DOTS
Pura course. Pakka ilaai.

सत्यमेव जयते

U.T ADMINISTRATION OF
DADRA & NAGAR HAVELI AND DAMAN & DIU
DEPARTMENT OF HEALTH AND FAMILY WELFARE

STRATEGIC PLAN
TOWARDS
TUBERCULOSIS & LEPROSY FREE
DADRA & NAGAR HAVELI AND DAMAN & DIU
By
2022

END TB

NLEP

MESSAGE

Tuberculosis (TB) was declared an emergency by the World Health Organization nearly 25 years ago. Since then, various efforts have been made to prevent TB in different countries. Of course, we all have come a long way, have done extensive work for elimination of TB but the ground reality is that we still have not been successful in stopping TB.

Friends, I believe that when a task is being done for ten years or twenty years without the expected results then we should think about changing our approach. We need to analyse the way the work is being done on ground and the way the plans are being implemented, in a very broad way. When you seriously analyze old processes, the path of new approaches opens up.2030 is the deadline fixed for eliminating TB across the world.

I am announcing that India has decided to end TB 5 years before the target year i.e. by 2025 instead of 2030. Our Government is following a new approach with a new strategy for the mission of eradicating TB from India.

"TB Harega Desh Jeetega"

Our Indian philosophy and Indian ancient science have always been very clear about health. We have been told here-

" सर्वे भवन्तु सुखिनः, सर्वे सन्तु निरामयाः
सर्वे भद्राणि पश्यन्तु मा कश्चिद्दुःखभाग्भवेत। "

That is,
May all be Happy, May all be Free from Illness
May all see what is auspicious, May no one Suffer

- Shri Narendra Modi
Hon'ble Prime Minister of India

Shri Praful Patel
Hon'ble Administrator
UT of Dadra & Nagar Haveli and Daman & Diu

MESSAGE

Tuberculosis is a major public health challenge affecting poorest, vulnerable and socially marginalized population for thousands of years. TB has highly devastating socio-economic consequences on individuals, families and community and it is severely threatening the collective progress of human beings. The United Nations Sustainable Development Goals (SDGs) include ending the TB epidemic by 2030. Government of India has formulated the National Strategic Plan to achieve this status by 2025. In the UT of Dadra and Nagar Haveli and Daman and Diu, we took even more ambitious goal to achieve this target by 2022. As Leprosy has been a Public Health problem for this UT, we are committed to eliminate it as well by 2022.

In 1990, WHO had declared the disease as a global public health emergency. The UTs of Dadra and Nagar Haveli and Daman and Diu started implementing the Tuberculosis Control Programme for decades throughout the territory. In the last 10 years, more than 8000 TB cases were initiated on treatment and of which nearly 90% have been successfully treated.

TB free Dadra & Nagar Haveli and Daman & Diu Mission will be integrated with development plan of the UT with a major focus on the overall improvement in the socioeconomic indices of the population, including better housing conditions and assured quality health care. All stakeholders will be brought together for achieving the desired goal ahead of the national target.

This audacious goal is achievable through our commitment, determination and solidarity. The Administration of UT of Dadra and Nagar Haveli and Daman and Diu is strongly committed to accelerating its efforts to defeat TB and Leprosy. Together we can achieve a TB and Leprosy free Dadra Nagar Haveli and Daman Diu.

- Shri Praful Patel
Hon'ble Administrator

Anil Kumar Singh, I.A.S.
Advisor to Administrator
UT of Dadra & Nagar Haveli and Daman & Diu

PREFACE

TB is a major public health issue of developing nations and its elimination continues to be India's priority health agenda. To achieve Sustainable Development Goals (SDGs) the world community has accelerated an intensive campaign against Tuberculosis (TB) and for those most affected by it i.e., the poorest, most vulnerable, socially marginalized population. Leprosy is another chronic communicable disease associated with these vulnerable and marginalized groups and affecting mostly the Tribal population in the District of Dadra and Nagar Haveli. To hammer on the efforts of the administration towards the elimination of these diseases, the UT of Dadra and Nagar Haveli and Daman and Diu has formulated the Strategic ' TB & Leprosy Plan for free Dadra and Nagar Haveli and Daman and Diu with the highest political commitment

The strategic plan focuses on early diagnosis and prompt treatment of TB so as to prevent further transmission of the disease. The strategy encompasses Universal drug susceptibility testing, systematic screening of contacts and high-risk groups and addressing co-morbid conditions such as HIV, Diabetes, Malnutrition. It also ensures the administrative commitment through UT TB Elimination Task Force and TB Forum.

The Strategic Plan is the commitment of the UT Administration to achieve TB Free status and eliminate Leprosy by 2022.Itis a 3-year strategy document and ambitiously aims to achieve a rapid decline in TB and Leprosy burden. I am sure that with commitment of our entire team, this document will surely aid in ending the malady of TB and Leprosy. I wish and hope our strong commitment and will make our UT free from TB and Leprosy.

(Anil Kumar Singh)

Dr. (Ms.) A. Muthamma, I.A.S.
Secretary (Health & Family Welfare)
UT of Dadra & Nagar Haveli and Daman & Diu

FOREWARD

Among the infectious diseases, TB remains the highest killer disease. It places its heaviest burden on the world's poorest and vulnerable, aggravating the existing disparities. Responding to achieve Sustainable Development Goal of ending TB epidemic by 2030, Government of India has formulated National Strategic Plan for TB Elimination by 2025. The UT of Dadra and Nagar Haveli and Daman and Diu has gone one step further and set 2022, as the target year for making the Union Territory free from Tuberculosis and Eliminate Leprosy.

UT of Dadra and Nagar Haveli and Daman and Diu is committed towards TB as well as Leprosy elimination. Our UT initiatives like Collaborative Community care through CSR (4 C Project) and efforts for Latent TB Diagnosis and Treatment along with Nutritional Support to both TB and Leprosy Patients are our best practices. The UT has been able to increase success rate of TB treatment to more than 90% and sustain it.

TB Elimination in the UT is on par with strengthening the existing health system further. Health system will be geared to reduce major TB risk factors including Malnutrition, HIV, Diabetes, Chronic respiratory diseases, alcoholism and tobacco use. The strategy focusing on early diagnosis of all cases of TB by setting a strong surveillance system and active case finding in high risk groups will help the UT in achieving TB free status within the timelines.

This strategy 'TB and Leprosy Free Dadra and Nagar Haveli and Daman and Diu ' provides vision of a UT of Dadra and Nagar Haveli and Daman and Diu Free of Tuberculosis and Leprosy. It aims to reduce the TB burden in terms of incidence, prevalence, morbidity, mortality and build systems to strengthen the health service delivery to achieve TB and Leprosy Elimination by 2022.

(A MUTHAMMA)

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ANNEXURE S :

Acronyms and abbreviations

ACF	Active Case Finding
ANC	Antenatal care
ANM	Auxiliary nurse midwife
ACSM	Advocacy Communication&Social Mobilization
ADR	Adverse Drug Reaction
AIC	Airborne Infection Control
ARTI	Annual Risk of Tuberculosis Infection
ASHA	Accredited Social Health Activist
BDQ	Bedaquiline
CBNAAT	Cartridge Based Nucleic Acid Amplification Test
CHO	Community Health Officer
CHC	Community Health centre
CRD	Chronic Respiratory Disease
CXR	Chest X-ray
DMHS	Director of Medical and Health Services
DOTS	Directly Observed Treatment Short-course
DMC	Designated Microscopy Centre
DRTB	Drug Resistant Tuberculosis
DST	Drug Susceptibility Test
EQA	External Quality Assurance
FDC	Fixed Dose Combinations
GATS	Global Adult Tobacco Survey of India
GOI	Government of India
HI	Health Inspector
HIV	Human Immunodeficiency Virus
HS	Health Supervisor
HWC	Health Wellness Centre
IGRA	Interferon Gamma Release Assay

IMA	Indian Medical Association
INH	Isoniazid
LSG	Local Self Government
LTBI	Latent Tuberculosis Infection
MDRTB	Multi drug Resistant Tuberculosis
MO	Medical Officer
MOPHI	Medical Officer Peripheral Health Institute
MOTC	Medical Officer TB Control
MPW	Multipurpose Worker
NGO	Non-Government Organization
NHM	National Health Mission
NMS	Non Medical Supervisor
NSP	New Smear Positive
NTM	Non Tuberculous Mycobacterium
NTP	National Tuberculosis Program
PHC	Primary Health Centre
PHI	Peripheral Health Institution
PIP	Project Implementation Plan
PPD	Purified Protein derivative
RR-TB	Rifampicin-resistant tuberculosis
Rif	Rifampicin
STDC	State TB Training & Demonstration Centre
STO	State TB Officer
STS	Senior Treatment Supervisor
STLS	Senior Tuberculosis Laboratory Supervisor
STCS	State Tuberculosis Control Society
TBHV	Tuberculosis Health Visitor
TB	Tuberculosis
TSG	Treatment Support Group
TST	Tuberculin Skin Test
WHO	World Health Organization

CHAPTER 1-INTRODUCTION AND BURDEN

Introduction to Tuberculosis

Tuberculosis (TB) is an infectious disease usually caused by Mycobacterium tuberculosis (MTB) bacteria. Tuberculosis generally affects the lungs, but can also affect other parts of the body. Most infections do not have symptoms, in which case it is known as latent tuberculosis. About 10% of latent infections progress to active disease. The classic symptoms of active TB are a chronic cough with blood-containing mucus, fever, night sweats, and weight loss.

Mode of transmission, risk factors and progression to disease
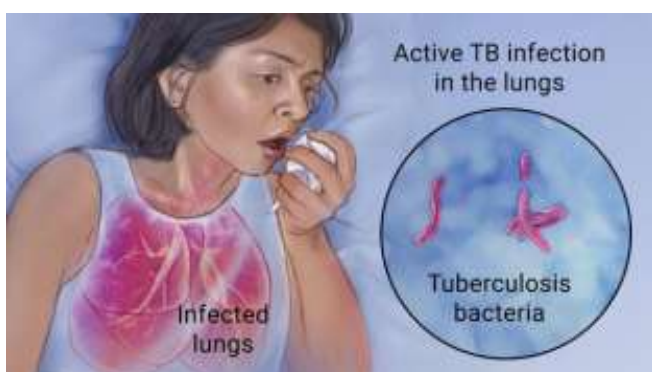
Fig no.1 Mode of transmission

Fig no.2 Symptoms of TB

Tuberculosis spreads through the air when people who have active TB in their lungs cough, spit, speak, or sneeze. People with latent TB do not spread the disease.
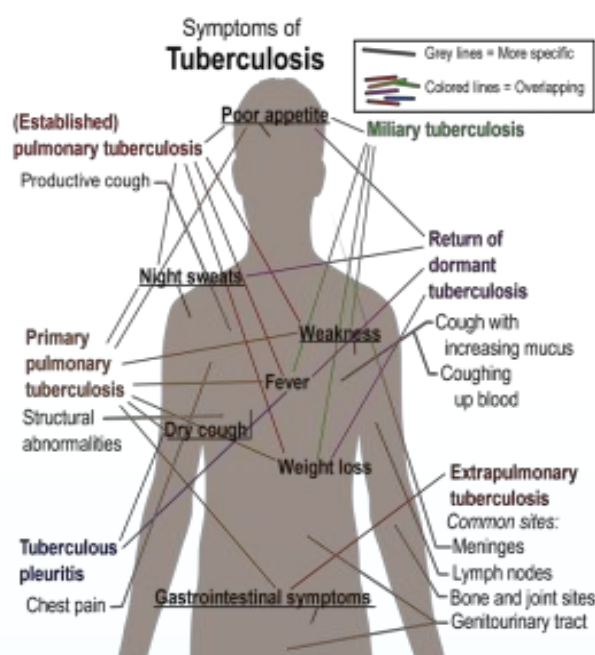
All those who get infected do not necessarily develop TB disease. The life time risk of breaking down to disease among those infected with Mycobacterium tuberculosis is 10-15%, which rises to 10% per year amongst that co-infected with HIV. Other determinants such as Diabetes Mellitus, smoking tobacco products, alcohol abuse and malnutrition also increase the risk of progression from infection to full-blown TB disease.

Pulmonary Tuberculosis

If a tuberculosis infection does become active, it most commonly involves the lungs (in about 90% of cases). Symptoms may include chest pain and a prolonged cough producing sputum. Tuberculosis may become a chronic illness and cause extensive scarring in the upper lobes of the lungs. The upper lung lobes are more frequently affected by tuberculosis than the lower ones.

Diagnosis of active Pulmonary TB is based on Sputum Microscopy, CBNAAT Testing and Chest X-ray. Diagnosis of latent TB relies on the tuberculin skin test or blood tests.

Extra-pulmonary Tuberculosis

In 15–20% of active cases, the infection spreads outside the lungs, causing other kinds of TB. These are collectively denoted as "Extra pulmonary tuberculosis". Extra pulmonary TB occurs more commonly in people with a weakened immune system and young children. Notable extra pulmonary infection sites include the pleura (in tuberculosis pleurisy), the central nervous system (tuberculous meningitis), the lymphatic system (scrofula of the neck), the genitourinary system (uro-genital tuberculosis), and the bones and joints (Pott disease of the spine), among others.

Diagnosis of Extra pulmonary TB is based on Tissue sample – bodily fluid examination – Histopathology and CBNAAT. It also relies on radiological methods – X-ray, CT Scan, Ultrasound and blood tests

Diagnosis of Tuberculosis whether Pulmonary or Extra-pulmonary necessitates prompt initiation of treatment and completing the course of treatment. Failing to do so, can result in disseminated infection and death.

CHAPTER 2 - DEMOGRAPHICS, GEOGRAPHY AND SYSTEMS

2.1. Dadra and Nagar Haveli:

Dadra and Nagar Haveli is a land locked District of the Union Territory of Dadra and Nagar Haveli and Daman and Diu, situated at the western coast in the foothills of Western Ghats between the parallels of $20^0 – 0$` and $20^0 - 25$`north and between meridian $72^0 - 50$` and $73^0 - 15$ of longitude east. It is bounded by Valsad district of Gujarat in the North - West and East and Thane district of Maharashtra in the South and South East. It is composed of two enclaves: Dadra and Nagar Haveli. While Nagar Haveli located between Maharashtra and Gujarat, Dadra is an enclave which is a few kilometers north of Nagar Haveli in Gujarat. The major city of Dadra and Nagar Haveli is Silvassa.

