NCDs. The project has identified certain program implementation gaps at the district, block and community level which if addressed can supplement the ongoing efforts at the district and community level, thereby driving meaningful change and impact in the fight against NCDs. SCREEN responded to the identified gaps in collaboration with government and provided innovative and contextual solutions on improving skills of health workers, community awareness and call to action for screening, facilitating screening camps, bridging the supply gaps and providing additional skilled human resources. The learnings of SCREEN provides insights on contextual and cross-cutting program experience and evidence for better programming and scaling.

SCREEN: Key Attainments

- Partnerships with Government to address the implementation gaps and create local evidence and solutions are leading to some sustainable and scalable approaches
- Partnership across 5 state governments (35 districts, 13 of which were PMJAY aspirational districts)
- Contributed to Ayushman Bharat Mission for strengthening primary healthcare delivery, tested incentivizing ASHAs for NCDs and leveraged resources
- Increased government fund allocations and effective utilisation within the state programme implementation planning (PIP)
- Created awareness in the community, bringing the people close to services, and aided to bridge the gaps in supplies and coordination with district authorities
- Created a blueprint for screening activities with clear definitions of the roles and responsibilities of the Community Health Workers/ Medical Officers/ Nurses (micro-planning)
- NCD program implementation tool kit: a comprehensive package of training manuals, job-aids and Information-Education-Communication (IEC) materials to support the implementors, planners, trainers and health workers. Many components have been adapted by state governments.
- Comprehensive IEC package developed and scaled at district and state level with media coverage
- Multiple health centres upgraded/ selected as Health and Wellness Centre
- Trained approximately 4793, government healthcare providers
- Screened 45112 people above 30 years of age. Screening data has been reported in state HMIS
- Honourable Minister of State from the Ministry of Health and Family Welfare, GOI released NCD Policy brief and Formative assessment report of SCREEN
- Multiple acknowledgements and forewords released by respective district and state governments
- Immense support received from the State NCD nodal officers. The project also attracted commitment from highest to lowest level
- Project and government authorities ensured cost leveraging for ensuring the regular supply and permanent changes in the system specially during the training and screening activities.

SCREEN Innovations

1. Training by a pool of medical experts, academicians, professionals working on NCDs, and supportive supervision
2. Comprehensive curriculum + interactive training sessions + adult participatory learning techniques + emphasis on interpersonal communication skills
3. Development of inclusive and customised NCD tool kit for personnel across levels of care and trainers
4. Alignment of Project SCREEN activities with NPCDCS priorities as identifed by the local health administration
5. Partnership with the health system with clear role rationalization and resource-sharing arrangements for supporting program implementation
6. Detailed micro-planning and data management for each camp followed by data submission to HMIS and feedback to system based stakeholders

Five lessons emerged from the SCREEN program:

1

Program Scalability & Sustainability: Overall, SCREEN contributed to improving the supplies, building personnel capacity, bringing the stakeholders on one platform for helping to meet the screening targets, and creating community awareness on NCDs. However, the project co-shared responsibilities with the Government (without implementing the programs for them but playing a rather facilitator role for sustainability and scalability of the program. There is a need to collaboratively address the system level challenges like slow response systems, frequent turnover of decision makers and program implementers, fostering Government interest in using evidence, availability of supplies, and medical specialist at the District and CHC level. Appropriate planning, coordination, monitoring and constant follow-up at each level within the system are essential to achieve NPCDCS objectives.

2

Engagement with government system: Mobilizing system and engaging the workforce at all levels needs to be expedited. This will help projects like SCREEN to focus more on strengthening the technical implementation rather than administrative processes. SCREEN provides insights on the need to allow adequate time for preparatory phase and adjust project expectations and ambitions accordingly. The project used existing government administrative arrangements, which led to a high level of institutionalization and capacity building but also caused meaningful delays; public-private partnerships takes time but helps to improve the quality and standards of program. It reaffirmed that state, district and local ownership of the program is an essential condition of sustainability, and stimulated transformation by combining greater emphasis on operating at scale with building the capacity to deliver. The participatory processes and facilitated dialogue can improve policy and support the efficient use of scarce public resources for NCDs by introducing results-based evidence into the decision-making process.

3

Resource Allocations: Resource planning is a key aspect of the program management as the success of a project is directly dependent on how the resources are allocated and how optimally they are used. The challenges related to unavailability and delay in resource availability such as personnel and supplies, and lack of infrastructure and appropriate settings (e.g. need for privacy for physical examination) impeded the screening services at some facilities. The shortage of essential equipment like ultrasound machines and electrocardiogram (ECG) at PHC and CHC levels often restricted the evaluation for cardiovascular diseases and cancers to only basic screening of blood pressure and broad level clinical assessments. SCREEN facilitated to arrange the essential equipment with alternative arrangements e.g., using resources available at the neighbouring facility.

4

Missing Interventions: SCREEN had several robust elements e.g., strengthening the primary care services was a crucial element to improve access to quality health care services, significant institutional strengthening and capacity building. Moreover, attention to promoting behaviour change (call to action for screening) of the population was an important investment. However, the project was very ambitious in its design and needed more time and resources. This was required especially to equip and engage providers at the primary care level on the importance of follow-up on the referred cases, and then define, measure, and monitor providers' performance in delivering continuous services to the screened population. In addition, the project could have included and tested technology for tracking and monitoring the outcomes and scaling demonstration phase to generate evidence to influence policy processes.

