CHAPTER 05

Disease Control Programmes [NHM]

5.1 INTRODUCTION

Several National Health Programmes such as the National Vector Borne Disease Control Programme, National Leprosy Eradication Programme, Revised National TB Control Programme, National Blindness Control Programme and Iodine Deficiency Disorder Control Programme have come under the umbrella of National Health Mission (NHM).

5.2 NATIONAL VECTOR BORNE DISEASE CONTROL PROGRAMME (NVBDCP)

The National Vector Borne Disease Control Programme (NVBDCP) is an umbrella programme for prevention and control of vector borne diseases viz. Malaria, Japanese Encephalitis (JE), Dengue, Chikungunya, Kala-azar and Lymphatic Filariasis. Out of these six diseases, three diseases namely Kala-azar, Lymphatic Filariasis and malaria have been targeted for elimination. The States are responsible for implementation of programme, whereas the Directorate of NVBDCP, Delhi provides technical assistance, policies and assistance to the States in the form of cash & commodity, as per approved pattern. Malaria, Filaria, Japanese Encephalitis, Dengue and Chikungunya are transmitted by mosquitoes and Kala-azar is transmitted by sand-flies. The transmission of vector borne diseases depends on prevalence of infective vectors and human-vector contact, which is further influenced by various factors such as climate, sleeping habits of human, density and biting of vectors etc.

The general strategy for prevention and control of vector borne diseases under NVBDCP is described below:

(i) **Integrated Vector Management** including Indoor Residual Spraying (IRS) in selected high risk areas, Long Lasting Insecticidal Nets (LLINs), use of larvivorous fish, anti-larval measures in urban areas including bio-larvicides and minor environmental engineering including source reduction.

(ii) **Disease Management** including early case detection with active, passive and sentinel surveillance and complete effective treatment, strengthening of referral services, epidemic preparedness and rapid response.

(iii) **Supportive Interventions** including Behaviour Change Communication (BCC), Inter-sectoral Convergence, Human Resource Development through capacity building.

(iv) **Vaccination** only against J.E.

(v) **Annual Mass Drugs Administration** in respect of Lymphatic Filariasis.

5.2.1 Malaria

Malaria is an acute parasitic illness mainly caused by Plasmodium vivax (Pv) and Plasmodium falciparum (Pf) in India. However sporadic cases of P.malariae and P.ovale are also reported. The diagnosis is confirmed by microscopic examination of a blood smear and Rapid Diagnostic Tests. Majority of the patients recover from the acute episode within a week. Malaria continues to pose a major public health threat in different parts of the country, particularly due to Plasmodium falciparum as it is sometimes prone to develop severity and death, if not treated early. There are reports of P.knowlesi also by ICMR in Andaman and Nicobar Islands. The presence of multiple vectors in different eco-types adds to the complexity of malaria transmission.

Epidemiological Situation

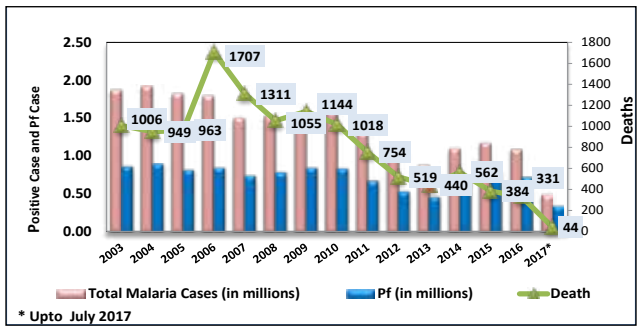
The data on malaria surveillance is generated at village/sub-centre level, which are compiled at PHC/ Block Level & sent to Districts. Districts in turn submit the PHC wise data to State from where it is

compiled district-wise & transmitted to Directorate of NVBDCP.

The trend (Fig.1) shows that the malaria cases have consistently declined from 1.87 million to 0.49 million during 2003 to 2017 (till July). Similarly Pf cases have declined from 0.86 to 0.34 million cases during the same period. This indicates declining trend of overall endemicity of malaria in the country.

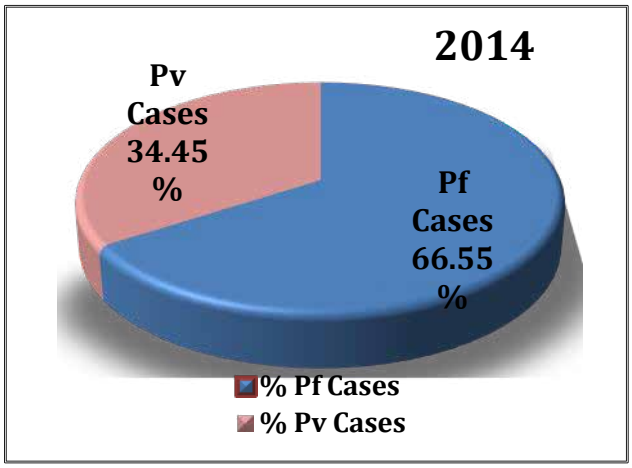
Out of total malaria cases reported between 2003 and 2017, half the number of cases was caused due to P. falciparum. Deaths due to malaria declined steadily from 2009-2016, but showed an increase in 2014 as per reports received from States/UTs. Surveillance has steadily increased from 2008-2017 but still remains below the desirable level of ABER equal to 10%.

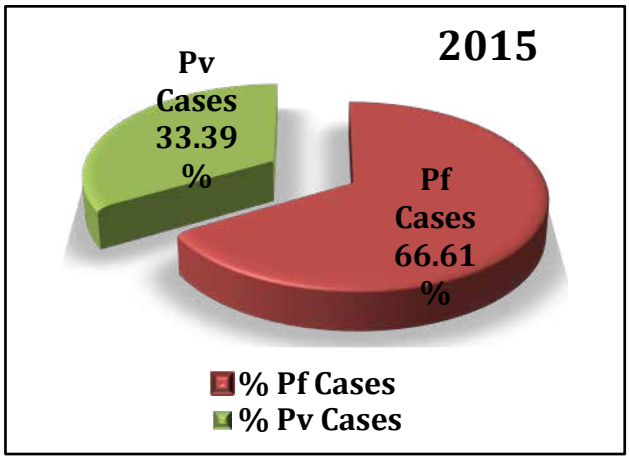
Fig.1: Malaria Situation in the country during 2003-2017*

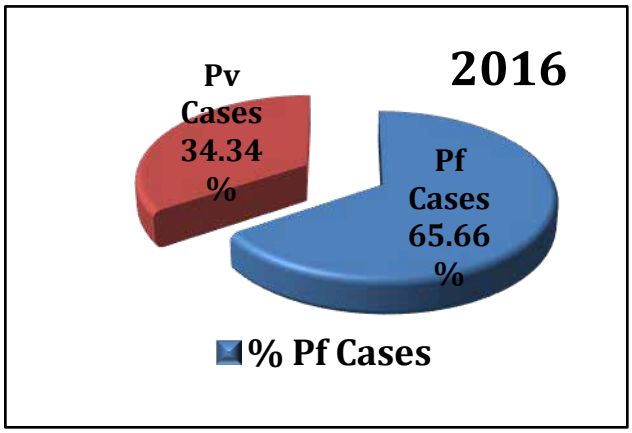


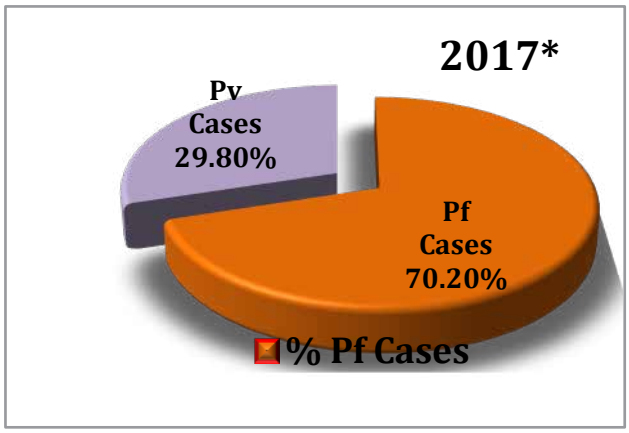
As depicted above, there has been a 77.99% reduction in total malaria cases, 60.19% reduction in Pf cases and 95.63% reduction in deaths in 2017 (till July) as compared to 2003. The proportion of Pf cases and Pv cases out of total malaria cases during the last four years is shown in Fig. 2 below:

Fig.2: Proportion of Pf and Pv cases from 2014-17* (Provisional)







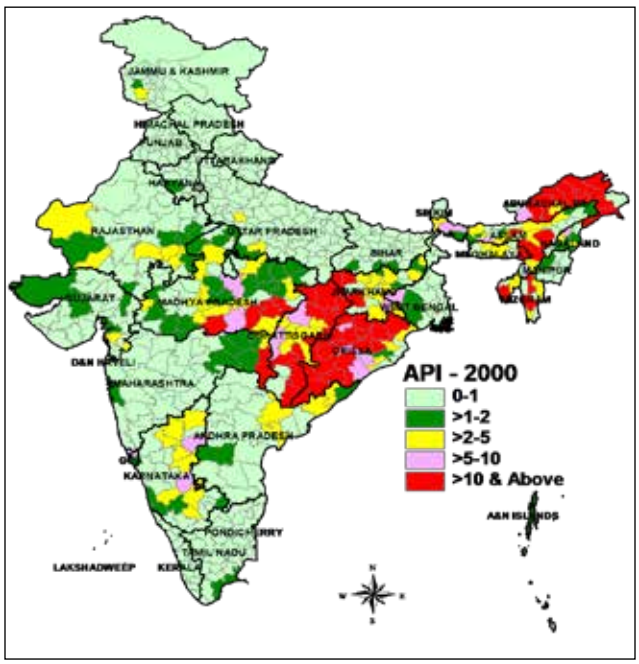


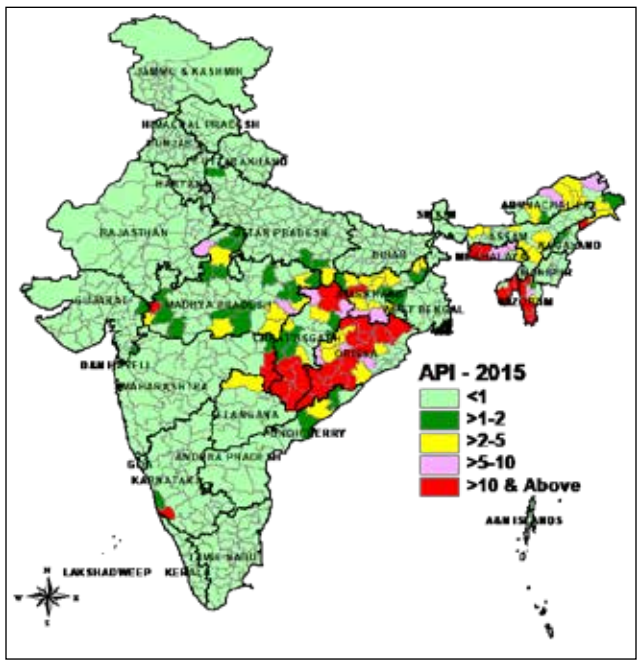
Further analysis of malaria incidence from 2013-16 has been done and State/UTs have been classified in different categories based on Annual Parasite Incidence (API) (annual cases per thousand population). The results are indicated in below:

Stratification of Districts based on API

Sl. No.	API	2013		2014		2015		2016	
		No.	%	No.	%	No.	%	No.	%
1	API > 10 (10.1 & more)	25	3.73	39	6.02	37	5.69	29	4.41
2	API 5 To 10 (5.1-10)	26	3.88	24	3.70	18	2.77	17	2.59
3	API 2 To 5 (2.1-4.99)	45	6.72	47	7.25	52	8.00	42	6.39
4	API 1 To 2 (1-1.99)	58	8.66	35	5.40	44	6.77	38	5.78
5	API <= 1 (0-.99)	516	77.01	503	77.62	499	76.77	531	80.82
	Total	**670**		**648**		**650**		**657**	

Fig. 3: Comparative status (2013 Vs 2016) of distribution of districts based on API





(I) Global Fund Supported Malaria Control Project 3

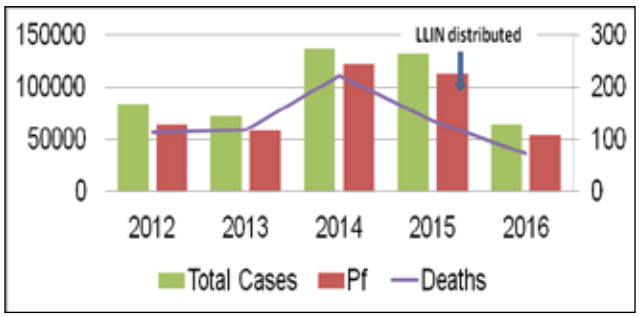
Currently, Intensified Malaria Control Project-3 (IMCP-3) of Global Fund to fight AIDS, Tuberculosis & Malaria is being implemented from October, 2015 to December, 2017 in 7 North Eastern and Odisha covering a population of approx. 90 million with financial support of 107.45 Million USD. Over and above, Global Fund has also approved additional budget of 0.6 million for the State of Jharkhand & Chhattisgarh as an Incentive Funding. The

achievement under IMCP-3 is detailed below:

The Global Fund supported IMCP-3 for consolidation of efforts in seven NE States (Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Tripura and Odisha). Global Fund supported for LLINs, trained manpower, monitoring & supervision including mobility support, early diagnosis and complete treatment (EDCT), leading to substantial reduction in morbidity and mortality. A total of 7.24 million LLINs have been distributed in 7 NE States through mass campaign in 2015-2016 for universal coverage of all sub centers with API > 1. Total malaria cases declined in 2016 by 51% compared to 2015 & by 23% compared to 2012. Total malaria deaths declined in 2016 by 52% compared to 2015 % by 42% compared to 2012. IMCP-3 is also covering Odisha from October 2015 with the supply of 11.34 million LLIN of all Sub centers with API > 1.

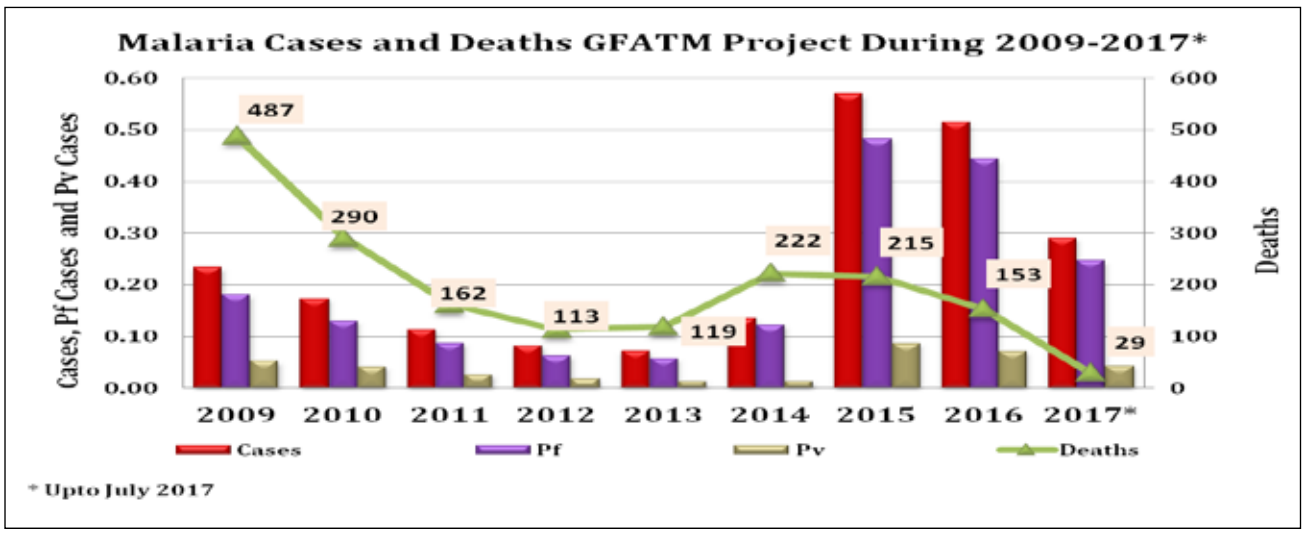
Earlier, the Global Fund supported the IMCP-I and II, thereby extending continuous support to the programme since July 2005.

Fig.4 Trend of Malaria in 7 NE States, 2012-16



An aggressive scaling up of following interventions and intensification of malaria control activities through innovative approaches supported by Global fund in IMCP-3 led to substantial decrease in mortality and morbidity in these 8 high endemic States.

- Continuing HR support in currently covered project areas has helped in sustaining the targets achieved.
- Capacity building for better monitoring and supervision and for establishing & sustaining a robust Health/Logistic Management Information system.
- Incentive based surveillance, early diagnosis and complete treatment by involvement of ASHAs in Passive case search.
- In order to sustain the progress and scale up of interventions further, Consultants are placed at National, State and District level at 7 NE States and Odisha.
- Malaria Technical Supervisors (MTS) are being positioned at block level to support all supervision and monitoring activities in the periphery, in addition to other cadres like the Laboratory Technicians (LTs) (including those in Sentinel Sites).
- Project Management Units at Central, Regional & District levels of PR2 have been established and functioning including Field Supervisor (1 per 15-16 villages).



The number of districts with API<1 has almost doubled from 25 in 2009 to 47 in 2015, indicating a shrinking malaria map in these States.

Post distribution- mother & baby with bed nets (Tripura)

ASHA Training for distribution of LLIN (Arunachal Pradesh)

NVBDCP is confident of successfully pursuing malaria pre-elimination agenda, by further intensifying control and progressively advancing towards such paradigm shift by 2017, working together with other stakeholders with shared responsibilities and effective engagement.

National framework for malaria elimination in India 2016-2030

Encouraged by the success achieved in malaria control in recent years, the vision of India's malaria control programme has now shifted to sustained malaria elimination to contribute more effectively to improved health and quality of life of the people. The National Framework for malaria elimination in India 2016-2030 was launched in February, 2016.

Objectives

The National framework for malaria elimination in India has formulated the following objectives:

- By 2022, transmission of malaria interrupted and zero indigenous cases attained in all 26 States/UTs that were under Categories 1 and 2 in 2014;
- By 2024, incidence of malaria reduced to less than 1 case per 1000 population in all States and UTs, and their districts;
- By 2027, indigenous transmission of malaria interrupted in all States and UTs of India; and
- By 2030, malaria eliminated throughout the entire country and re-establishment of transmission prevented.

Programme phasing

Malaria elimination in India will be carried out in a phased manner because the various States/UTs have different levels of malaria burden. While some low burden States are in a position to plan action for malaria elimination right now, the high burden States will need to reduce the malaria burden first before proceeding towards elimination. Therefore, States and UTs have been categorized into phases, based on their API as primary criterion with due consideration given to ABER and SPR as secondary criteria. The categorization is given in Table-1.

Table-1: Classification of States/UTs for malaria elimination in India

Category	Definition
Category 0 Prevention of re-establishment phase	States/UTs with zero indigenous cases of malaria (Currently, no State/UT)
Category 1 Elimination phase	States/UTs with API less than one, and all their districts reporting API < 1 (15 States/ UTs)
Category 2 Pre-elimination phase	States/UTs with API < 1, but some of their districts reporting API ≥ 1 (11 States)
Category 3 Intensified control phase	States/UTs with API ≥ 1 (10 States/UTs)

Focus on high-endemic areas and tribal population

Most of the malaria cases in India are reported from Odisha, Chhattisgarh, Madhya Pradesh, Jharkhand, Maharashtra, Meghalaya, Uttar Pradesh, Gujarat, Tripura and Mizoram. The high incidence in these States is particularly noted in tribal populations living in foothills, forested or conflict-affected areas.

The malaria programme plans to rapidly scale up interventions in these areas along with innovative strategies and strong partnerships to speedily reduce malaria morbidity and mortality.

District as the unit of planning and implementation

States and UTs should categorize their districts so that even if the given State/UT is not yet in the elimination phase, their districts with API < 1 could be considered eligible for initiating elimination phase activities. In addition, each district may sub-categorize its blocks into different phases based on their API; and further, each block into its PHCs, PHC into SCs and SC to villages. This would facilitate some category 2 districts to start elimination activities in their blocks falling in category 1. Stratification may be done in this manner up to the sub-centre level.

Release of Operational Manual for Malaria Elimination by DGHS

5.2.2 Dengue

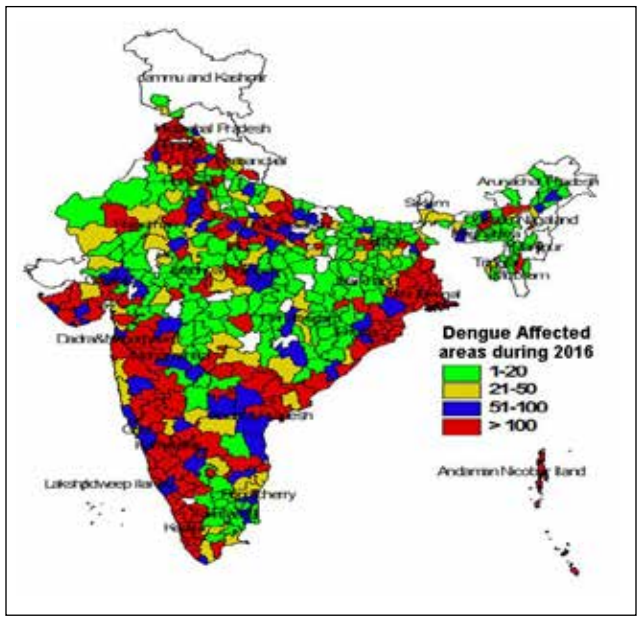
Dengue is a fast spreading outbreak prone arboviral disease and has become one of the major public health concerns in the country with rapid geographical expansion to new eco-epidemiological localities. The risk of dengue has shown an increase in recent years due to demographic and societal changes such as unplanned and uncontrolled urbanization and concurrent population growth which has put severe constraints on civic amenities, particularly water supply and solid waste disposal; thereby increasing the breeding potential of the vector species. In recent years, the disease is spreading to rural areas due to ecological and socio-economic/societal changes allowing vector proliferation.