The population of Dadra and Nagar Haveli is 3,43,709 (as per 2011 population census). Dadra and Nagar Haveli cover an area of 491 sq.km. Silvassa Municipal Council came in existence in the year 2006 and is formed of two towns namely Silvassa and Amli. Another 5 villages viz .Dadra, Naroli, Samarvarni, Masat and Rakholi were treated as non-statutory Census Towns in census 2011.Hence as per census -2011, DNH comprises of one Municipal Council, Five Census Towns and 65 villages.

Dadra and Nagar Haveli comprising of one Municipal Council, 5 Census Towns and 65 villages forms a single District with two sub- divisions namely Silvassa and Khanvel. All the villages have been divided into 20 Gram Panchayats. District Panchayat comprising of representatives from all village Panchayats has been delegated powers and duties under Village Panchayat Rules. One seat of Lok Sabha has been allotted to DNH which is reserved for Scheduled Tribe.

Table No. 2.1: Census Data – Dadra & Nagar HaveliDistrict

Description	2011	2001
Population	3.44 Lakhs	2.20 Lakhs
Actual Population	343,709	220,490
Male	193,760	121,666
Female	149,949	98,824
Population Growth	55.88%	59.22%
Area Sq. Km	491	491
Density/km2	700	313
Girls Proportion (0-6 Age)	16.31%	20.13%

Source: 2011 census

Current/Projected Population:

The Department of Health & Family welfare, Dadra & Nagar Haveli conducts a Family Health Survey every year to get the near actual population with age and sex distribution along with all health parameters. The latest of such surveys conducted in the month of April – May 2019 has enumerated the current population as 4,40,066. Out of this, 45.84% are females and the remaining 54.16% constitute the male proportion. The total numbers of houses identified were 1,08,124 inhabiting 1,00,213 families.

Healthcare Delivery System: District - Dadra and Nagar Haveli

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                    Department of Health
                    and Family Welfare
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DMHS -            VBCH- Silvasa
Tertiary          District Hosital
Care
                             |
          ┌──────────────────┴──────────────────┐
Secnda    Sub- District                   Community
          Hospital ,                      Health Centres -
          Khanvel                         2
                             |
                  ┌──────────┴──────────┐
Primary Care   Primary Health     Urban Primary
               Centres - 9        Health Centres -
                                  2
                      |                    |
               Health and          Health and
Grass root     Wellness            Wellness
level          Centres - 52        Centres - 2
               Subcentres -17
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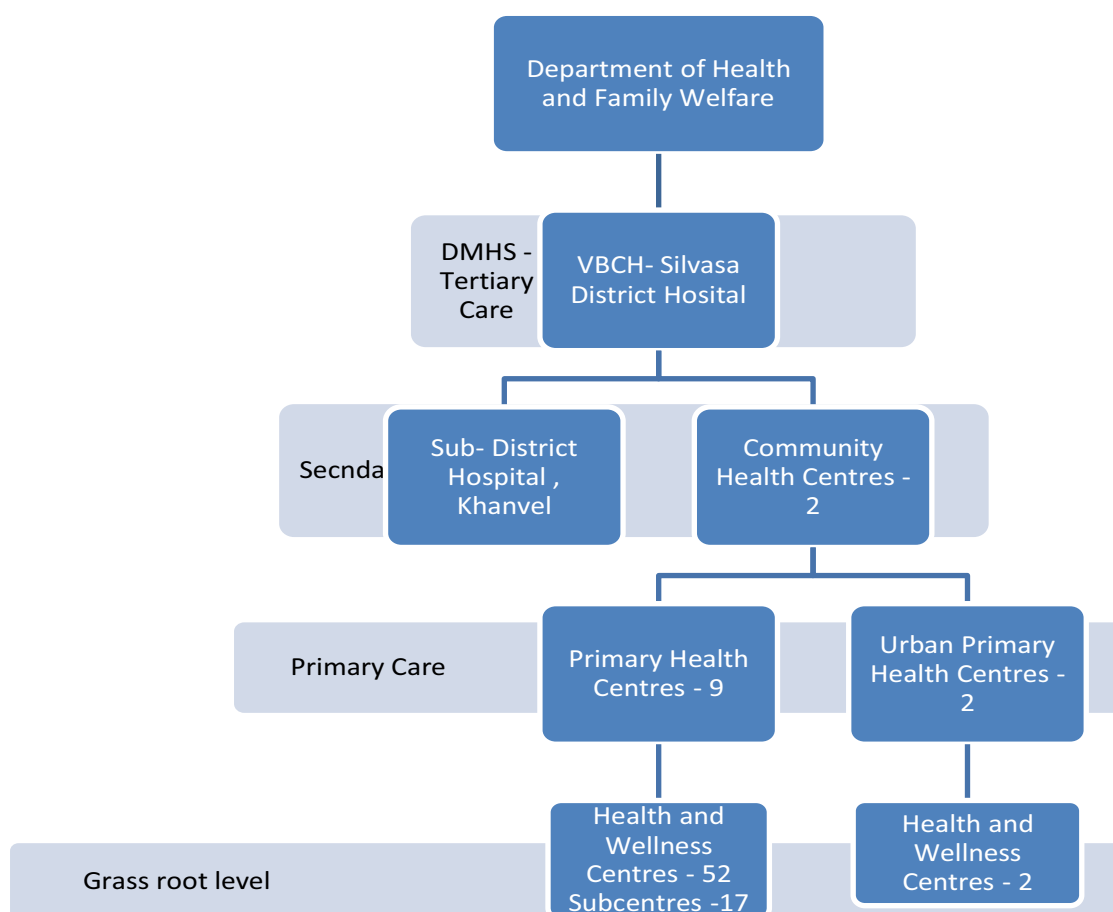
The Department of Health & Family welfare has developed the health infrastructure of D & NH to rationalize its motto of "Every poor deserves the best". To make it true, special attention has been given to public health particularly in pre-dominantly rural areas inhabited by poor families.)

The Health Infrastructure of DNH consists of a fully equipped tertiary level health care facility SVBCH at Silvassa. The government sector plays a major role in health care provision providing the curative as well as preventive health services.

All the public health facilities from Primary Health Centre and above are equipped with all services essential for screening, diagnosis and treatment of TB. In addition, the Health and Wellness Centres/Subcentres are providing drugs for TB at the patient door step through DOTS providers - ANMs, MPWs, ASHAs and Community Volunteers.

Community Health Officer (CHO) is a recent addition to the existing health system under Health and Wellness Centre, dedicated for the provision of outreach health services in the tribal dominated areas of the Union territory.

2.2. Daman and Diu

2.2.1. Daman District
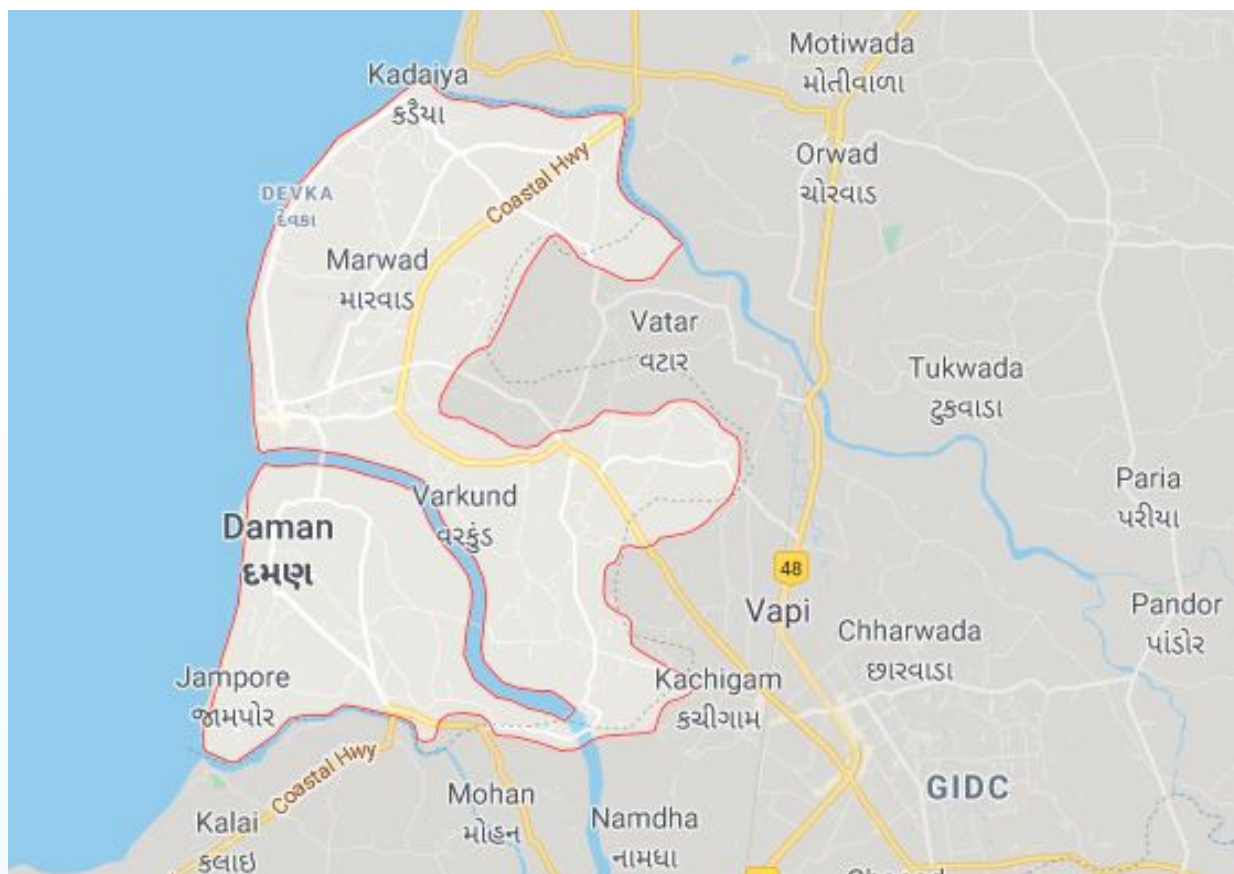
Daman is on main land near southern portion of Gujarat State. The district of Daman is situated on the West Coast of India between the parallels 20°-27'-58" and 20°-22'-00" of latitude north and between the meridians 72°-49'-42" and 72°-54'-43" of longitude east of Greenwich. Its length from the extreme north to south measures 11 Kms and width from east to west, measures 8 Km. The altitude is 12 metres above the Sea level. Daman shares it's geographical boundaries with Arabian Sea on the west and Valsad District of Gujarat in North, South and East, Total land mass area of Daman is 72 sq km.

Administratively, Daman Municipal Council serves the urban areas of District – Moti Daman and Nani Daman. 7 census towns and 15 villages are served by 14 Gram Panchayats under District Panchayat. Majority of the population comprises of urban and semi-urban dwellings due to industrialization and migration. The District Headquarters is situated in Daman Town.

Table No.2.2: Census Data– Daman District.

Census Data – Daman District	2011	2001
Population	1.91 Lakhs	1.14 Lakhs
Actual Population	191,173	113,989
Male	124,659	71,634
Female	66,514	42,355
Population Growth	67.71%	83.55%
Density/km2	2,655	1,583
Proportion to Daman and Diu Population	78.59%	72.05%
Child Sex Ratio (0-6 Age)	897	907
Average Literacy	88.07	80.65
Total Child Population (0-6 Age)	20,458	13,024

Total current population (House-hold Survey - 2019): 3,30,760.

2.2.2. Diu District
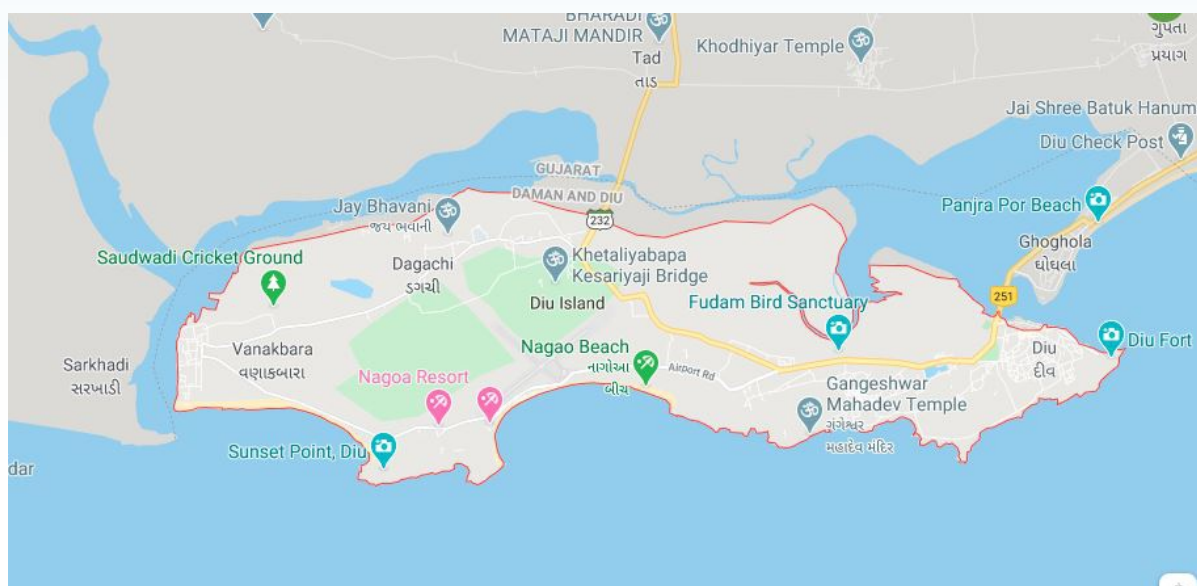
The district is made up of Diu Island and two small enclaves on the Indian mainland. The district headquarters are at Diu Town. Diu district occupies an area of 40 square kilometers. The area on the mainland borders Gir Somnath district of Gujarat. Diu Municipal Council for Diu town and 4 village panchayats is the administrative structure in Diu.

Table no.2.3: Census Data- Diu District.