5

Unexpected Challenges: Due to COVID-19 pandemic, NCD program activities have slowed down. This shows that the health system needs to prepare against disruption of NCD services during disasters. This must be addressed through needful policy adaptations guiding for continuity of all health services during disasters.

Conclusion

Implementation of Project SCREEN in 35 districts across 5 states in India reinforces the population-based screening as a priority of the Government under NPCDCS. It demonstrated feasibility of undertaking training and screening activities even in the programmatically weak aspirational districts under PMJAY, thus highlighting the potential for scale-up.

The effectiveness of the trainings was demonstrated through the successful conduct of the screening camps. Efforts on capacity building will be more effective if supplemented with adequate supplies, infrastructure, resources, and incentives. Continuity of the trainings through refresher trainings and supportive supervision will further help in reinforcing and enhancing the abilities of the health workers. Preventing NCDs can be highly cost-effective but attribution of reductions in mortality and morbidity to project investments is complex and needs time to demonstrate.

Meanwhile, the experience should be disseminated to a wide range of stakeholders (e.g. governments, policy makers, academia, researchers) towards advocacy for sustenance and scale-up. The screening camps uncovered a huge burden of NCDs as well as of the pre-diseased states.

Unless strategically intervened with population-wide coverage, the health system and population health indicators will remain vulnerable. Efforts need to focus on identifying and managing people in pre-diseased state to prevent them from entering into florid diseased states. Follow up and regular review of disease progression for individuals newly diagnosed with NCD is very important to prevent them from complications and save the system from greater financial burden because complications management is expensive.

Evidence generated through this project indicates that screening camps for NCDs are feasible under the NPCDCS mandate with partner support. This can help in early intervention and consequent delaying the onset of the NCDs/ arresting the disease in its early stage, improving prognosis, and also possibly, in reducing catastrophic out-of-pocket expenditure. Engagement and leveraging the strengths of other stakeholder constituencies to support the public health system is essential for securing coverage for NCD services.

Project SCREEN can serve as a model to inform the design of programs and practices to combat NCDs, a rapidly growing health issue. The continuous support received by the project team from the state Governments during implementation was unanimously praised and acknowledged.

References

1. World Health Organisation. WHO | India: first to adapt the Global Monitoring Framework on noncommunicable diseases (NCDs) [Internet]. WHO. World Health Organization; [cited 2020 Jul 12]. Available from: https://www.who.int/features/2015/ncd-india/en/
2. COD-India-Report-2010-2013-Dec-19-2015.pdf [Internet]. [cited 2020 Jul 12]. Available from: http://www.cghr.org/wordpress/wp-content/uploads/COD-India-Report-2010-2013-Dec-19-2015.pdf
3. Nations within a nation: variations in epidemiological transition across the states of India, 1990â€“2016 in the Global Burden of Disease Study | Elsevier Enhanced Reader [Internet]. [cited 2020 Jul 12]. Available from: https://reader.elsevier.com/reader/sd/pii/S0140673617328040?token=24AF22F4AA690CFDFABDB078F5B357C8948C3F719FC87C1FE335BA6A62C24A13CF8259F9C836FF96ECE5757FB561D69F
4. Hypertension: The most important non communicable disease risk factor in India | Elsevier Enhanced Reader [Internet]. [cited 2020 Jul 12]. Available from: https://reader.elsevier.com/reader/sd/pii/S001948321730593X?token=DB6113D813884DD68B387AF0AF48883C83A1BDBD86C1CBB42698F2D77B1844E9AC266582DA1C919EE4590A8CE26316B2
5. Jose A, Prabhakaran D. World Hypertension Day: Contemporary issues faced in India. Indian J Med Res. 2019;149(5):567.
6. Tandon N, Anjana RM, Mohan V, Kaur T, Afshin A, Ong K, et al. The increasing burden of diabetes and variations among the states of India: the Global Burden of Disease Study 1990–2016. Lancet Glob Health. 2018 Dec 1;6(12):e1352–62.
7. Geldsetzer P, Manne-Goehler J, Theilmann M, Davies JI, Awasthi A, Vollmer S, et al. Diabetes and Hypertension in India. JAMA Intern Med. 2018 Mar;178(3):363–72.

About Implementation Notes

The SCREEN Implementation Notes summarize experiences related to how specific NCD interventions or programs are delivered.

Authors:

Technical team: Megha Gupta, Shikha Shukla, Cheena Malhotra, Laxmikant Palo

Project implementation team: Balbeer Singh (Punjab and Haryana), Vikas Choudhary (Jharkhand), Ajay Pal (Karnataka), Abhilasha W Shirsat (Maharashtra)

Synthesis and draft preparation team: GRID Council (Ritika Mukherjee, Sabyasachi Behera, Priyanka Pawar, Rachit Sharma, Archisman Mohapatra)

Contributors:

S Rajan, Communications Head, India & South Asia, Wipro GE Healthcare

Landline: +91 11 4352 3008

Log Onto: www.pphf.in

Address: K-40, 3rd floor, Jangpura Extension, New Delhi 110014

PPHF
PEOPLE TO PEOPLE HEALTH FOUNDATION