Dengue Fever is transmitted by Aedes mosquito which is a day biting mosquito and prefers to rest in hard to find dark areas inside the houses. Aedes aegypti is the principal vector; however, at present Ae. albopictus, has also been reported to play a role in Southern and NE States. Breeding habitats of both the vectors vary in different parts of the country.

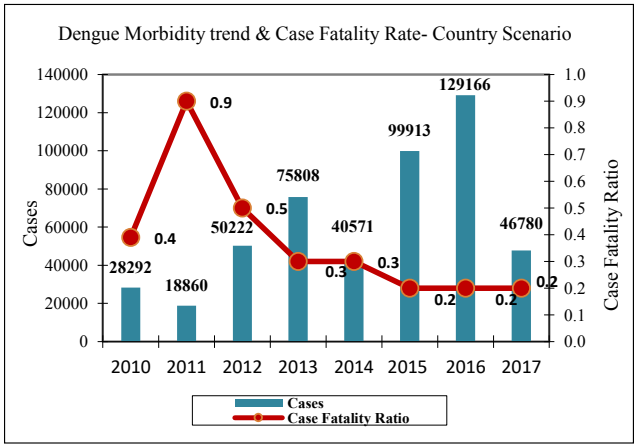
There is no drug available to cure the Dengue infection as on date. Cases are managed symptomatically. Though a tetravalent vaccine has been developed and trialed in some countries, at present no vaccine is for prevention of dengue under the Programme.

Disease Burden

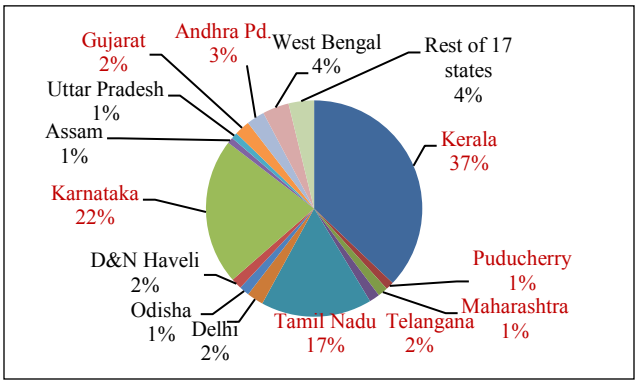
Dengue is endemic in 29 States and 6 UTs (except Lakshadweep). Recurring outbreaks of Dengue have been reported from Andhra Pradesh, Assam, Delhi, Goa, Haryana, Gujarat, Karnataka, Kerala, Maharashtra, Odisha, Puducherry, Punjab, Rajasthan, Tamil Nadu, Telangana, Uttar Pradesh and West Bengal.



Every year during the period of July-November, there is an upsurge in the cases of Dengue in northern parts of the country. However, in the Southern and Western parts of the country, the disease has become perennial.



During 2016, a total of 1,29,166 cases and 245 deaths were reported from 29 States and 6 UTs, whereas, in 2017 till 31st August, a total of 46,780 cases and 76 deaths were reported from 29 States and 6 UTs. Maximum cases were reported from Kerala (17,449) followed by Karnataka (10,253), Tamil Nadu (7,705), West Bengal (1,883), Andhra Pradesh (1,285), Gujarat (1,092), Delhi (945), Maharashtra (718), Odisha (670) and Puducherry (582). Maximum deaths are reported from Kerala (35) followed by Uttar Pradesh (19), Karnataka (5), 4 each from Madhya Pradesh & West Bengal, 3 each from Maharashtra & Odisha and one each from Delhi, Haryana and Tamil Nadu.The Case Fatality Ratio (CFR, deaths per 100 cases) which was 3.3 % in 1996 has come down to 0.3% in 2014, 0.2% in 2015 & 2016 and 0.1% in 2017 (till 31st August) because of better management of Dengue cases. The State-wise dengue situation during 2016 and 2017 (till 31st August):

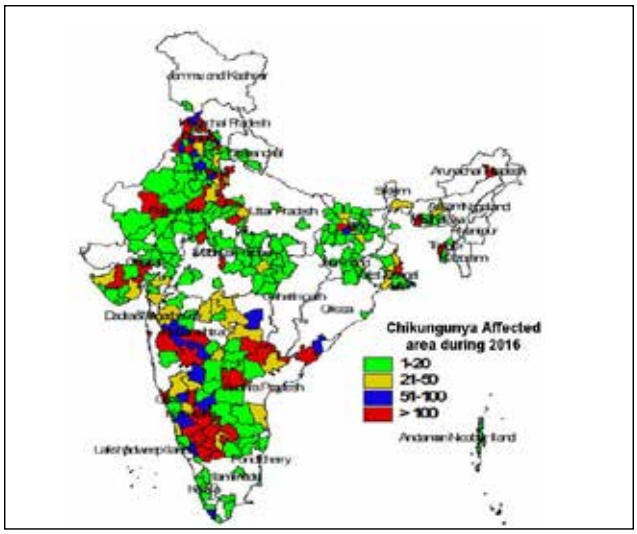


5.2.3 Chikungunya

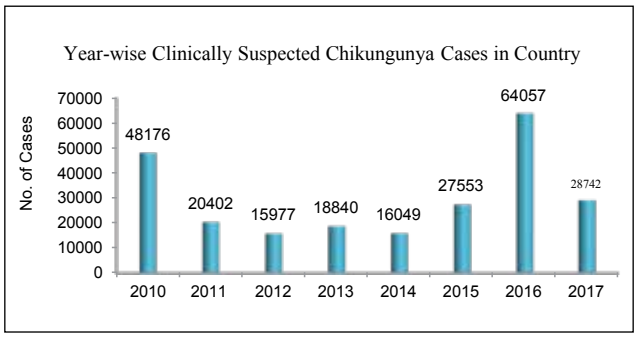
Chikungunya is a debilitating viral illness caused by Chikungunya virus. The disease re-emerged in the country after a gap of almost three decades. Chikungunya outbreaks typically result in large number of cases but deaths are rarely encountered. This disease is also transmitted by Aedes mosquito, both Ae. aegypti and Ae. albopictus can transmit the disease. Symptoms of Chikungunya fever are most often clinically indistinguishable from those observed in dengue fever. However, unlike dengue, haemmorrhagic manifestations are rare and shock is not observed in Chikungunya virus infection. It is characterized by fever with severe joint pain (arthralgia) and rash. Joint pains sometimes persist for a long time even after the disease is cured. There is neither any vaccine nor drugs available to cure the Chikungunya and the cases are managed symptomatically.

Disease Burden

After re-emergence of Chikungunya in 2006 clinically suspected Chikungunya cases gradually declined till 2014. However, due to the report of increased numbers of cases by few States, the disease shows an upward trend in 2015 (Karnataka) and 2016 (Delhi and nearby States). Currently, Chikungunya is endemic in 24 States and 6 UTs. During 2016, a total of 64057 suspected Chikungunya cases were reported from 28 States, whereas in 2017 (till 31st August), a total no. of 28742 clinically suspected Chikungunya cases were reported from 25 States/UTs. The maximum cases



were reported from Karnataka (18093) followed by Gujarat (3027), Maharashtra (2618), Punjab (993). The year-wise Chikungunya situation from 2010 to 2017 (till 31st August):



Control Strategy for Dengue and Chikungunya

As both Dengue and Chikungunya are transmitted by the same vector mosquito, programme strategies are also same for both the diseases. In the absence of vaccine or specific drug against Dengue and Chikungunya infection, the control strategy mainly focuses on control of the vector mosquito. Elimination of the breeding sites of the vector mosquito at all levels, including individuals and community, is the only sustainable way to keep both the diseases under control.

Emphasizing the role of community in Dengue Control a strategy document has been developed and shared with the States to strategize on Effective Community Participation and implement community-based programmes (also uploaded in the NVBDCP website www.nvbdcp.gov.in).

For case management of both the diseases, National Guidelines were developed and shared with the States for wider circulation also uploaded in the NVBDCP website www.nvbdcp.gov.in.

Activities carried out by Centre in 2017

During 2017, for prevention and control of Dengue and Chikungunya in the Country following activities were undertaken:

Dengue notifiable disease: States have been requested to declare Dengue as notifiable disease by MOHFW vide letter No.7-165/2016/NVBDCP/DEN dated 9th June, 2016 and the same has been uploaded on the NVBDCP website for taking action accordingly by all the States and UT's. Dengue is notifiable at present in 14 States (Andhra Pradesh, Chandigarh, D&N Haveli, Delhi, Goa, Himachal Pradesh, Karnataka, Kerala, Maharashtra, Manipur, Odisha, Punjab, Tamil Nadu and Uttar Pradesh).

➢ **Diagnosis**

Strengthening of diagnostic facilities: For augmenting diagnostic facilities, numbers of Sentinel Surveillance Hospitals (SSHs) with laboratory support has been increased to 608 across the country in 2017 from 110 in 2007 and linked with 16 Apex Referral laboratories (ARLs) with advanced diagnostic facilities for back up support for Dengue and Chikungunya.

Kit supply: IgM test kits are provided to these institutes through National Institute of Virology, Pune. Cost is borne by NVBDCP. In 2017 (till 31st August), a total no. of 3896 Dengue (1 kit= 96 tests) and 1246 Chikungunya kits were provided by GoI to the SSHs and ARLs across the country. ELISA based NS1 test for early detection of cases from 1st day of disease, is a decentralized item, for which funds are provided to the states under PIP for procurement as per the technical guidelines provided by NVBDCP.

Funding to SSHs and ARLs: Annual Contingency grants to each SSH (@ Rs. 1.00 Lakh) and ARL (@ Rs. 3.00 Lakhs) are provided through State to meet the operational cost.