Diu District – Census Data	2011	2001
Population	52.07 Thousand	44.22 Thousand
Actual Population	52,074	44,215
Male	25,642	20,878
Female	26,432	23,337
Population Growth	17.77%	11.98%
Total Child Population (0-6 Age)	6,476	7,554

Healthcare Delivery System: District - Daman

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                    ┌─────────────────────┐
                    │   Directorate of    │
                    │  Medical and Health │
                    │      Services       │
                    └─────────────────────┘
                              │
   ┌──────────┐     ┌─────────────────────┐
   │ Tertiary │     │   Govt Hospital -   │
   │   Care   │     │  Marwad - District  │
   └──────────┘     │   Hospital Daman    │
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   │Secondary │     │     Community       │
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   │ Primary  │  │   Primary    │ │ Urban Primary Health│
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   │ Grass root│  │  Health and  │ │  Urban Health and  │
   │   level   │  │   Wellness   │ │ Wellness Centres - 3│
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                 │   tres -17   │
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Healthcare Delivery System: District - Diu

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│ Directorate of Medical│  │  Govt Hospital -Diu  - │
│ and Health Services   │  │   District Hospital    │
│ Diu -                 │  └────────────────────────┘
│ Tertiary Care         │           │
└──────────────────────┘           │
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│   Secndary Care       │  │   Community Health     │
└──────────────────────┘  │     Centres - 1        │
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│   Primary Care        │  │  Primary Health Centres│
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┌──────────────────────┐  ┌────────────────────────┐
│  Grass root level     │  │  Health and Wellness   │
└──────────────────────┘  │  Centres/Subcentres -6 │
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The Directorate of Medical and Health Services in both these districts are fully committed for delivering quality services by holistic approach- wellness, preventive and curative aspects of health. Community Health Officers has been posted at each HWC for ensuring service delivery to the remotest grass root level.

Diagnostic and Curative components of Tuberculosis are in place at all the public health facilities and the provision of DOTS through field level health staff is on-going. This ensures timely supply of Drugs at patient door-step and regular follow-up and referral.

CHAPTER 3 - BURDEN OF TB AND TRENDS

Burden of TB - International, National and UT of DNH and DD

India is among the thirty high TB burden countries worldwide. India accounts for one fourth of the global TB burden i.e. 2.7 million out of 10 million new cases annually. 6-7 people per lakh population are affected by TB with HIV per year i.e. 8.6 lakhs TB HIV patients are found per year. Incidence of Drug Resistance TB (MDR/RR-TB) is 13.5 lakhs which accounts for one third of total global burden.

Table no.3.1: Incidences of TB

(In lakhs)	Incidence (TB)	Incidence (TB-HIV)	Incidence(MDR/RR TB)
Global	100	8.62	4.8
India	26.90	0.92	1.3

Source: Global TB Report 2019

According to Global TB Reports, in India males are more affected with TB as compared to females with an age group predominance of 14 – 60 years. Among the total notified TB patients, 85 percent are Pulmonary TB, out of which 60 percent are bacteriologically confirmed (detection of the Mycobacterium in bodily fluids/tissues) by available tests.

The burden of TB in the UT of DNH and DD, although not as high as in the high endemic states/UTs of India, is still a cause of concern from the public health point of view. The proportion of males among the newly diagnosed TB patients in UT also follows the all India trend.

Maximum number of cases were notified in the age group of 15 to 24 years. Pediatric and Geriatric age group have been least affected by Tuberculosis in UT.

In 2018, India was able to achieve a Total Notification of 21.5 Lakh TB cases of which 25 % was from the private sector. Majority of the TB burden is among the working age group. The 89% of TB cases come from the age group of 15-69 years. About 2/3 of the TB cases are Males.

India contributes 27% of global burden with estimated 27.5 lakhs patients as per Global TB report 2018. First time ever in history of national TB control programme, 16% surge was observed in total TB notification with absolute increase of more than 3 lakhs TB cases. Following the same trend, the UTs of DNH & DD observed a rise in TB notification among the resident population.

3.1   DETERMINANTS OF TB IN DNH AND DAMAN AND DIU:

3.1.1. Poor socio-economic Conditions:

Low socio-economic background can contribute to the increased risk of TB and unfavourable TB treatment outcomes. Majority of the population of DNH are below poverty line. Tuberculosis mortality rates in different economic groups in a community tend to vary inversely with their economic levels.

3.1.2. Malnutrition

Malnutrition and tuberculosis are both problems of considerable magnitude in DNH. These two problems tend to interact with each other. Nutritional status is significantly lower in patients with active tuberculosis compared with healthy controls. Malnutrition can lead to secondary immunodeficiency that increases the host's susceptibility to infection. In patients with tuberculosis, it leads to reduction in appetite, nutrient mal-absorption, micronutrient mal-absorption, and altered metabolism leading to wasting. Both, protein-energy malnutrition and micronutrients deficiencies increase the risk of tuberculosis. It has been found that malnourished tuberculosis patients have delayed recovery and higher mortality rates than well-nourished patients.

3.1.3. Migration due to Industrialization:

It is estimated that approximately 40% residents of other state have migrated to D&NH and Daman & Diu for work. Most of them are engaged on daily-wage basis jobs in Construction, Industries, Hotels and restaurants, shops and malls etc. They contribute immensely to the human resources of the state. Their health care is perceived as the responsibility of the state. Working in extreme conditions, earning minimum wages and living in crowded, often unhealthy surroundings, they are vulnerable for TB infection and active disease. Since a good proportion of them are residents of high TB burden settings, chances of having active TB and spreading of the disease among colleagues are considerable. The Union Territory has a very high rate of TB incidence in these migration settlements.

3.1.4. Tobacco Consumption and Alcoholism:

Tuberculosis disease and tobacco use are major public health burdens that are largely preventable. As per Global Adult Tobacco Survey (GATS2) nearly 28 % of the adult population in 2017-18 i.e. nearly 275 million adults consume tobacco in some form or the other and this adversely impacts TB case management.

 Under NTEP nearly 4% (1,10,592) of TB patients were identified as Tobacco users at enrolment at the National level and among those screened, 21% (2% - 84% across state/ UTs) were linked to Tobacco cessation services

The Union Territory has a high prevalence of chewing tobacco & smoking which contributes to a variety of tobacco related diseases and condition. A study conducted by the National Family Health Survey (NFHS round 4 2015-16) in the year 2015-16 reported :

Dadra & Nagar Haveli

- Tobacco Use and Alcohol Consumption among Adults (age 15-49 years)

- Women who use any kind of tobacco (%) 1.6 (urban) 2.4 (rural) 2.1(total)

- Men who use any kind of tobacco (%) 29.7 (urban) 51.9 (rural) 39.9 (total)

- Women who consume alcohol (%) 0.0

- Men who consume alcohol (%) 27.8 (urban) 41.0 (rural) 33.9 (total)

Daman and Diu:

- Tobacco Use and Alcohol Consumption among Adults (age 15-49 years)

- Women who use any kind of tobacco (%) 0.6 (urban)0.2 (rural) 0.5 (total)

- Men who use any kind of tobacco (%) 32.9 (urban) 30.9 (rural) 32.2 (total)

- Women who consume alcohol (%) 1.9 (urban) 0.3 (rural) 1.4 (total)

- Men who consume alcohol (%) 39.9 (urban) 22.9 (rural) 35.8 (total)

3.1.5. Air Pollution:

The analysis of Air Quality Index values during June 2015 by Central Pollution Control Board as a part of National Ambient Air quality monitoring in DNH and Daman and Diu indicate that AQI values are falling in good category. This indicates that the people in these areas have minimal impact of air pollution.

3.1.6. HIV:

TB is the leading cause of morbidity and mortality among People Living with HIV (PLHIV). This group is 21 times more likely to develop TB than persons without the virus. TB-HIV co-infection results in higher mortality rates. Nearly 25 percent of all deaths among PLHIV are estimated to be due to TB, the 2019 report says.

HIV co-infection or co-morbidity with TB in India was nearly 50,000 out of a total 2,155,894 cases, according to the 2019 report, amounting to a TB HIV confection rate of 3.4 percent. In the 2018 report, this figure was 3 per cent, with 43,253 cases out of 1,444,175 notified ones being co-morbid.

India ranks second in the world as far as TB-related mortality is concerned. About nine per cent of the global burden of HIV-associated TB is borne by India. Every year, 11,000 Indians die of HIV- TB.

The treatment success rate of newly registered TB-HIV patients also dipped by 9 per cent points. The India TB Report 2018 said it was 79 per cent as compared to 70 percent according to this year's report.

TB-HIV co-morbidity is a high focus group as far as TB elimination is concerned in UT of DNH and DD. The number of Persons Living with HIV (PLHIV) in D&NH is 1325 out of which 442 are on Anti Retroviral Treatment (ART). Similarly, number of PLHIV in DD is 798 out of which 323 are on ART.

Table no 3.2: TB HIV Status – Daman & Diu

TB HIV STATUS		
YEAR	Total no of patients Notified	No of TB-HIV Co infected Patients diagnosed
2017	372	3
2018	480	7
2019	560	4

3.1.7. Diabetes :

India has an estimated 69 million people suffering from Diabetes with a prevalence of 7.8% in general population. Diabetes increases the risk of developing TB by nearly two-three times. Moreover, diabetes can worsen the clinical course of TB, and TB can worsen glycemic control in people with Diabetes. Also, diabetes worsens TB treatment outcomes in terms of increased deaths, failure and relapse rates.

Dadra & Nagar Haveli

Total no. of 1, 27,561 Adults (age >30 years) were screened in which 9075 adults were found to be diabetic leading to 7.11% of prevalence rate alarming for more incidences of diabetes in future.

Table no 3.3: Diabetes Incidences-DNH

Total Adults Screened	Total Diabetes Patients on treatment	TB – Diabetes Co morbidity(2019)	Prevalence Rate(DNH)	Prevalence Rate(National)
1,27,651	9075		7.11%	7.8%

Daman and Diu

Total number. of 1,17,526 Adults above 30 years of age were screened in which 7,528 individuals were found to be diabetic, the current prevalence rate being 6.4.

Table no 3. 4: Diabetes Incidences – DD

Total Adults Screened	Total Diabetes Patients on treatment	TB – Diabetes Co- morbidity(2019)	Prevalence Rate(DD)	Prevalence Rate(National)
1,17,526	7528	28/560	6.4%	7.8%

3.2. Incidence and Notification trends of TB in the UT

Table no. 3.5: DNH – Notification and Incidence

S. no	Year	Population (Lakh)	Total TB cases notified	Initiated on treatment in DNH (Public + Private)	Patients Transferred -out	Notification Rate/lakh population
1	2010	3.37	463	397	66	117.80
2	2011	3.54	471	419	52	118.36
3	2012	3.70	514	415	99	112.16
4	2013	3.87	561	451	110	113.95
5	2014	3.85	625	479	146	116.88
6	2015	3.99	747	553	194	122.06
7	2016	4.13	777	562	215	124.46
8	2017	4.27	932	526	406	123.18
9	2018	4.42	866	542	324	122.62
10	2019	4.56	927	561	366	123.20

Year wise TB Notification rate

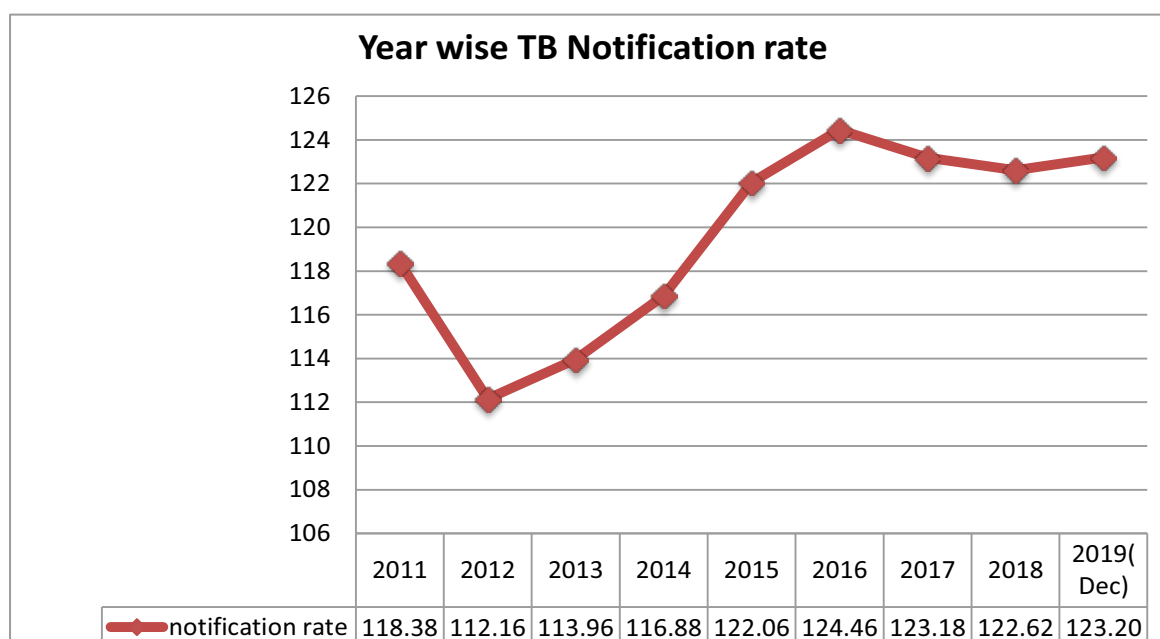|	2011	2012	2013	2014	2015	2016	2017	2018	2019(Dec)
notification rate	118.38	112.16	113.96	116.88	122.06	124.46	123.18	122.62	123.20

Figure No 3.1 Year wise TB Notification rate of DNH

During the year 2018 D&NH notified a total of 866 TB cases out of which 6 % was from the private sector. Majority of the TB burden is among the median age group as 58% of TB cases come from the age group of 15-34 years.

Daman and Diu: Notification and Incidence

Table no. 3.6: Daman and Diu: Notification and Incidence

Sr.No	Year	Population (Lakh)	Total TB Cases Notified	Treatment initiated in Daman	Patient Transferred out	Notification Rate /lakh population
1	2011	2	313	289	24	156
2	2012	2.5	330	212	118	132
3	2013	2.6	217	171	46	72
4	2014	2.8	279	231	48	93
5	2015	2.9	284	226	58	95
6	2016	3.04	487	440	47	162
7	2017	3.25	446	417	29	147
8	2018	3.74	495	405	90	132
9	2019	3.8	560	416	144	147

Year wise TB Notification rate

	2011	2012	2013	2014	2015	2016	2017	2018	2019
NOTIFICATION RATE	156	132	72	93	95	162	147	132	147

Figure No 3.2 Year wise TB Notification rate of DD
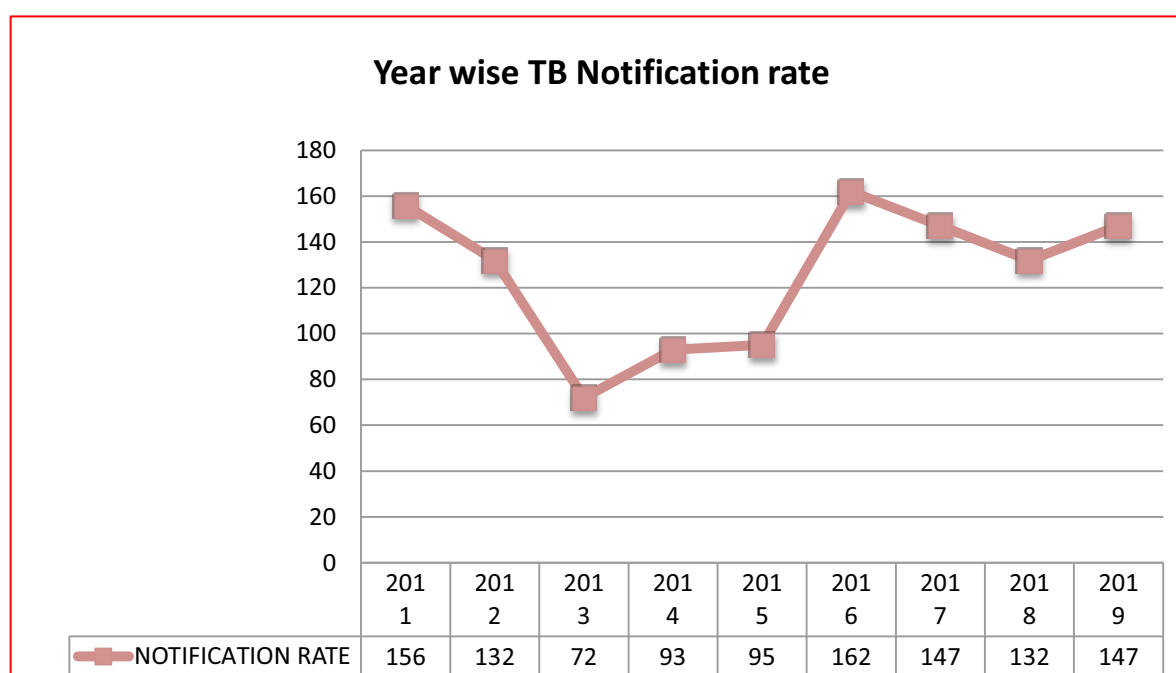
Daman and Diu have witnessed a steady Notification Rate from 2017. The current rate for 2019 being 147/lakh population. The case incidence has increased after 2015 and have remained below 500 mark since 2016, but with the rising population the incidence rate has come down, as a lot of patients notified and diagnosed in Daman are residents of other states, mostly Gujarat.

3.3. Age – Gender trends of TB cases in UT Dadra and Nagar Haveli

Maximum number of cases was notified in the age group of 15-24 years. With each subsequent year the proportion of new smear positive cases in the lower age group (<15 years) is falling while the reverse is true for median age groups >30 years

DNH Age wise Notification

	0-4yrs	5-14yrs	15-24yrs	25-34yrs	35-44yrs	45-54yrs	55-64yrs	>64yrs
2017	1	15	187	142	88	40	32	21
2018	2	23	153	165	80	67	31	25
2019(Dec)	4	15	186	159	74	55	37	21
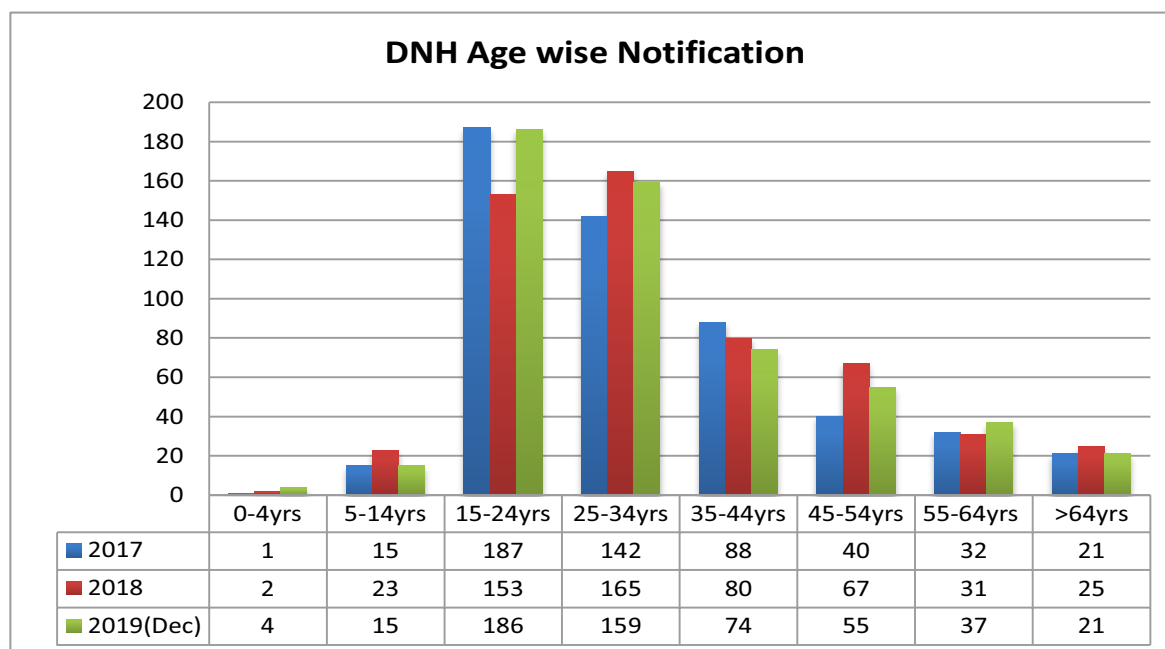
Figure No 3.3 Age wise TB Notification rate of DNH

Age - Sex Pyramid - Tuberculosis - DNH - 2019

Figure No 3.4 Age-Sex Pyramid of TB at DNH

In DNH, among the total TB cases notified, proportion of Paediatric age group patients in age group below 14 years is very low i.e., 3%, 4.5%, 4.1% respectively between 2017 and 2019. Proportion of Female vs. Male notification is 40.7% and 59.2% during 2019.

Daman and Diu

Maximum number of cases were notified in the median age group of 15-34 years.

DD Age wise notification

	0 to 4	5 to 14	15 to 24	25 to 34	35 to 44	45 to 54	55 to 60	>65
2019	8	16	96	108	62	41	32	23
2018	3	15	134	120	73	46	37	24
2017	7	11	96	86	68	45	20	28
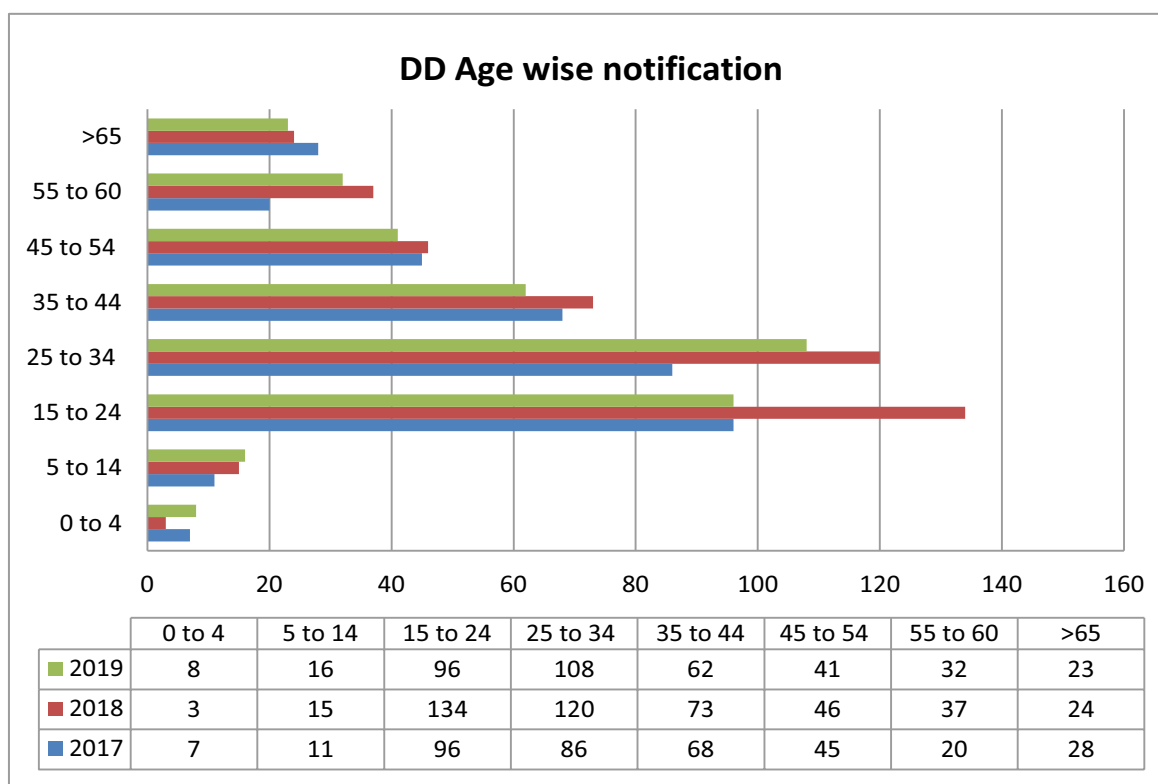
Figure No 3.5 Age wise TB Notification rate of DNH

Age - Sex Pyramid - Tuberculosis - DD - 2019
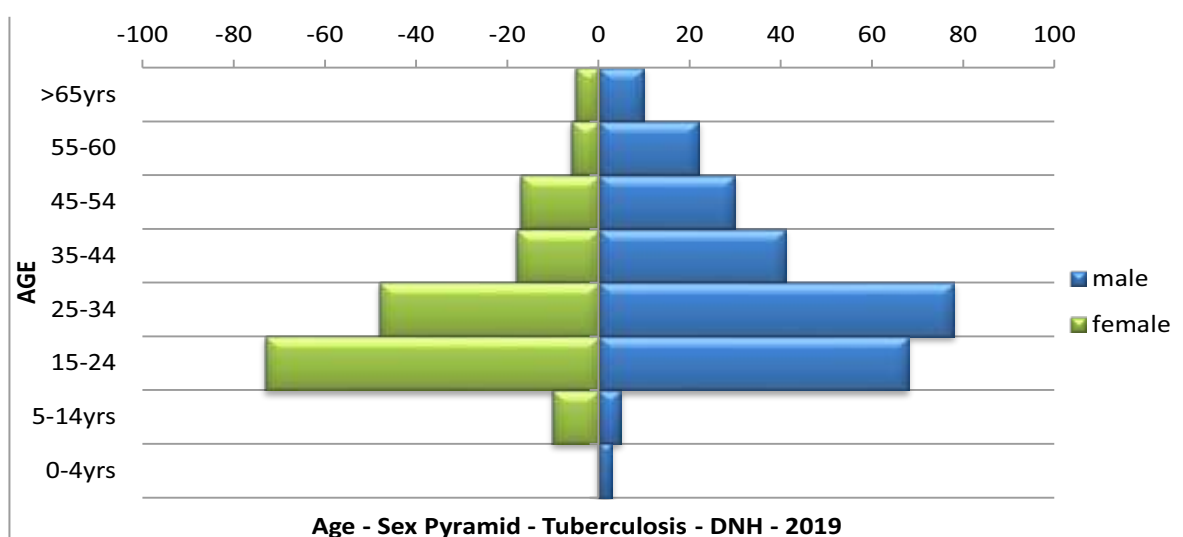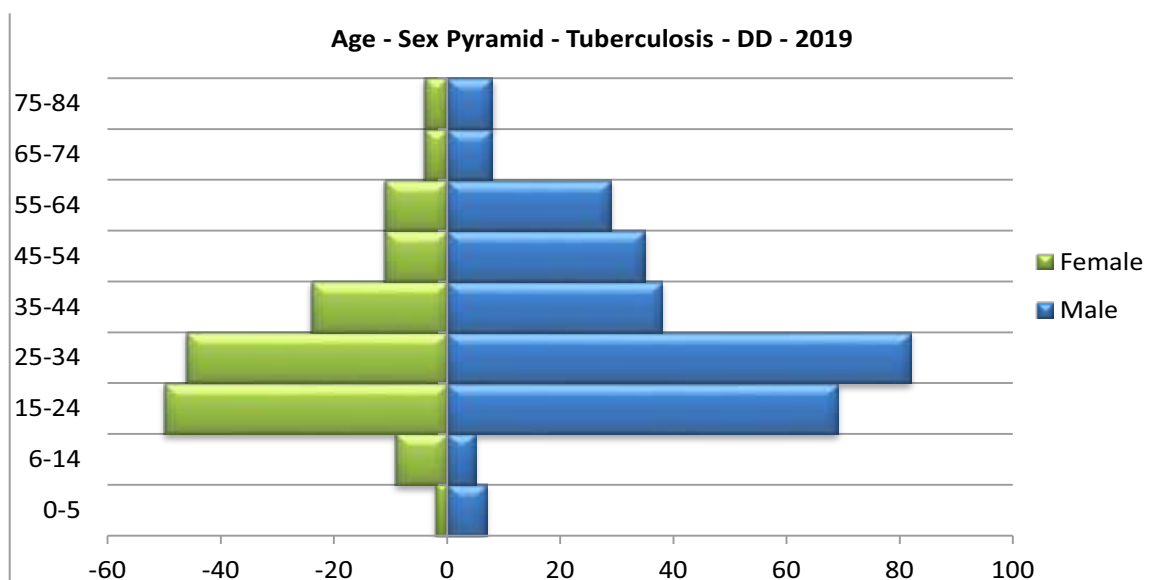
Figure No 3.6 Age-Sex Pyramid of TB at DD

Among the total TB cases notified, proportion of Pediatric age group patients in age group below 14 years is 4.2%, 3.6%, 5.2% respectively between 2017 and 2019. Proportion of Female vs. Male notification is 36.4% and 63.6% during 2019.