➢ **Reviews Meetings/Video Conferences/ Trainings/Advisories/Field Visits**

Periodic Reviews for Dengue and Chikungunya were carried out by Union Health Minister. The disease situation was also reviewed at the levels of Secretary (HFW), DGHS and other at senior levels. Sensitization meeting with Municipal Corporation officers for Vector Borne Diseases and Mosquito Control Mission with special emphasis on Dengue held on under the chairmanship of Principal Advisor, Dte.GHS. Director, NVBDCP held a meeting with SPO Delhi and Municipal Health Officers to review the situation and way forward in context of the directions given by Hon'ble High Court of Delhi. Secretary (HFW) reviewed Dengue and Chikungunya twice with States/UTs through Video Conference.

Advisories were also sent to States/UTs by MoHFW from time to time. Central Teams also visited State/ UTs like Gujarat, Kerala, Karnataka and West Bengal to assess the situation and to provide technical guidance for prevention and control of these disease.

Hon'ble HFM reviewed Dengue and Chikungunya situation in Delhi with Health Minister of Delhi and Mayors of DMCs

❖ **IEC/BCC**

Focused IEC/BCC activities were carried out to generate awareness of the community:

- Observation of National Dengue Day (NDD)
  - Union Health Minister inaugurated the 'National Dengue Day' at AIIMS, New Delhi on 16th May, 2017 which was celebrated across the country emphasizing on initiation of pre-monsoon preventive activities.

During celebration of National Dengue Day, at AIIMS, New Delhi a stall was organized to disseminate information on Dengue for sensitizing participants.

National guideline on effective Community Participation released by Hon'ble Union Minister for Health & FW Shri J.P. Nadda on National Dengue Day on 16th May, 2017

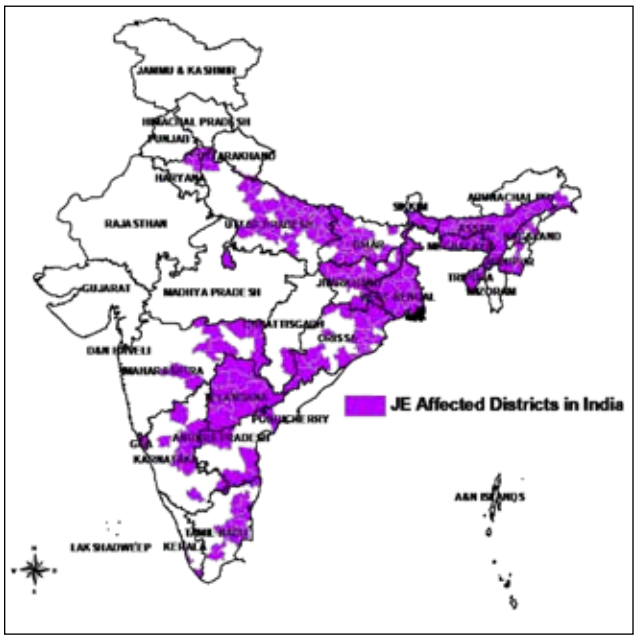
IEC campaign broadcast

- Broadcast through All India radio 182 FM channel a 96 community radio and 67 satellite channels on Dengue and Chikungunya prevention and control from 6th June, 2017.
- Audio Visual Campaign on Dengue Sign and Symptoms telecasted & broadcasted through 68 satellite channels, 233 FM Radio & 96 Community Radio Stations, Doordarshan and All India Radio (Prasar Bharti) w.e.f. 22nd July, 2017.
- Participation in TV discussions (electronic media) for dissemination of knowledge to public about Dengue & Chikungunya, by senior MoHFW officers.

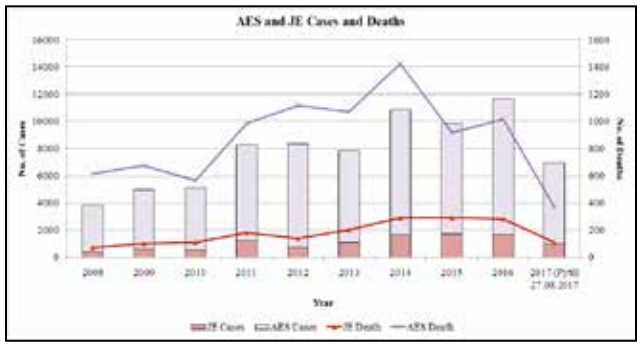
5.2.4 Japanese Encephalitis

Japanese Encephalitis (JE) is a zoonotic disease which is transmitted by vector mosquito mainly belonging to Culex vishnui group. The transmission cycle is maintained in the nature by animal reservoirs of JE virus like pigs and water birds. Man is the dead end host, i.e. JE is not transmitted from one infected person to other. Outbreaks are common in those areas where there is close interaction between pigs/birds and human beings. The vectors of JE breed in large water bodies rich in aquatic vegetations such as paddy fields. The population at risk is about 375 million.

JE is reported under the umbrella of Acute Encephalitis Syndrome (AES). Therefore, the data reported from States are for total AES including JE cases.



Epidemiological Situation: JE has been reported from different parts of the country. The disease is endemic in 22 States of which Assam, Bihar, Tamil Nadu, Uttar Pradesh and West Bengal have been reporting more than 80% of disease burden. During 2016, 11651 AES cases and 1301 deaths including 1676 JE cases and 283 deaths have been reported from the States. During 2017 (till 27.08.2017) 6939 AES cases and 482 deaths including 1015 JE cases and 109 deaths have been reported from the States.



Vaccination

There is no specific cure for this disease. Symptomatic and early case management is very important to minimize risk of death and complications. Government of India launched JE vaccination campaign in 2006 with single dose live attenuated JE (SA- 14-14-2) for children between 1 and 15 years of age which is followed by two doses under Routine Immunization (RI) at the age of 9 and 16-24 months respectively since 2013 to cover the new cohorts. Till July, 2017, out of 231 JE endemic districts, 207 (89.6%) have been brought under JE vaccination.

Adult JE vaccination has been completed in 31 identified districts of Assam, Uttar Pradesh and West Bengal.

Sentinel Sites

The number of Sentinel sites have gradually been increased from 51 to 131. JE test kit (MAC ELISA) is supplied free of cost to the endemic States. Number of Apex Laboratories has been increased from 12 to 15 for testing non JE pathogens from AES cases.

405 JE Kits have been supplied in 2017 (till 28.08.2017). 502 kits were supplied in 2016.

In addition, implementation of public health measures such as, Social Mobilization through different media, inter-personal communication, etc. for disseminating appropriate messages in the community is crucial. The emphasis is given on keeping pigs away from human dwellings or in pigsties particularly during dusk to dawn which is the biting time of vector mosquitoes. Sensitization of the community regarding avoidance of man-mosquito contact by using bet nets and fully covering the body are also advocated. Since early reporting of cases is crucial to avoid any complication

and mortality, community is given full information about the signs and symptoms as well as availability of health services at health centres/hospitals. Besides, the States are advised fogging with Malathion (technical) as an outbreak control measure in the affected areas.

National Programme for Prevention and Control of JE/AES

The main thrust is on an integrated approach for strengthening prevention and control measures in 60 high priority districts in States of Assam, Bihar, Uttar Pradesh, West Bengal and Tamil Nadu, with involvement of following Ministries:

Ministry of Health & Family Welfare as the nodal Ministry, Ministry of Drinking Water & Sanitation, Ministry of Housing and Urban Poverty Alleviation, Ministry of Women & Child Development, Ministry of Social Justice & Empowerment, Ministry of Human Resource Development (Department of School Education).

The major thrust areas are:

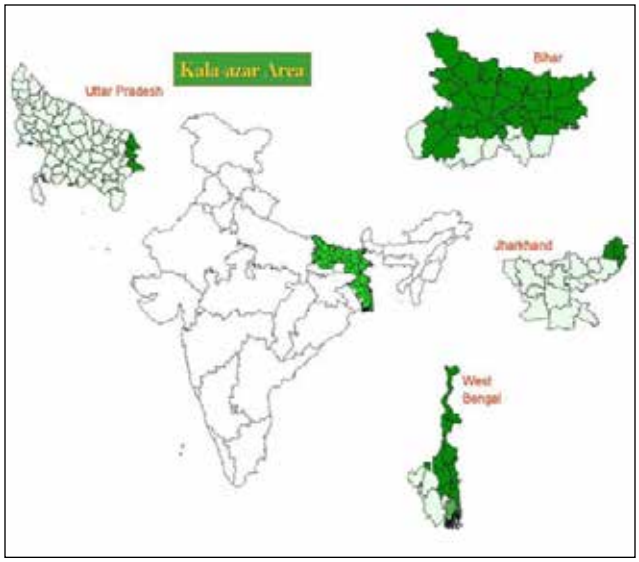
- Strengthening public health measures,
- Establishment of Paediatrics ICUs in 60 district hospitals,
- Establishing PMR in 10 different medical colleges across 5 States,
- Providing safe drinking water, sanitation in rural and slum areas,
- Setting up of District Rehabilitation and counseling centers in 60 identified districts,
- Improving the nutritional status of the children in endemic areas,
- Involvement of ASHAs for helping in early referral of encephalitis cases.

5.2.5 Kala-azar

Kala-azar or Visceral Leishmaniasis is a complex disease, called leishmaniasis and is caused by the trypanosomatid parasite Leishmania donovani. In the Indian sub-continent, it is transmitted by the sand fly, Phlebotomus argentipes. The disease presents with symptoms of fever of long duration (more than two weeks) with splenomegaly, anaemia and progressive weight loss. In endemic areas, children and young adults are its principal victims. Without timely treatment the disease is fatal.

Kala-azar is at present endemic in 54 districts of which 33 districts are in Bihar, 4 districts in Jharkhand, 11 districts in West Bengal and 6 districts in Uttar Pradesh. Kala-azar cases declined from 44,533 cases in 2007 to 33,187 cases in 2011. In 2011, the number of deaths (80 deaths) was reduced significantly in comparison to the year 2007 (203 deaths). Since 2012, there is continuing decline in kala-azar cases and deaths. In 2016, 6249 cases of Kala-azar (reduction of 70%) and no deaths were reported in comparison with 20600 cases and 29 deaths reported in 2012. A similar trend is being observed in 2017 with no deaths as reported by States and declining number of Kala-azar cases.

In 2016, out of 633 block PHCs, 539 (85%) have reported Kala-azar cases less than 1 per 10,000 population at block PHC level. Currently cases of Kala-azar are being treated with single dose of Ambisome injection, which can be administered in one day. There is provision of incentive for Kala-azar cases upon completion of treatment. There is also provision of honorarium for ASHA @ Rs.300/- for referring a suspected case and ensuring complete treatment and Rs.200/- during Indoor Residual Spray for generating awareness among the community. The use of DDT insecticide has been substituted by more potent Synthetic Pyrethorid and hand compression pumps have replaced the traditional stirrup pumps used earlier.



The National Health Policy (2002) envisaged the Elimination of Kala-azar by 2010 in the country by bringing the incidence of Kala-azar less than one case per 10,000 population at the block PHC level which has been revised to 2015 and further revised to 2017 or earlier during "Health Sector" review held on 14th March, 2016.