3.4. Incidence of Extra Pulmonary Tuberculosis

Although the majority of TB patients get their lungs primarily affected by Tuberculosis, a considerable proportion of patient get the type of extra-pulmonary Tuberculosis. The incidence of extra-pulmonary tuberculosis in the UT of DNH and DD in last five years has been as shown below –

Table no. 3. 7: Incidence of Extra Pulmonary Tuberculosis DNH

Year	Pulmonary	Extra Pulmonary	% of EP TB Patients	Total patient
2014	305	155	**33.69**	**460**
2015	352	139	**28.30**	**491**
2016	351	174	**33.14**	**525**
2017	353	173	**32.89**	**526**
2018	357	188	**34.49**	**545**
2019	256	183	**41.68**	**439**

Daman and Diu

Table no. 3. 8: Incidence of Extra Pulmonary Tuberculosis DD

Year	Pulmonary	Extra Pulmonary	% of EP TB Patients	Total patient
2017	353	93	**20.85**	**446**
2018	367	118	**24.32**	**485**
2019	433	127	**22.75**	**560**

3.5. Private Sector – TB Notification and Trends

Notification of TB cases from the private sector is important for correct estimation of prevalence as well as tracking of private patients for treatment completion. In 2018, India was able to achieve a Total Notification of 21.5 Lakh TB cases of which 25 % was from the private sector.

Dadra and Nagar Haveli

In 2018, DNH was able to achieve a Total Notification of 849 TB cases of which only 6 % was from the private sector. The proportion of private notification to public notification is on the lower side in comparison to the trends countrywide, there is a scope to increase it further in DNH.

Table no. 3.9: Private Notifications of TB DNH

Year	Patients Notified by Public Sector	Patients Notified by Private Sector	Percentage of Private Hospital Notifications (National Average 25%)
2013	441	0	0.00
2014	450	19	4.05
2015	487	60	10.97
2016	729	37	4.83
2017	852	70	7.59
2018	798	51	6.01
2019	**854**	**73**	7.87

Although there is no secular trend in the private TB notification in the UT of D&NH, it is likely to increase in the current year (2019) by 30–40 percent.
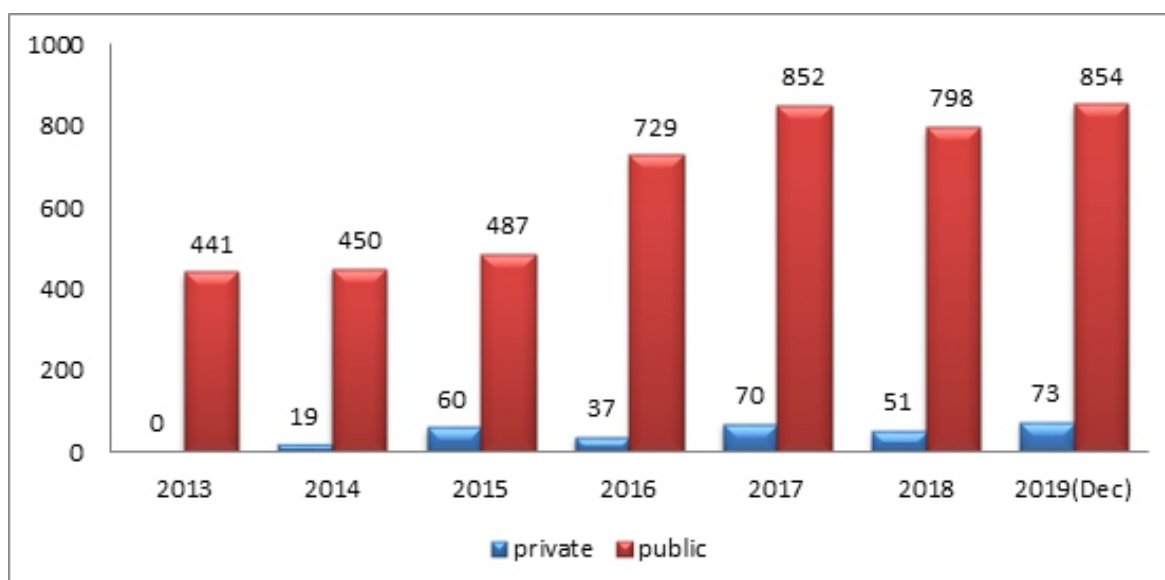
Figure No 3.7 Public v/s Private Notification DNH

Table no. 3.10: Private notifications of Daman and Diu

Year	Patients Notified by Public Sector	Patients Notified by Private Sector	Percentage of Private Hospital Notifications (National Average 25%)
2011	310	3	0.96
2012	328	2	0.61
2013	217	0	0.00
2014	279	0	0.00
2015	229	55	19.37
2016	400	87	17.86
2017	296	76	20.43
2018	448	32	6.67
2019	474	86	22.63

Public vs Pvt Notifications - Daman

Figure No 3.8 Public v/s Private Notification DD

Daman and Diu maintained a notification rate of TB cases from Private Health Facilities of 17-20% since 2015 with 2018 being an exception where the same was 6.67%. In 2019, the rate is comparable to all India trends.

CHAPTER 4 - IMPLEMENTATION STATUS AND PERFORMANCE INDICATORS

The National Tuberculosis Elimination Programme (NTEP) has been implemented in the Union Territory – DNH & DD since 2005 under the umbrella of National Health Mission (NHM).

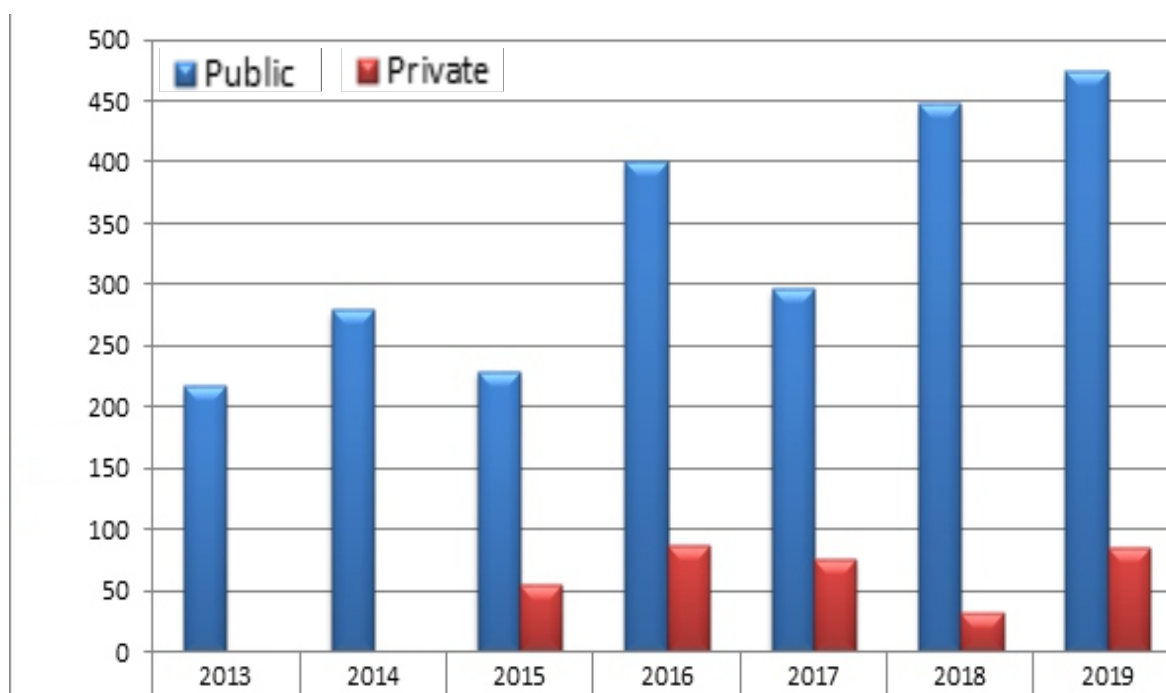The UT of DNH and DD has made not able progress towards tuberculosis control. A comprehensive and up-to date assessment of TB control activities. The programme is actively implemented in a more efficient and effective manner through web based real time information and surveillance portal developed by Central Tuberculosis Division (CTD) - NIKSHAY.

The National Tuberculosis Elimination Programme (NTEP) in all districts of UT is continuously working to strive for universal access to quality TB diagnosis and treatment for all patients. Newer approaches to identify TB cases early in community through active search, has ensured cutting down on the risk of transmission. Treating all of these active cases promptly and adequately has led to prevention of the emergence of Multi Drug Resistant TB (MDR-TB).

The programme involves Information Communication Technology (ICT) which gives unprecedented opportunities to ensure that TB cases are promptly diagnosed and optimally treated. NTEP has continuously been innovative and progressive in addressing issues related to TB control in the Union Territory.

Newer Diagnostic service, CBNAAT – Cartridge Based Nucleic Acid Amplification Test (GeneXpert) has been introduced for ensuring early diagnosis with greater sensitivity and specificity to reduce the diagnostics delays and cutting chain of transmission and preventing the drug resistant TB. It also detects Drug Resistance TB prior to treatment initiation. Currently, CBNAAT testing is offered for all the Sputum/Body Fluid samples collected at all Public and Private Health facilities.

Under NTEP, the diagnosis and treatment is free of cost at all public health facilities in all the districts. No waiting period exists for patient seeking treatment and TB drugs due to active involvement of all the stakeholders in implementation of the national programme. Efforts are being made to ensure that there is greater participation in the national programme by the private doctors and for all treated outside the programme being notified.

4.1 Infrastructure and Human Resources under NTEP

NTEP is spearheaded by Program Officers- one each at DNH and DD working under Department of Health and Family Welfare and National Health Mission. All 3 Districts have a Tuberculosis Unit (TU) for providing services and overall supervision and monitoring of the program. Designated Microscopy Centres (DMC) have been established in adequate numbers to facilitate Sputum Microscopy. CBNAAT Testing and Universal Drug Sensitivity Testing is conducted at facilities and mobile vans. Treatment is provided majorly through Health and Wellness Centres or Sub-Centres through DOTS.

Dadra and Nagar Haveli: Infrastructure Under NTEP

Office of NTEP District Implementation Unit
DMHS Building, Silvassa

Divisional
TB Unit - Silvassa

Divisional
TB Unit - Khanvel

Designated Microscopy Centres - 06
(All Facilities - PHC and above)

CBNAAT Machine - 1

Designated Microscopy- 05 (All PHCs and above)

CBNAAT Van - 1
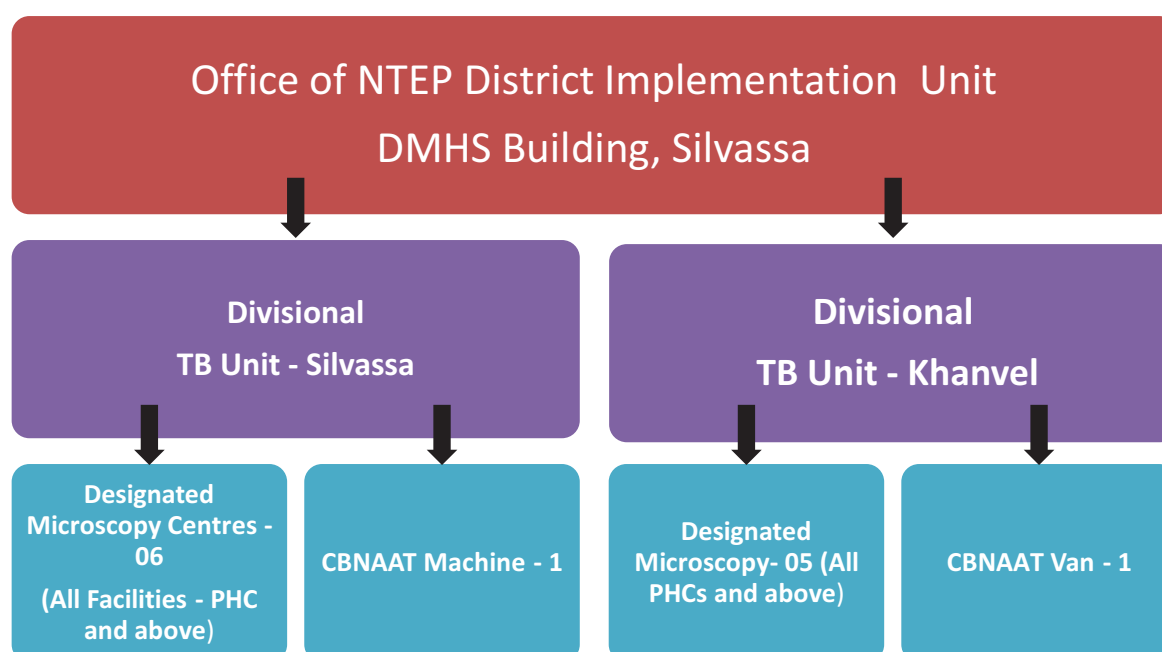
Human Resources – DNH NTEP

Table no. 4.1: Human Resources– DNH NTEP

Designation	Sanctioned Posts –DNH	Currently in Position – DNH
District PMDT & TB HIV Co-Ordinator	1	1
Senior Treatment Supervisor (STS)	2	1
Senior Treatment Laboratory Supervisor (STLS)	1	1
Medical Officer	1	1
DMC Laboratory Technician	1	1
Data Entry Operator	1	1

Daman and Diu :- Infrastructure Under NTEP

Office of Communicable Diseases - Daman & Diu - NTEP (Moti Daman)