Under the elimination programme, the Central Government provides 100% operational costs to the State Governments, besides anti-Kala-azar medicines, drugs and insecticides.

To achieve the goal of elimination, the following objectives and strategies have been outlined:

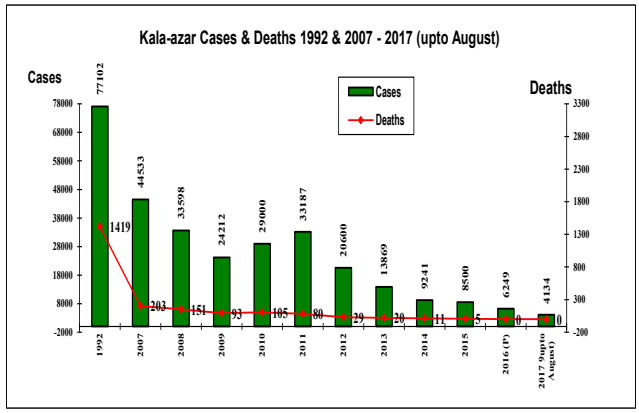
Objectives

- Reducing the incidence of Kala-azar in the endemic communities including the poor, vulnerable and un-reached populations.
- Reducing case fatality rates due to Kala-azar.
- Treatment of Post Kala Azar Dermal Leishmaniasis (PKDL) to reduce the parasite reservoir.
- Prevention and treatment of Kala-azar-HIV-TB co-infections.

Strategy

- Early diagnosis & complete treatment (EDCT).
- Integrated Vector Management including Indoor residual spraying (IRS).
- Advocacy, Communication for Behavioral Impact and Inter-sectoral convergence.
- Capacity Building.
- Supervision, Monitoring and Evaluation.

The analysis of block PHC incidence revealed that the number of endemic blocks have increased from 514 in 2007 to 633 in 2016. This can be attributed to improved case detection. In 2016, out of 633 block PHCs, 539 (85%) reported less than 1 per 10,000 population at block PHCs. 94 (15%) block PHCs reported more than one case per 10,000 population during 2016.



5.2.6 Vector Control

Indoor Residual Spray is the main vector control method for prevention & control of Kala-azar. In 2015 Synthetic Pyrethroid (5% Alphacypermethrin) was introduced as insecticide of choice and DDT was gradually replaced by synthetic pyrethroid. In 2016, two rounds of Indoor Residual Spray was completed in 4 endemic States and spray coverage varied between 68% to 98%. The State-wise details are given on next page:

Sl. No.	State	Targeted Population (in millions)	Population Covered (in millions)	Coverage %
1	Bihar	33.64	31.19	98.66
2	Jharkhand	2.27	2.55	92.52
3	West Bengal	1.10	0.66	87.57
4	Uttar Pradesh	0.52	0.36	68.73
	Total	**37.53**	**34.76**	**92.61**

In 2017, in all the 54 endemic districts, Synthetic Pyrethorid is being used for conducting IRS activity. The following initiatives have been taken for realizing the goal of elimination:

A. Initiatives taken by Government of India

1. Treatment of Kala-azar cases with single day single dose Ambisome Injection since 2015 has improved treatment compliance.
2. Rs. 500/- as incentive to patient for loss of wages and Rs. 2,000/- to Post Kala-azar Dermal Leishmaniasis (PKDL) cases being provided by GoI.
3. Incentive to ASHA @ Rs.300/- for referring a suspected case and ensuring complete treatment and Rs. 100/- during one round of indoor residual spray i.e. Rs. 200/- for both the rounds of spray for generating awareness for acceptance of spray by the community.
4. Ensuring no stock out of drugs & diagnostic.
5. Use of only Synthetic Pyrethorid for indoor residual spray and use of Hand Compression Pumps for good quality spray have been introduced in Kala-azar endemic districts
6. IEC/BCC for community awareness & social mobilization through partners.
7. NITI Aayog provisioned Rs.20.00 crore to endemic States for strengthing Kala-azar implementation issues during 2016-17.

B. State Initiatives

1. State Governments of Bihar & Jharkhand have provisioned Rs.6,600/- as wage loss to Kala-azar patients from Chief Ministers Kala-azar Relief Elimination Funds.
2. Regular review by State officials.
3. Review of Kala-azar elimination & accelerated plan meeting with districts officials & partners on 28th - 29th June, 2017 at Ranchi, Jharkhand.

Review/ meeting /workshop during 2017

Kala-azar Elimination has been reviewed periodically at highest level by PMO and at Hon'ble HFM level. The Senior Officers of the Ministry have also reviewed the programme from time to time. Review/ meeting/workshop held during 2017. A National Advisory Committee (NAC) was constituted to review the progress made by the Kala-Azar elimination programme, advise the Ministry and States/UTs Government on immediate remedial/corrective measure for realizing the goal of elimination and make recommendations. The committee submitted its report in July, 2017 making a number of recommendations to speed up elimination. The report was forwarded to the States for implementation at State level.

5.2.7 Lymphatic Filariasis

In India, Lymphatic Filariasis is transmitted by mosquito species – Culex quinquefasciatus and Mansonia annulifera/M.uniformis. The vector mosquitoes breed in polluted water in drains, cesspits and in areas with inadequate drainage, etc. The disease is endemic in 250 districts (now 256 due to division of old districts) in 16 States and 5 UTs. The population at risk is about 630 million. Though Lymphatic Filariasis is not fatal, Control of lymphatic filariasis is of utmost importance as it causes personal trauma to the affected persons and associated social stigma and causes economic burden to the affected family.

The Government of India is a signatory to the World Health Assembly Resolution in 1997 for Global Elimination of Lymphatic Filariasis. The National Health Policy (2002) envisages elimination of Lymphatic Filariasis in India by 2015, further it was extended to 2017. The Global goal is 2020.

To achieve the goal of elimination, the Government of India launched National Elimination of Lymphatic Filariasis Programme during 2004. The strategy adopted is preventive chemotherapy (PCT) through annual Mass Drug Administration (MDA). Initially the MDA was observed with single drug - DEC, however, since 2006-07, co-administration of DEC + Albendazole were introduced for Drug Administration MDA. The logistic support in terms of training material, drugs and cash grant for programme implementation was provided by Government of India to all the endemic States/UTs on annual basis. Advocacy and IEC prototype materials have been provided every year to States and UTs for its dissemination in addition to media campaign from Central level.

Mass Drug Administration for Lymphatic Filariasis

Current Strategy for Elimination of Lymphatic Filariasis

Annual Mass Drug Administration (MDA) of single dose of DEC (Diethylcarbamazine citrate) and Albendazole for minimum of 5 years or more to the eligible population at risk (except pregnant women, children below 2 years of age and seriously ill persons) to interrupt transmission of the disease. Home based management of lymphoedema cases and up-scaling of hydrocele operations in identified CHCs/District hospitals/medical colleges.

Mass Drug Administration for Lymphatic Filariasis

A. Interruption of Transmission through MDA (First Pillar of Strategy)

During 2017, MDA is proposed in 142 districts and TAS is expected to be carried out in 20 districts. Out of 142 districts, till date, 65 districts have observed MDA and remaining 77 districts will observe MDA in November/December, 2017.

B. Morbidity Management and Disability Prevention (Second Pillar of Strategy)

Towards disability alleviation, line listing of clinically manifested cases of Lymphatic Filariasis (elephantiasis and hydrocele) was initiated in 2004-05 and till date 8.7 Lakhs lymphoedema and 3.8 lakh hydrocele cases have been line listed. A total of 1.4 lakh hydrocele cases have been operated so far as per reports received from States. States have been advised to train all lymphoedema cases for "Home based care" with provision of morbidity management kit. Current status of State-wise Morbidity load is at Table-9 which indicates that maximum contribution is from 8 States namely Andhra Pradesh, Telangana, Bihar, Jharkhand, Maharashtra, Odisha, Uttar Pradesh and West Bengal.

Transmission Assessment Survey (TAS)

As per WHO guidelines-2011, the districts having observed minimum five rounds of MDA with more than 65% coverage against total population at risk in implementation unit (population of district covered under MDA) and reporting microfilaria prevalence less than 1% are to be subjected to Transmission Assessment Survey (TAS) using Immuno-Chromatographic Test (ICT) for presence of circulating antigenemia in children born after initiation of MDA to know the status of infectivity in the community. Since 2015, Immuno-chromatographic test (ICT) has been replaced by Filaria Test Strip (FTS). TAS is a required to take a decision making intervention for MDA stoppage. NVBDCP with the support of WHO and ICMR has trained about 500 officials for conducting TAS.

Achievement is significant as till August, 2017, 94 districts with 152 evaluation units (approx 221 million population) have successfully completed 1st TAS and stopped MDA. Twenty more districts will observe 1st TAS during 2017. Thirteen districts have cleared 2nd successive TAS and under post MDA surveillance.

Capacity building has improved the performance of various functionaries. The initiative was also taken to involve senior faculties from various medical colleges for assessment of actual drug compliance.

Approximately, about 1.5 million health personnel including Medical Officers, Paramedicals, Drug Administrators, Lab. Technicians, etc. are trained annually on MDA and Morbidity management.

Intensive social mobilization during MDA, have been carried out by various States/UTs involving political/opinion leaders, decision makers, local leaders and community.

Assessment of Mass Drug Administration is regularly done through Medical colleges to take corrective measures. Such assessments revealed that there is gap between coverage and actual compliance of drug. However, the compliance has improved over a period of time, but intensive social mobilization would still be required to bridge the gap between coverage and actual consumption so that the actual consumption rate of above 90% is achieved.

New initiatives

- Study on Triple drug (DEC + Albendazole + Ivermectin) therapy for MDA is under process in Yadgir district of Karnataka. The Report is expected in December 2017.
- Consideration of introduction of DEC medicated salt as an adjunct to the existing MDA. Expert Group meeting was conducted in December 2016 to review use of DEC fortified Salt. The group recommended to introduce DEC-medicated Salt as an adjunct to MDA as pilot in small endemic districts. Situational analysis has conducted in June, 2017 in Sitamarhi district to find out the operational feasibility for implementation of DEC medicated salt.
- NITI Aayog has provisioned Rs. 20 crore to endemic States (Bihar, Gujarat, Karnataka, Maharashtra, Odisha, West Bengal & Uttar Pradesh) as an increment to the existing resource envelope.

5.3 NATIONAL LEPROSY ERADICATION PROGRAMME (NLEP)

5.3.1 Epidemiological Status

Status in the Country

The year 2016-17 started with 0.86 lakh leprosy cases on record as on 1st April, 2016, with PR 0.66/10,000. Till then, 34 States/UTs had attained the level of leprosy elimination. 554 districts (81.23%) out of total 682 districts also achieved elimination by March, 2017.

Three pronged strategy was introduced in the National Leprosy Eradication Programme from 2016-17. The components of the strategy are:

i. Leprosy Case Detection Campaign (LCDC),

ii. Focused Leprosy Campaign,

iii. Special Plan for Hard to Reach Area.

During 2016-17, LCDC was carried out in 163 districts of 20 States, wherein 34,672 cases were detected and were put on treatment. The above activity aimed at early case detection and timely treatment. The success of the Campaign can be estimated by the fact that a drastic decline in the trend of the G2D cases was achieved. Moreover, prevention of deformity in new cases due to timely detection and treatment could be made possible. Due to this remarkable achievement, more districts are being covered in 2017-18, LCDC phase-I 2017-18 being held in 273 districts of 23 States/UTs.

Leprosy Case Detection Campaign, 2017-18: LCDC, 2017-18 is planned in consultation with State Leprosy Officers of high endemic States and decided to implement in 273 districts of 23 States/UTs. Till date, 19 States have completed the campaign. A & N Islands proposed to conduct same during February, 2018. However, 3 States i.e., Bihar, Delhi & Nagaland have not yet confirmed their dates for the LCDC.

Sparsh Leprosy Awareness Campaign, 2018: Inspired by the success of Sparsh Leprosy Awareness Campaign (SLAC) 2017, wherein Nation-wide meetings in Gram Sabhas were organised on 'Anti Leprosy Day, i.e., 30th January, 2017 in around 60% villages of India. This year during Sparsh Leprosy Awareness Campaign, 2018 we want to reach to the doorstep of the community with intention to increase participation of the community.

Major activities being conducted on 30th January, 2018 in Gram Sabha Meetings are as under:

1. Declaration by District Magistrate (read by DM/ other Sr. Distt./Block administrator if available/ Gram Sabha Pramukh).

2. Speech from Gram Sabha Pramukh.

3. Any IEC activity for example nukkad natak, role play, essay writing, songs on leprosy through folk media, poem reading, kathputli etc. or as decided by Panchayat and dissemination of IEC message through NLEP mascot 'Sapna'.

4. Questions and Answers session based on FAQ provided.

5. Vote of thanks by community persons preferably by a willing person affected if available.

The guidelines for Sparsh Leprosy Awareness Campaign, 2018, prototypes of DM declaration, speech and script for the few IEC activities were finalized in consultation with IEC experts and State Leprosy Officers (SLO) during the Central Level workshop held on 28th December, 2017 in Pune, Maharashtra and shared with all stakeholders.

In the year 2016-17, Focused Leprosy Campaign was carried out by house to house survey in the village/ urban area (covering 300 households) wherein even one case of Grade 2 disability due to leprosy was detected. As per the reports received from 21 States, 1171 cases have been detected, so far, indicating 0.74 per 10,000 population covered.

The purpose of the Special plan for hard to reach area is to find the cases in uncovered population like difficult terrains, naxalite affected areas and other geographically difficult locations. The identification of hard to reach areas is a continuous process and many areas in different States/UTs have been identified and

many more are being identified.

Another innovation introduced during the year was Sparsh Leposy Awareness Campaign through Gram Sabhas, carried out with the help of Panchayat and Village Health and Sanitation Community. The expected outcome of the above activity was to generate awareness, reduce stigma and improve self-reporting by the cases. The activity was carried out in 60% of the total villages across India.

Based on the reports received from all the States and UTs for the year 2016-17, current epidemiological situation under leprosy, in the country is as below:

1. A total of 1,35,485 new cases were detected during the year 2016-17, which gives Annual New Case Detection Rate (ANCDR) of 10.17 per 100,000 population, as against 1,27,334 cases in 2015-16.

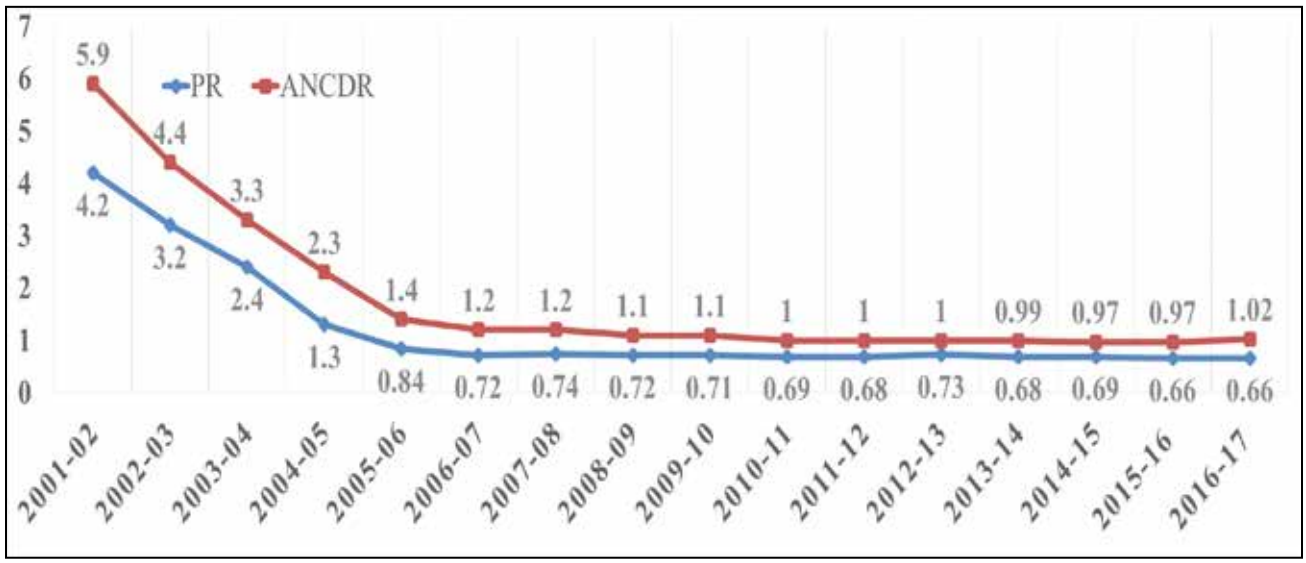
2. A total of 88,166 leprosy cases are on record as on 1st April 2017, giving a Prevalence Rate (PR) of 0.66 per 10,000 population, as against 86028 cases in 1st April, 2016.

3. Detailed information on new leprosy cases detected during 2016-17 indicates the proportion of MB (49.57%), Female (39.17%), Child (8.7%), Grade II Deformity (3.87%), ST cases (18.80%) and SC cases (18.78%).

4. A total of 5245 Gr. II disability detected amongst the New Leprosy Cases during 2016-17, indicating the Gr. II Disability Rate of 3.94/ million population.

5. A total of 11,792 child cases were recorded, indicating the Child Case rate of 8.7%.

6. Trends of Prevalence Rate (PR) and Annual New Case Detection (ANCDR) (Per 10,000 population) are indicated in the graph below:



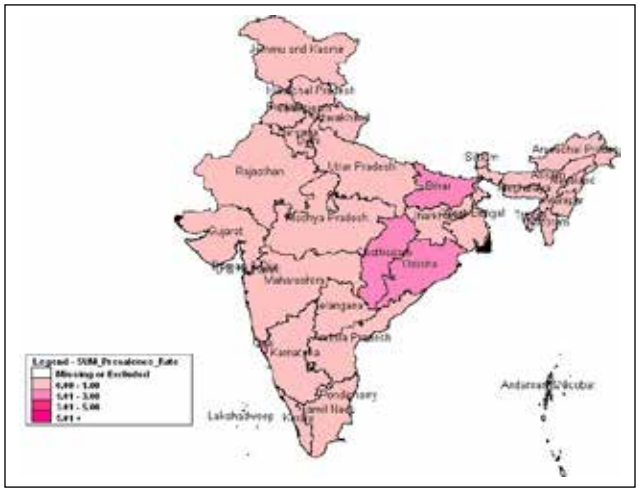
Note: *The increase in new cases and prevalence during 2012-13 was attributable to the NLEP strategy to carry out extensive house to house survey for new case detection. Further increase in ANCDR during 2016-17 is attributable to Leprosy case detection campaign.*

Status in the States/UTs

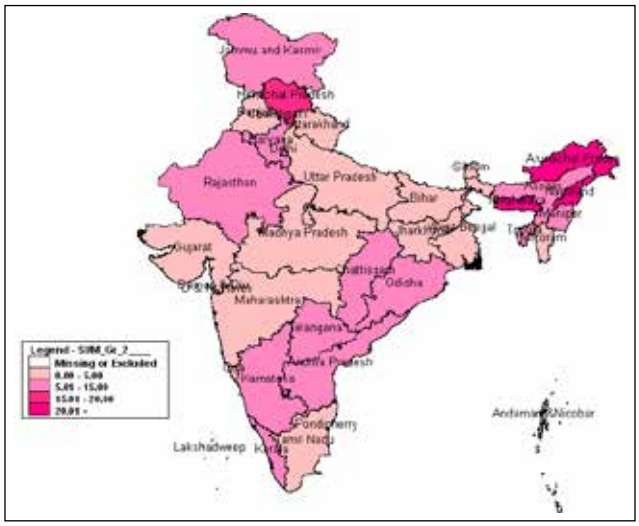
34 States and UTs achieved elimination out of 36 States/ UTs. One State (Chhattisgarh) and one UT (Dadra & Nagar Haveli) are yet to achieve elimination.

Five more States/UTs wherein elimination was achieved earlier, namely Odisha, Bihar, Chandigarh, Goa and Lakshadweep have reported with PR>1/10,000 population, as on 31st March, 2017.

Prevalence Rate in India as on March 2017



Grade-II Disability Rate (out of new cases detected) (%) in India for 2016-17



Proportion of Child cases was more than 10% of new case detected in 10 States/UTs namely:

(i) Arunachal Pradesh 10.71%, (ii) Bihar 13.70%, (iii) Jharkhand 10.59%, (iv) Maharashtra 10.18%, (v) Nagaland 11.76%, (vi) Punjab 17.25%, (vii) Tamil Nadu 17.64%, (viii) D&N Haveli 19.79%, (ix) Daman & Diu 14.29% and (x) Lakshadweep 11.11%.

Status in the Districts

1. District wise situation on the basis of ANCDR for the year 2016-17 is given as below:

495 (72.58%) districts out of total 682, have ANCDR < 10 per 100,000 population and 101 districts had ANCDR > 20/100,000. 23 districts with ANCDR> 50/100,000 population were reported from Bihar (1), Chhattisgarh (7), Gujarat (3), Jharkhand (1), Madhya Pradesh (2), Maharashtra (1), Odisha (5), West Bengal (1), Lakshadweep (1) and Dadra & Nagar Haveli (1). Three districts reported with ANCDR greater than 90/100,000 population, i.e. Raigarh (108.15) & Mahasumund (91.83) in Chhattisgarh and Dangs (91.69) in Gujarat.