Daman District TB Unit - Moti Daman

Diu District TB Unit - CHC Ghoghla

Designated Microscopy Centres - 5(All Facilities - PHC and above

CBNAAT Machine - 1

Designated Microscopy Centre - 2

CBNAAT Van - 1
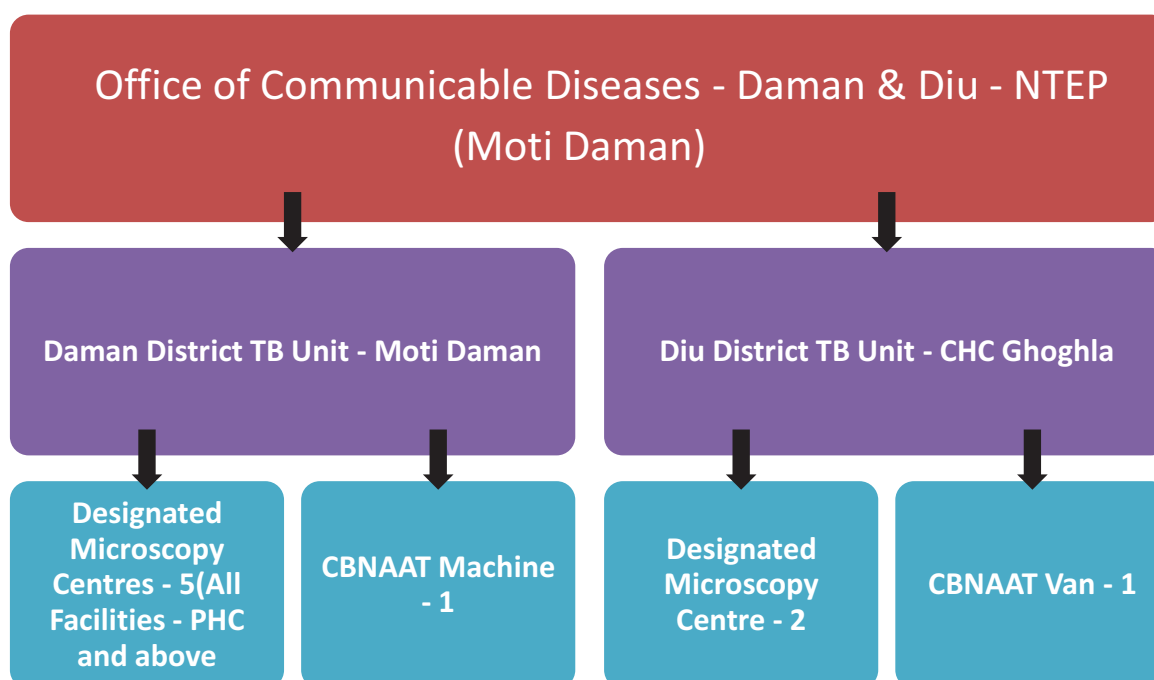
Human Resources – Daman and Diu NTEP

Table no. 4. 2: Human Resources – DD NTEP

Designation	Sanctioned Posts – Daman	Currently in Position– Daman	Sanction– Diu	In Position -Diu
Asst. Program Officer (APO)	1	1	0	0
ACSM Officer	1	0	0	0
Medical Officer	1	0	0	0
Pharmacist	1	1	0	0
Accountant	1	1	0	0
Senior Treatment Supervisor (STS)	1	0	1	1
Senior Treatment Laboratory Supervisor (STLS)	1	1	1	1
District PMDT& TB HIV Co-Ordinator	1	1	0	0
DMC Laboratory Technician	1	1	1	1
TBHV	1	1	0	0
Data Entry Operator	1	1	1	1

4.2. Sputum Examination and Conversion Rates

Sputum Smear Examination – Microscopy for AFB – Acid Fast Bacilli (Mycobacterium Tuberculosis being an Acid Fast Bacilli) is an important component of Pulmonary TB diagnosis. The emphasis is on increasing the numbers of TB suspects being examined for active TB.

The sputum examination rate is an important indicator denoting the efforts put towards the detection of new cases. As shown in the table below, the sputum examination rate per lakh population of the UT has been well above the all India average.

Sputum conversion rate indicates the conversion of initially sputum positive cases to sputum negative during treatment and hence becoming non infective. This is vital for restricting the transmission of infection and hence reducing the disease load in the long run.

Dadra and Nagar Haveli

Table no. 4. 3: Programme Indicators – DNH NTEP

Year	Population in lakh	Sputum examined	Smear positive diagnosed	Suspect Rate (National Average: 712 suspects per lakh per year)	Treatment Success rate among New Smear Positive TB cases (In percentage; Expected at least 85%)
2013	3.87	4145	329	1071	86.19
2014	3.85	6288	385	1633	85.47
2015	3.99	7131	477	1787	85.00
2016	4.13	8023	488	1937	85.61
2017	4.27	6815	447	1592	88.38
2018	4.42	7687	440	1739	95.09
2019(Dec)	4.56	7040	430	1203	92.20

The above table also indicates that the treatment success rate of the highly infectious sputum positive cases are higher than the expected 85% and is being maintained well above 90% for last couple of years.
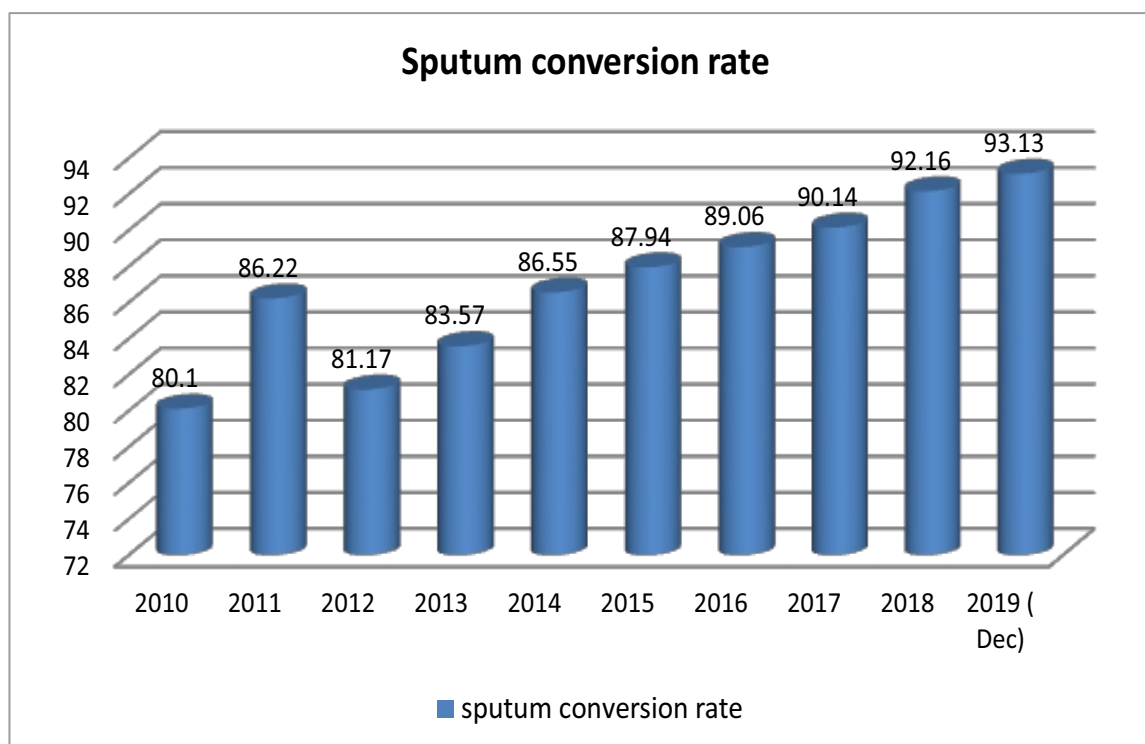
Figure No 4.1 Year wise Sputum conversion rate DNH

Daman and Diu: The table below shows the sputum conversion rates for Daman and Diu for last few years.

Table no. 4. 4: Programme Indicators – DD NTEP

Year	Population in lakh	Sputum examined	Smear positive diagnosed	Annual TB Suspect examination Rate (National Average: 712 suspects per lakh per year)	Treatment Success rate (In percentage; Expected at least 85%)
2017	3.25	3719	233	1144	89%
2018	3.74	4233	188	1131	91%
2019	3.8	4498	239	1184	92%

Both treatment success rate and Sputum Conversion have improved drastically in last 3 years in Daman and Diu and are consistently higher than desired limits set by guidelines.

Sputum conversion rate - DD
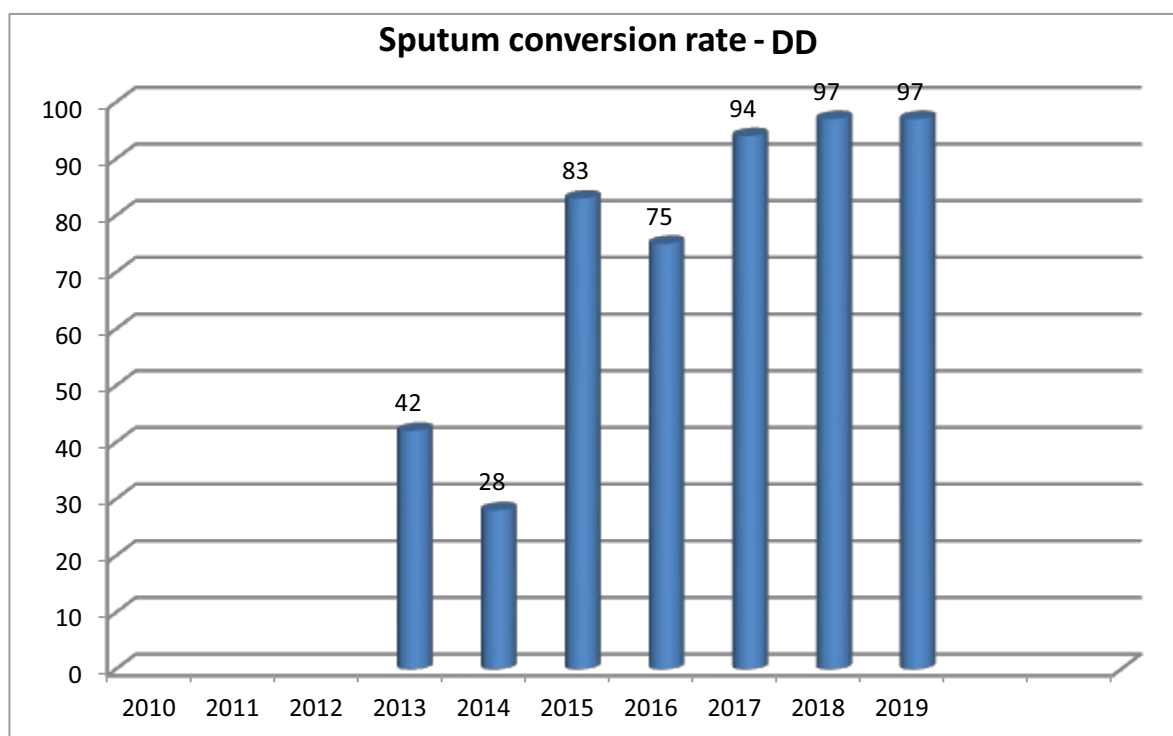
Figure No 4.2 Year wise Sputum conversion rate DD

4.3. Programmatic Management of Drug Resistant TB Services (PMDT):

One of the biggest concerns is drug resistant tuberculosis. There are 1,14,237 MDR-TB (multi-drug resistant TB) patients globally, of which, more than 8,000 are XDR-TB (extensive drug resistant TB), according to the 2018 World Health Organization TB update. India has 26,966 MDR-TB patients, the highest in the world, while there are 2,130 XDR-TB patients in the country.

The status of UT of DNH and DD in PMDT
Dadra and Nagar Haveli

Table no. 4. 5: PMDT Incidences DNH

Year	No of presumptive DR-TB tested	No of DR-TB patients diagnosed	No of DR -TB patients put on treatment
2013	150	11	7
2014	252	14	9
2015	209	9	5
2016	439	16	10
2017	1400	19	10
2018	2001	35	17
2019(DEC)	2298	19	14

PMDT Implementation Status DNH

Figure No 4.3 Year wise DR -TB Notification of DNH

In DNH during 2018, 35 DR-TB cases were diagnosed and 17 (48.57%) of them were put on either shorter or conventional MDR TB treatment. Treatment success rate of 11 MDR/ RR TB patients initiated on treatment during 2013 was reported to be 50% with 28.57% death and 21.43 % default including treatment failure.

-For TB sensitive total cases examined 849 suspects in 2018 and 17 patient initiated on MDR/XDR TB. Currently the success rate in DNH is 94.84% against all India success rate of 85-87%. The success rate in DNH is continuously increasing every year by nearly 1% since 2010. Sputum conversion rate is also increasing since last four years. In 2018 it was 92.16%.

Daman and Diu:

Table no. 4.5: PMDT incidences DD

Year	No of Presumptive DR-Tb Tested	No of Dr-TB Patients Diagnosed	No of Dr-TB patients put on treatment
2011	25	0	0
2012	38	1	1
2013	42	2	2
2014	27	3	3
2015	111	4	3
2016	256	8	4
2017	283	12	5
2018	554	20	14
2019	140	22	17

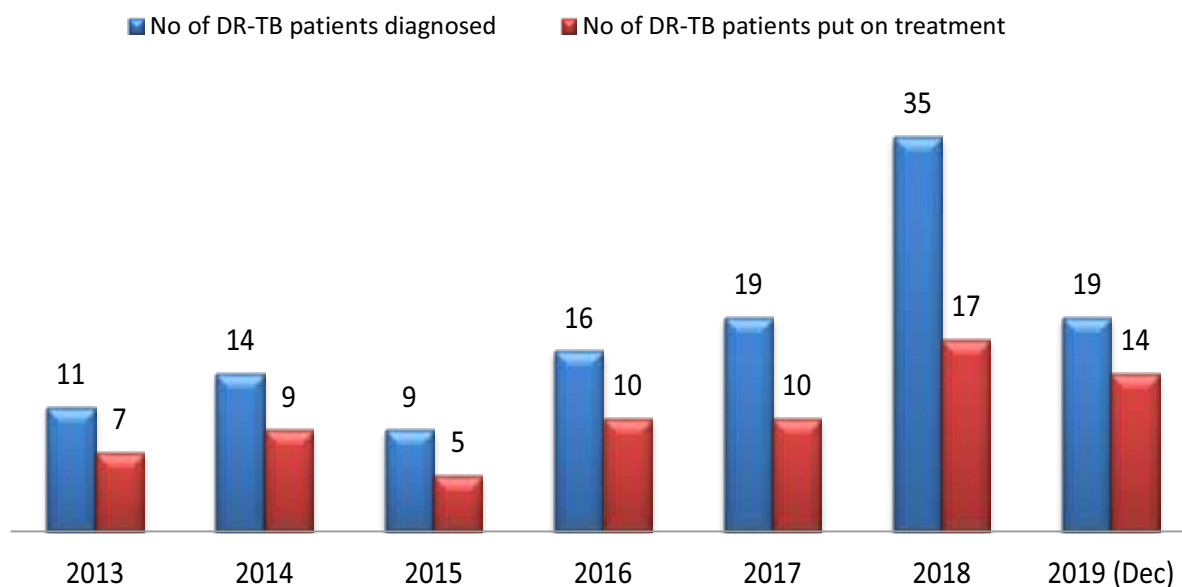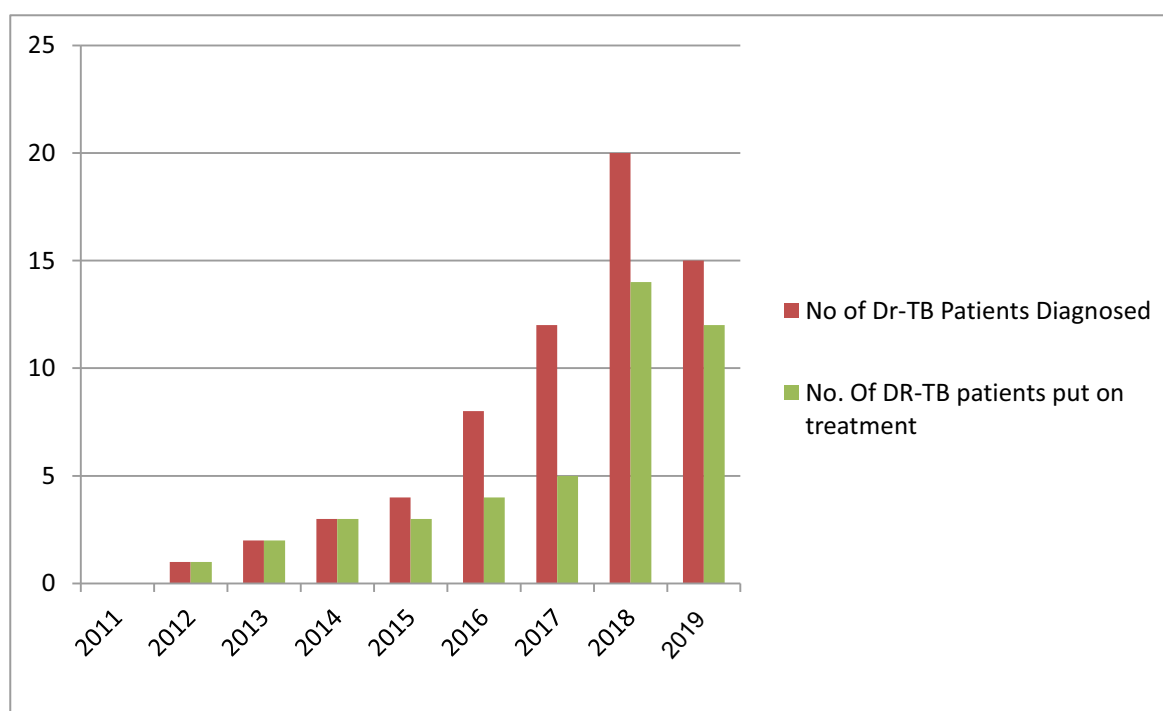
Figure No 4.3 Year wise DR -TB Notification of DD