18 Districts from 6 States namely, Bihar (4), Chhattisgarh (3), Gujarat (1), Maharashtra (3), UP (2) and West Bengal (5) reported with more than 1000 new cases during the year 2016-17.

Year wise endemicity of districts on ANCDR basis

ANCDR/100,000	2015-16	2016-17
<10	486	495 10
10-20	100	86
>20-50	59	77
>50-100	20	23
>100	4	1
Total	**669**	**682**

2. District wise situation on the basis of PR since March 2012 to March 2017 is as below:

Year wise Status of Districts on PR basis

PR/10,000	2016	2017
<1	551	554
1-2	76	75 33
2-5	39	49
5-10	3	4
>10	0	0
Total	**669**	**682**

A total of 554 districts (81.23%) out of 682 districts had reported PR<1/10,000 population. 128 districts reported with PR>1/10000 population.

As on March, 2017, 53 districts in 11 States/UTs reported with PR > 2/10,000 population. These States are Bihar (4), Odisha (8), Chhattisgarh (15), Gujarat (5), Jharkhand (3), Madhya Pradesh (2), Maharashtra

(6), West Bengal (6), D&N Haveli (1), Lakshadweep (1) and Delhi (2).

3. 311(45.60%) districts reported with Gr. II disability as more than 2 per million population.

4. A total of 1.19 lakh (94.51%) new cases completed their treatment within the specified period and were released from treatment (RFT) as cured during 2016-17. Poor performing States are Mizoram (45.45%), Tripura (50.00%), Daman & Diu (38.10%) and Lakshadweep (46.67%).

5. Among "Others Cases", a total of 7465 (83.68%) completed their treatment on time and were released from treatment (RFT) as cured.

6. Total number of cases released as cured during 2015-16, comes to 1,25,302 (94.33%). This brings the total number of persons affected by Leprosy, cured of the disease, with MDT in the country, from the beginning to till date to 130.59 lakh (13.05 million).

Other Programme aspects

A. DPMR Services

Information pertaining to the Disability Prevention and Medical Rehabilitation (DPMR) as received from the States/UTs is given as below:

1. 115 (Govt. 61 and NGO 54) Institutions have been recognized for conducting Reconstructive Surgery to correct the disability in Leprosy Affected Persons.

2. During the year 2016-17, a total of 2591 RCS (Govt. – 736 and NGO – 1855) were conducted.

3. A total of 536 Relapse cases were confirmed and treated at District Hospitals.

4. MCR foot-wears were provided to 75739 Leprosy Affected Persons in the year 2016-17.

B. ASHA Involvement

ASHAs under the NRHM were involved in Leprosy programme for last 8 years. However, during 2016-17, their participation has substantially improved. Out of the total 135485 new cases detected, cases brought by ASHA were 48186 (35.57%). ASHAs also helped in completion of treatment in 32490 cases. Incentives were paid during the year to 20095 ASHAs.

C. Child cases with Grade II disability

To give focus on the policy of No. child cases with disability, information on the cases of Gr. II disability in children was collected and compiled at the central level. Out of the total 11792 new child cases detected during 2016-17, the number of child cases with Gr. II disability was 156.

D. Training

(i) There are number of trainings on Leprosy held across India for enhancing efficiency of manpower. Manpower trained during 2016-17 includes Medical officer-10476, Health supervisor-14102, Staff Nurses-3557, Pharmacists-763 and ASHA-133695.

(ii) Training was also conducted by the Central Govt. Leprosy institutes in the year 2016-17. Central Leprosy Training & Research Institute, Chengalpattu, Tamil Nadu conducted 07 courses for 278 participants and one day orientation programme for 227 participants. Regional Leprosy Training & Research Institute, Gouripur, West Bengal has conducted 1 course for 28 participants and one day orientation programme for 196 participants, Regional Leprosy Training & Research institute, Raipur, Chhattisgarh has conducted 07 courses for 37 participants and one day orientation programme for 338 participants.

E. IEC /BCC

The various mode of communication for conducting IEC activities to spread awareness about leprosy at mass level has been undertaken at Centre & State level.

(i) State level

As per the reports submitted by States on IEC activities undertaken in the year 2016-17, Newspapers advertisement, posters, Handbills, stickers, Pamphlets, Leaflets, Press Conference/Briefing/Press Release, TV spots, Radio jingles, cinema slides, Talk on TV/ Radio, Rath, Rallies Mela, Haat, Nukkad Natak/ Road show, magic show, puppet show, folk dance/songs,

Banners/Hoardings, Wall Painting, Exhibitions and inter personal communication (Meeting, conferences, talks, door to door survey, quiz) have been actively undertaken.

Sparsh Leprosy Awareness Campaign was carried out through Gram Sabhas, by taking an oath for not to discriminate with the person effected by Leprosy on 30th January, 2017. In continuation to this, Anti Leprosy Fortnight was also carried out throughout the country from 30th January, 2017 to 13th February, 2017.

(ii) Central level

The IEC activities undertaken in the 2016-17 at central level were printing of Half page Advertisement in newspapers in Hindi, English and Regional languages which were released through DAVP on 30th January, 2017. Broadcast of Radio Spots through All India Radio, Telecast of Video Spots & Documentary through Doordarshn & Lok Sabha TV.

National Leprosy Programme participated in India International Tread fare from 14th to 27th November, 2016. An exhibition was setup for the advocacy of the programme.

Central Leprosy Division is publishing a quarterly E-Newsletter as a platform to share guidelines, feedback/best practices, experiences and activities undertaken in the programme in coordination with partner/States/NGOs/Institutes/Medical Colleges & Associations etc.

On 1st July, 2017, guidelines for ASHA Based Surveillance for Leprosy Suspects (ABSULS) have issued for enhanced early case reporting.

5.4 REVISED NATIONAL TUBERCUOSIS CONTROL PROGRAMME (RNTCP)

The Revised National TB Control Programme (RNTCP), based on the internationally recommended Directly Observed Treatment Short-course (DOTS) strategy, was launched in 1997 expanded across the country in a phased manner with nation-wide coverage of RNTCP was achieved in March, 2006. In terms of treatment of patients, RNTCP has been recognized as the largest and the fastest expanding TB control programme in the world.

India's National TB Control programme provides quality assured diagnostic and treatment services to all the TB patients including necessary supportive mechanisms for ensuring treatment adherence and completion. Total TB patients notified under RNTCP in the year 2017 till November was 15,31,924.

RNTCP has the following major objectives:

- To reduce the incidence and mortality due to TB.
- To prevent drug resistance and effectively manage drug-resistance TB cases.
- To improve outcomes among HIV-infected TB patients.
- To involve private sector on a scale commensurate with their dominant presence in health care services.

TB disease burden in India

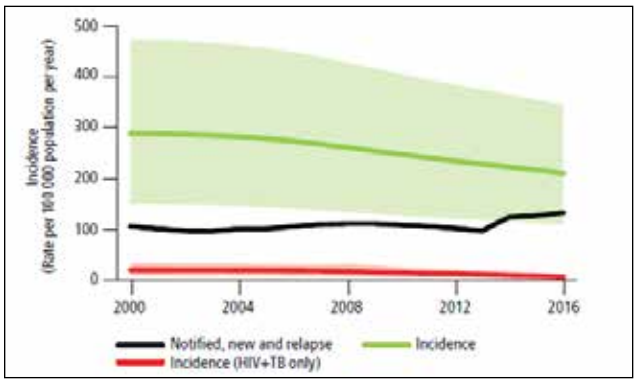
Though India is the second-most populous country in the world, one fourth of the global incident TB cases occur in India annually. As per WHO Global TB Report 2017, out of the estimated global annual incidence of 10.4 million new (incident) TB cases, 2.79 million were estimated to have occurred in India.

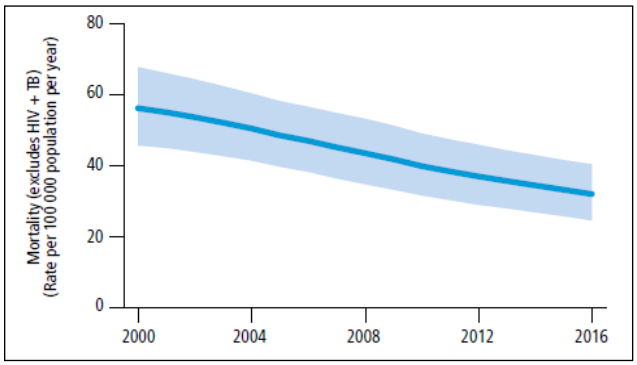
The estimated TB Burden in India as per WHO Global TB report 2017 is:

Estimates of TB Burden (2015)	India
Incidence TB cases	2.79 million
Mortality of TB	423,000
Incidence HIV TB	87,000
Mortality of HIV-TB	12,000
MDR-TB	147,000

- The incidence of TB has reduced from 289 per lakh per year in 2000 to 211 per lakh per year in 2016 and the mortality due to TB has reduced from 56 per lakh per year in 2000 to 32 per lakh per year in 2016.
- Moreover, these revisions are interim in nature,

with further changes likely when India conducts its first national tuberculosis prevalence survey from 2018 onwards. (source Global TB Report, 2017)





Programme Achievements

- The RNTCP is implemented with decentralized services of TB diagnosis through 14000 Designated microscopy Centers and treatment available in every village in the country through 4 lakh DOT centers.
- Since inception, the programme has treated more than 20 million TB cases and saved more than 3.4 million lives.
- Treatment success rates have tripled from 25% in pre-RNTCP era to 88% presently (TB India 2017) and TB death rates have been reduced from 29% to 4% during the same period.
- For diagnosis of Drug-Resistant TB (DR-TB) 628 new rapid (CBNAAT) machines are available at district level and 143 special DR-TB treatment centers. The microscopy centers are to be supplemented with TruNAAT and additional CBNAAT.
- There has been increase in TB notification from 2012 onwards and the programme was able to notify 63% of estimated TB cases in 2016. This is largely because of more accountability, establishment of tools to facilitate TB notification and policy decision for mandatory TB notification by all health care providers.
- In May 2012, TB was made a notifiable disease through Government of India Order. In the same year, the programme with NIC developed NIKSHAY – a case based web based system of reporting and monitoring TB patients. It provides a single platform for notification for all forms of TB from both public and private.
- The country achieved the Millennium Development Goals related to Tuberculosis in 2016. The incidence of TB has declined by 28% and the mortality declined by 58% since 1990.