In DD during 2018, 20 DR-TB cases were diagnosed and 17 (48.57%) of them were put on either shorter or conventional MDR TB treatment.

4.4. Success Rate:

Definition : Percentage of new smear positive patients who are documented to be cured, or to be successfully completed treatment.

In a well performing area, 80 - 85% of patients will be successfully treated. The global and national target is to achieve and maintain 85% treatment success.

Treatment success rate is an indicator of the performance of national tuberculosis control programme. In addition to the obvious benefit to individual patients, successful treatment of infectious cases of TB is essential to prevent the spread of the infection.

The graph below shows the increasing trend of this indicator over the years.

Treatment Success Rate DNH

	2014	2015	2016	2017	2018	2019 (Dec)
Sucess rate	82.54	83.78	87.06	89.3	94.84	92.1

Figure No 4.5 Treatment Success rate of DNH

DD Treatment Success Rate - Daman & DIu

SUCCESS RATE

	2013	2014	2015	2016	2017	2018	2019
SUCCESS RATE	86%	75%	80%	83%	89%	91%	92%
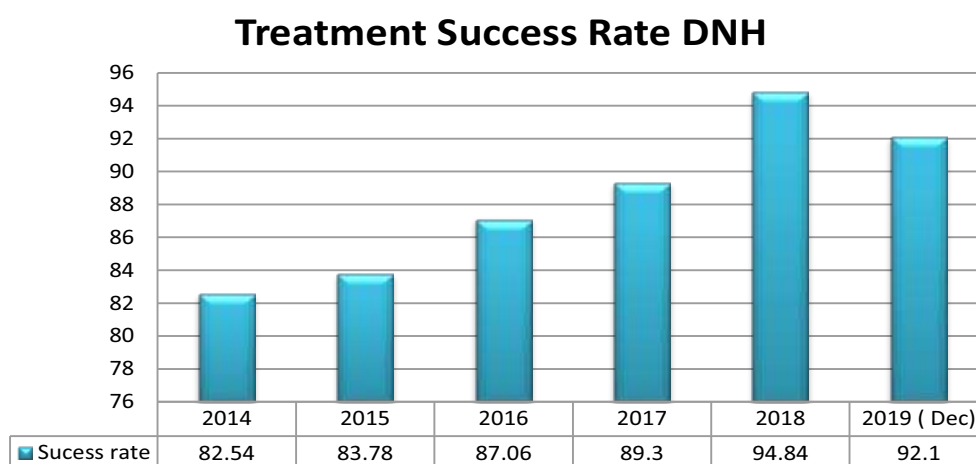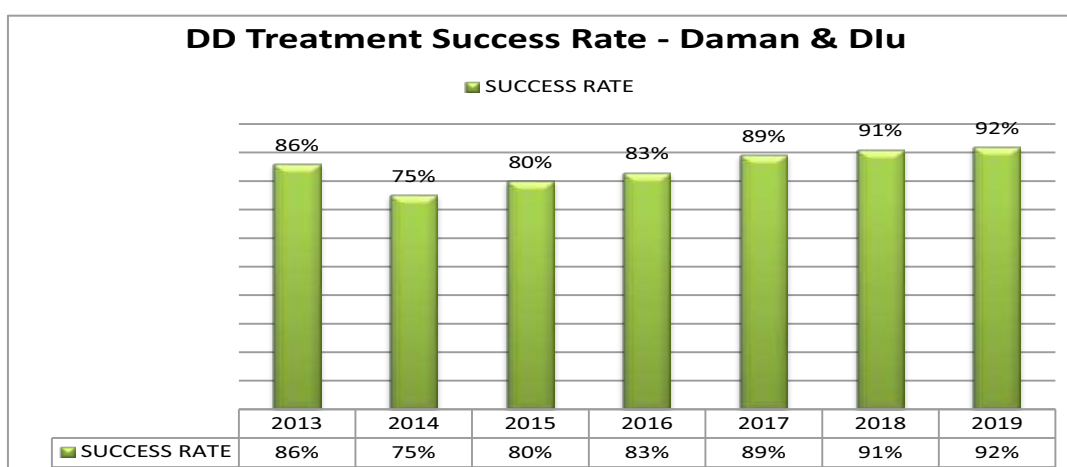
Figure No 4.5 Treatment Success rate of DD

The graph above shows the consistent stability with marginal increase of this indicator over the years

4.5. Default rate:

Definition: The rate of patients initiated on treatment which were lost to follow up after completing 1 month of treatment.

Defaulting from tuberculosis (TB) treatment has been one of the major obstacles to treatment management and an important challenge for TB control. As one can see at DNH there is a decreasing trend of default rate over the years.

Default rate DNH

	2014	2015	2016	2017	2018	2019 (Dec)
Default rate	7.03	4.89	3.29	2.14	1.9	0.84
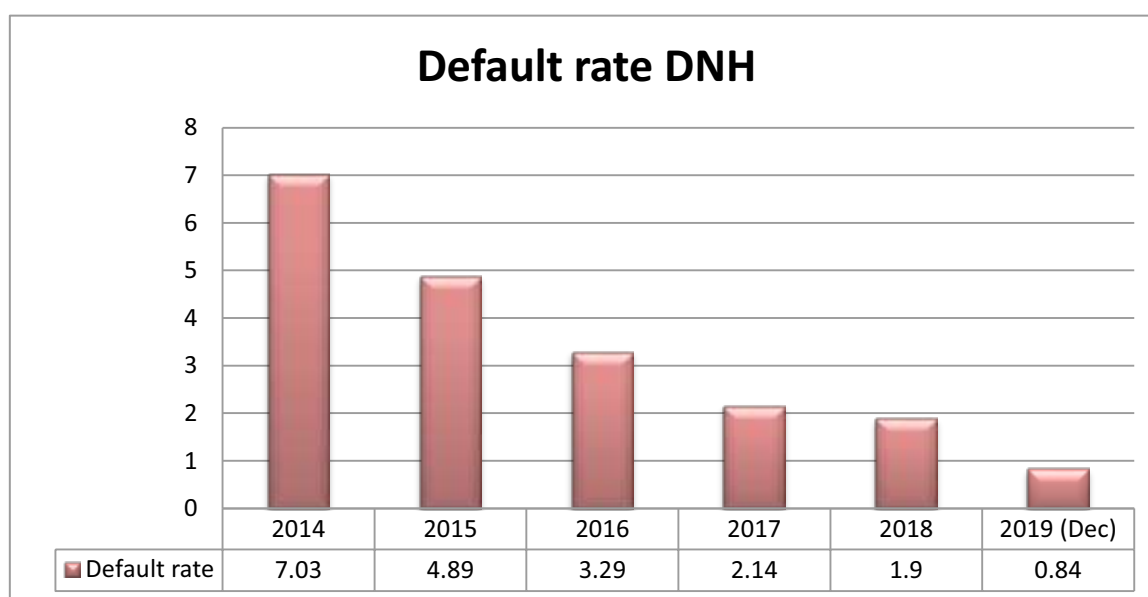
Figure No 4.7 Year wise Default rate of DNH

Daman and Diu:

DD Default rate

	2013	2014	2015	2016	2017	2018	2019
Default rate	18%	11%	2%	6%	5%	6%	4%
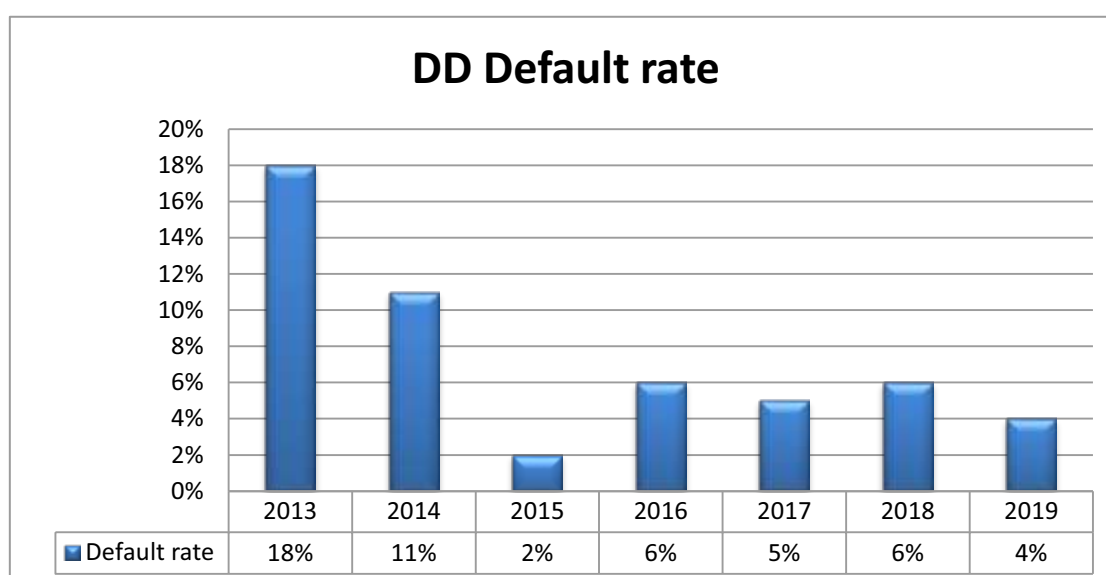
Figure No 4.8 Year wise Default rate of DD

The graph above shows the decline of this indicator over the years compared to 2013.

4.6. Mortality due to TB:

Tuberculosis is a chronic and debilitating disease. A major cause of mortality due to communicable diseases in India is attributed to Tuberculosis. Death rate among the patients under treatment for Tuberculosis is the mortality indicator for TB. The mortality associated with TB in the UT of DNH AND DD is detailed in the table below –

Dadra and Nagar Haveli

Table no. 4.6:   Mortality   due to TB at DNH

Year	Total patients (Including MDR)	No of Patients Died During Treatment			Death Rate
		Pulmonary	Extra Pulmonary	Total Mortality due to TB	
2017	526	10	1	11	2.09
2018	545	13	7	20	3.67
2019	439	7	3	10	2.28

Daman and Diu

Table no. 4. 7: Mortality due to TB at DD

Year	Total patients (Including MDR)	No of Patients Died During Treatment			Death Rate
		Pulmonary	Extra Pulmonary	Total Mortality due to TB	
2017	446	12	2	14	3.1
2018	413	9	1	10	2.42
2019	566	16	0	16	2.83

The mortality due to TB in DNH and DD both in well below 4% and better than the all India average.

CHAPTER 5 - MOVING TOWARDS ELIMINATION - TB 'FREE DNH & DD'

The UT of Dadra & Nagar Haveli and Daman and Diu is committed to control communicable diseases like Tuberculosis and Leprosy in an effective way to bring the prevalence/incidence down and decrease the morbidity and mortality due to these diseases to such an extent that it longer remains a public health problem.

5.1. The NSP 2017 – 25 and TB elimination:

The NSP for TB elimination 2017–25 is a framework adopted by the Central TB Division, Ministry of Health & Family Welfare, Government of India to guide the activities of all stakeholders including the national and state governments, development partners, civil society organizations, international agencies, research institutions, private sector, and many others whose work is relevant to TB elimination in India.

The NSP 2017-2025 which builds on the success and learning of the last NSP, and articulates the bold and innovative steps required to move towards TB elimination, is a 3 year costed plan and a 8 year strategy document. It provides goals and strategies for the country's response to the disease during the period 2017 to 2025 and aims to direct the attention of all stakeholders on the most important interventions or activities that the NTEP believes will bring about significant changes in the incidence, prevalence and mortality of TB. These strategies and interventions are in addition to the processes and activities already ongoing in the country.

5.2. Vision, Goals and Targets:

This guidance document and plan proposes strategies to reduce TB burden in the UTs of D&NH & DD in line with the global End TB targets and Sustainable Development Goal's to attain the vision of a TB-free D&NH &DD.

Vision - TB-Free D&NH & DD with zero TB deaths, disease and poverty due to tuberculosis

Goal - To achieve a rapid decline in the burden of TB, morbidity and mortality while working towards elimination of TB in the UTs of D&NH & DD by 2022.