Key RNTCP performance indicators for India – Drug Sensitive TB – 2016

Total patients registered for treatment	Annual total case notification rate	TB notification in private sector	Treatment Success rate NSP	Proportion of all registered TB cases with known HIV status
1754957	135	330186	88%	88%

RNTCP performance indicators for India – Drug Resistant TB – 2016

No. of DR-TB Centres functional	No. of MDR TB Suspects subjected to CDST	No. of MDR TB Cases Detected	No. of MDR TB Cases Detected that were registered & initiated on treatment in 2016	Treatment Success Rate of registered MDR cases in the 4 cohorts, 31-33 months prior (3Q13 to 2Q14)
143	490373	34304	32958	46%

- Rapid expansion of diagnostic facilities, including highly sensitive molecular test for diagnosis of TB and Multi Drug Resistance TB.

India - year wise lab scale-up

Service Delivery Components	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Culture-DST Labs with any technology	4	9	17	22	36	45	51	58	64	65	69
Liquid Culture					3	6	7	17	27	29	34
Labs with LPA				3	18	33	41	49	51	52	54
CB NAAT					18	30	80	89	121	621	628

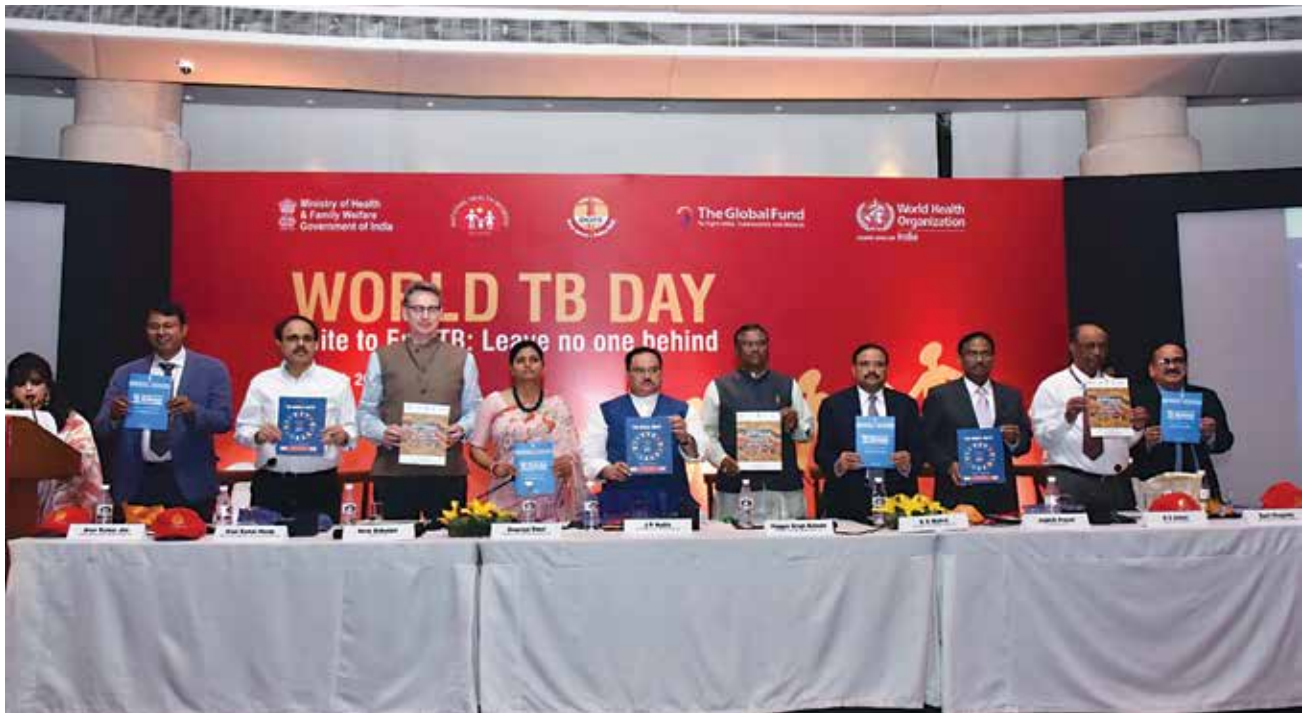
- To make RNTCP service more patient centric; a dedicated toll free number with a call centre has been started using ICT to provide patient counselling and treatment support services in States of Punjab, Haryana, Chandigarh and Delhi, named as missed call campaign.
- In July 2017, "Centre State Summit for TB Elimination through Effective Partnerships" was organized in Nagpur, Maharashtra. This was attended by policy makers, national and international experts on TB, Program managers, development partners and representatives from private sector, media and community.

Inauguration of TB Elimination through Effective Partenerships by Hon'ble Union Minister of State

- RNTCP has already scaled up the implementation of daily regimen across the country. Fixed dose combination of drugs will ensure optimum dosage and reduced pill burden along with expectation of improved treatment outcome.
- RNTCP has been utilising nearly 100% of the funds made available to the programme. The details for the 12th Five Year Plan are as under:

Sl. No.	Year	Fund made available (Rs. in crore)	Expenditure (Rs. in crore)
1	2012-13	467.00	466.15
2	2013-14	516.76	516.55
3	2014-15	640.00	639.94
4	2015-16	640.00	639.86
5	2016-17	640.00	677.78
6	2017-18	1840.00	1191.28 (till 15.12.2017)

- World TB Day (24th March) 2017: Hon'ble Health & Family Welfare Minister Shri J.P. Nadda launched:
  - TB India 2017 Report,
  - e-Training Module through eGurukul platform,
  - Guidance document for Nutritional care and support of TB patients in India,
  - Framework on TB Diabetes collaborative activities.



World TB Day on 24th March, 2017

New Initiatives

(1) The Ministry has developed a "National Strategic Plan (NSP) for Tuberculosis (2017-25); Elimination by 2025" which proposes bold strategies with commensurate resources to rapidly decline TB incidence and mortality in India by 2025. The NSP 2017-25 aims to notify 260 lakh TB patients in 8 years including public and private sector. The activities under the programme currently ongoing would be continued and specific activities/focus areas proposed are as under:

a) Increase Participation of Private Sector TB Care Provider,

b) Intensified TB Control Activities in High Priority Districts,

c) Providing Incentive to Prevent Catastrophic Expenditure to the TB patients and their Families due to TB and for Nutritional Support,

d) National surveillance and tracking system for TB patients.

(2) Bedaquiline is a new anti-TB drug, discovered after 40 years. To give access to this new drug and simultaneously, prevent misuse in the market, the programme introduced Bedaquiline at 21 sites in 5 States to begin with within public health sector only under close monitoring of RNTCP – Conditional Access Programme. Till date, more than 700 drug resistant TB patients have been initiated on treatment with this new drug. The use of this drug is being scaled up across the country.

(3) The programme has implemented a few private sector engagement interventions in the country using free drugs/diagnostics and Information Communication Technology. These interventions have demonstrated successful results of engagement of private providers and are being scaled up in other parts of the country.

(4) Campaign mode – Active Case Finding: To reach the unreached, the programme has carried out systematic active TB screening among high risk populations through house visits or targeted setting visit (Tribal population, slums, old age homes, prisons, orphanages, transit camps, etc).

In campaign was conducted in priority districts selected based on burden of TB, case finding efforts, HIV-TB and Drug Resistant TB in the respective districts. In two phases, each of 15 days, the programme diagnosed more than 10000 TB patients and put on treatment. The 3rd phase is planned in December, 2017.

TB Surveillance Activity

(5) Direct Benefit Transfer schemes: The programme has provision of financial assistance/incentives to TB patients in tribal area, treatment supporter and private providers. Now, Direct Beneficiary Transfer (DBT) systems are being established by linking TB patients reported in NIKSHAY with AADHAR and PFMS to effectively deliver benefits to TB patients and their providers. Similar support can be extended to all TB patients and their families.

(6) E-Health advances - programme management and surveillance. Surveillance is key to successful control of any disease. The programme is enhancing its ICT based surveillance tool NIKSHAY. Use of e-health advancements for both patient services and programme management and integrating with e-governance tools has been under progress. The programme has started using IT enabled adherence tools (like 99 DOTS) for HIV-TB patients and will be expanded to all TB patients along with implementation of daily regimen.

(7) Research & Development – New diagnostics, Drugs, Vaccines: For indigenous development of diagnostics, drugs and vaccines in collaboration with ICMR, TB Research consortium has been established by various research departments – ICMR, DBT, DST and others.

5.5 NATIONAL IODINE DEFICIENCY DISORDERS PROGRAMME (NIDDCP)

Iodine is an essential micronutrient required daily at 100-150 micrograms for the entire population for normal human growth and development. Deficiency of Iodine can cause physical and mental retardation, cretinism, abortions, stillbirth, deaf, mutism, squint, loss of IQ, compromised school performance and various types of goiter etc. Results of sample surveys conducted in 414 districts covering all the States/ Union Territories have revealed that 337 districts are endemic where the prevalence of Iodine Deficiency Disorders (IDD) is more than 5%. No State/UT is free from IDD.

Significant achievements

1. Consequent upon liberalization of Iodated salt production, so far 700 salt iodization plants were established and the iodization capacity was 224.10 lakh tones per annum.

2. The production and supply of iodized salt during 2016-17 was 69.11 lakh tones and 64.36 lakh tones respectively.

3. For effective implementation of National Iodine Deficiency Disorders Control Programme, 35 States/UTs have established Iodine Deficiency Disorders Control Cells in their State Health Directorate.

4. In order to monitor the quality of Iodized salt and Urinary Iodine excretion 35 States/ UTs have set up Iodine Deficiency Disorders monitoring laboratories.

5. A meeting of the Technical Committee on Implementation of National Iodine Deficiency Disorders Control Programme (NIDDCP) was convened on 25th November, 2016 at Nirman Bhawan, New Delhi.

6. For estimation of iodine content in salt, a total of 48886 salt samples were collected and analyzed so far by States/UTs, out of which 46844 (96%)

salt samples were found conforming to the standard (iodine content > 15 ppm).

7. For estimation of Urinary Iodine Excretion (UIE) for bio-availability of iodine, a total of 7538 urine samples were collected and analyzed so far by States/UTs, out of which 6302 (84%) samples were found confirming to the standard (UIE > 100µg/L) .

8. For ensuring the quality of iodized salt at consumption level, a total of 2045290 salt samples were tested by salt testing kit so far by States/UTs, out of which 1490879 (73%) salt samples indicated normal quality i.e. salt having iodine >15ppm.

9. A meeting of the Sub-Committee on IDD Surveys was convened on 21st February, 2017 at ICMR, New Delhi.

10. A Review Meeting cum Capacity Building Workshop under NIDDCP for State Programme Officers from North & N.E. Regions, Bihar, Madhya Pradesh and Senior Regional Directors (Health & FW) responsible for these States was organized on 5th - 6th October, 2017 at Bhopal, M.P.

Information Education & Communication Activities have been organised through the mass media channels such as Doordarshan, All India Radio and also Newspapers & Mobile phones SMS. In addition, Bus panels and Railways have been utilised for the mass media campaigns.