Target - The World Health Organization defines TB elimination as <1 case incidence of TB disease per million population annually. A low incidence region is defined as case incidence <100 cases per million.
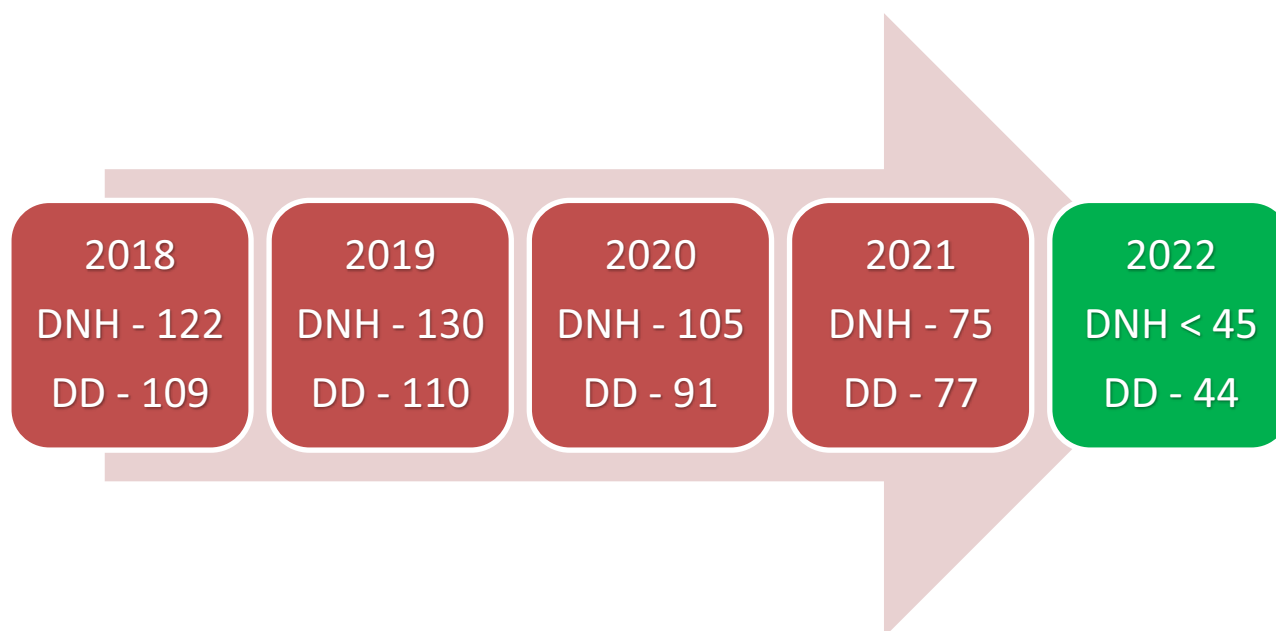
The National Strategic Plan 2017 – 25 has defined TB Free Status as 44 or less new TB cases per lakh   .

The UT of DNH and DD intend to reach   that target by 2022 (three years before the National target)   .

The time-bound targets for each year have been estimated/ calculated based on the incidence rates in a year.

Year wise TB case incidence targets per 1,00,000 population

2018	2019	2020	2021	2022
DNH - 122	DNH - 130	DNH - 105	DNH - 75	DNH < 45
DD - 109	DD - 110	DD - 91	DD - 77	DD - 44

5.3. Preparedness and Road Map for TB Elimination – DNH & DD

Considering the current trend of TB in the UTs of DNH & DD, the goal of achieving the target by December 2022 is a mammoth task. It demands multi-pronged strategy, dedicated team-work, active involvement of private sector and community participation catalyzed by a persistent Administrative and Political commitment coupled with pooling of all available resources.

Currently the district of DNH notifies approximately 122 (per 100000 population) and in 2017 it was 123 per lakh population, whereas Daman has a notification rate of 109. Annual risk of tuberculosis infection (ARTI) in DNH & DD has been estimated to be at low levels. Childhood TB notification also is very low, of which the confirmed segment is negligible. Age specific notification is markedly skewed to the right. All these could be early epidemiological indicators of a declining TB transmission in the Union Territory.

A SWOT analysis highlights the current preparedness level and the steps to be in-corporated in strategy for TB elimination.

SWOT Analysis for TB Free DNH & DD

Strengths
- High level of Political and Administrative commitment.
- Availability of new diagnostic facilities, free treatment.
- Robust and equipped Government Health infrastructure
- Committed, motivated and trained Health Workforce
- Good performance indicators under NTEP in last few years

Weaknesses
- Diverse TB epidemiology, key population is under served.
- Inadequate Private sector involvement in TB
- Limited in-patient care facility & financial resources to enhance the elimination activity.
- Inadequate awareness and lack of active participation from the community.
- Preventive Measures not regukarly followed by Health-care professionals

Oppurtunities
- UT has limited population and geographical area compared to bigger states
- Higher literacy rate.
- Very few hard-to-reach areas.
- Inter-departmental and inter-sectoral co-ordiantion has been good in the past few years.

Threats
- Latent TB infection cases is threat for re-emergence of TB infection.
- Poor hygiene, sanitation and ventilation in chawl areas,
- Anaemia and Malnourishment.
- High risk of cross boundary infection from the neighbouring states.
- High level of migration from high TB incidence states - UP, Bihar, West-Bengal,Orissa
- MDR , XDR TB and TB-HIV co-infection.

Key Focus Areas of the Strategic Plan

a. Active Case Finding in intensified mode in vulnerable population.

b. Diagnosis and treatment of Latent TB Infection in high and low burden subpopulations where IGRA testing and INH/Rifapentine combinations may be needed.

c. Management of co-morbidities like Diabetes, HIV and COPD to prevent death of patients, where scale up of NACO and NPCDCS is required.

d. Establishing a real time cloud based TB surveillance system and link it to e-arogya – needs support in form of hardware, IT manpower and software

e. ICT support for treatment adherence.

f. Private Sector involvement and community awareness with active participation

g. Preventive measures and air-borne infection control.

Considering the complexity of determinants of TB and factors contributing to its incidence and prevalence, strategies are needed to address all the relevant factors for effective control of TB in the UTs.

Keeping track with the NSP 2017- 2025, the strategies for achieving the TB free status by the UTs by 2022 have been formulated involving all different components.

CHAPTER 6 - PRINCIPLES AND STRATEGIES FOR TB ELIMINATION IN DNH & DD

To achieve the annual targets, Action Plan for each year will be formulated keeping in mind the progress or shortcomings of the previous year. The Action Plan is based on 4 key strategies working in a continuum,
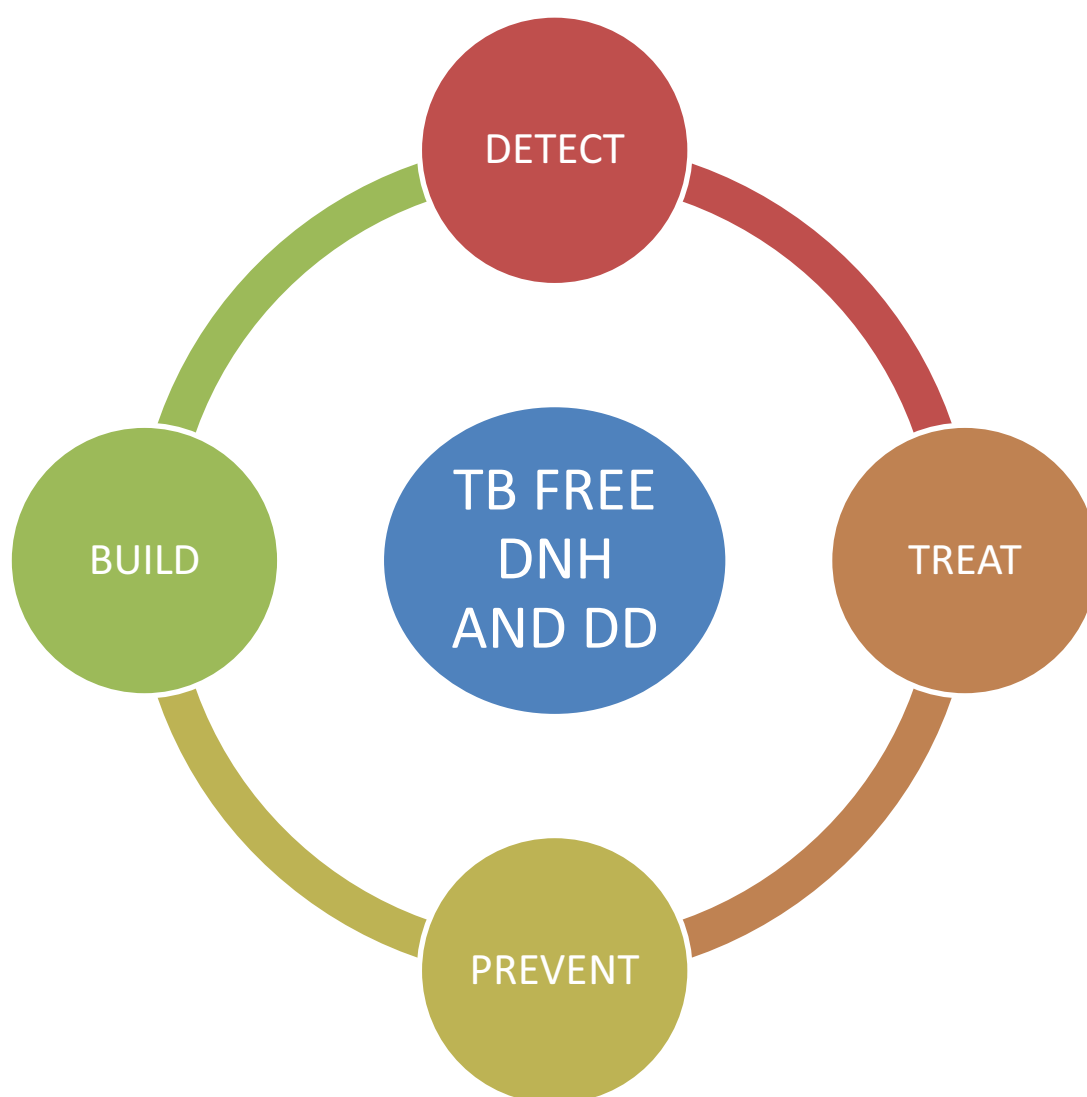
Figure No 6.1 Four Pronged Strategies for TB Elimination

I. Detect:

One of the key strategies to achieve TB Elimination is early identification of people with a high probability of having active TB (presumptive TB). Screening of general population and diagnosing patients with appropriate tests and strategies will improve the response to appropriate treatment which is the prime factor.

II. Treat:

After detecting Tuberculosis in a patient, complete treatment plays a major role that is our second pillar. Principle of complete treatment is not completing treatment anyway. It is prompt initiation of treatment with the right regime, regular intake of all doses, prevent or manage factors adversely affecting a good treatment outcome.

III. Prevent:

Preventive measures in health-care settings are of central importance to the safety of patients, health-care workers and the environment, and to the management of communicable disease threats to the global and local community. TB infection control is a combination of measures aimed at minimizing the risk of TB transmission within populations and prevent emergence of TB / TB resistance in susceptible populations.

IV. Build:

The health systems need to be fully prepared to handle the additional responsibilities and workload which will be achieved through capacity building, enabling policies, empowering institutions and human resources with enhanced capacities to improve efficiency, effectiveness and accountability of the health system for an improved response to the TB epidemic.

6.1. DETECT

Early identification of presumptive TB cases, at the first point of care being it private or public sectors, and prompt diagnosis using high sensitivity diagnostic tests to provide universal access to quality TB diagnosis including drug resistant TB is the ambit of this strategy.

The key focus areas being:

- ➢ To use high efficiency diagnostic tools for early and accurate diagnosis linked treatment.

- ➢ To involve private sector and ensuring notification through laboratories, chemists and druggists, hospitals from the private sector.

- ➢ To build capacity of field level staff for early and active detection of TB Cases.

- ➢ Increase ACSM activities with special focus on high-risk and vulnerable population.

This strategic pillar focuses on detection of active TB cases among the population using the existing surveillance system and covers both the modes of detection

Active and Passive Case finding:

Passive case finding, where the system relies on patient walking-in with symptoms in any of the health facilities and then getting tested, leads to missed cases or delayed diagnosis. Hence enhanced outreach activities to detect more TB cases are very important to decrease the transmission of disease to the healthy population. One of the key strategies to achieve TB Elimination is early identification of people with a high probability of having active TB (presumptive TB). Screening and diagnosing patients with appropriate tests and strategies will improve the response to appropriate treatment.

Presumptive TB patients will be promptly identified and are to be referred to diagnostic facility for appropriate investigation. Studies show

that not all chest symptomatic seek care and many ignore the symptoms. This necessitates that the programme and health services need to make special efforts for reaching the unreached. Active case finding (ACF) is one way to do it, in a campaign mode.

ACF is basically a care provider-initiated activity with the primary objective of detecting TB cases early by active case finding in targeted groups and to initiate treatment promptly by outreach to the identified vulnerable groups. It can target people who anyway have sought health care with or without symptoms or signs of TB and also people who do not seek care. Increased coverage can be achieved by focusing on clinically, geographically, socially and occupationally vulnerable populations. Decisions on when and how to screen for TB, which vulnerable groups to prioritize and which screening tool to use depend on the vulnerable group, the capacity of the health system, and the availability of resources.

Acti ve case finding activity (ACF)   in vulnerable groups is a focus over the next 3 years and considerable efforts are to be made to reach these populations. The prioritization of vulnerable groups for screening and ACF is as follows:

Table no.6.1: Prioritization of vulnerable groups for screening and ACF

Urban	Rural
Urban Slums/ Congested area	Difficult to reach villages
NACO/SACS identified HRG for HIV	Villages with known higher case load
Construction site and migratory workers	Areas with known high malnutrition
Patients with Past H/O TB	Villages largely seeking care from traditional healers
Homes for Destitute	Areas with little ventilated huts
Migrant / Unorganized labour	Factory workers
Antenatal Mothers/MCH Clinics	Villages with more child cases
Co-morbidities like Diabetes Mellitus, Malignancies and on Dialysis.	
Contacts of Active TB Cases	

Action Points under DETECT Strategy

Key Strategies for DETECT - Plan of Action	Responsiblilty	Status and Way forward
Free high quality diagnostics for all Public & Privately Notified TB Cases(CBNAAT, Microscopy, X-ray	CBNAAT Lab, MOSTC, MOPHI STS/STLS/DMC LT NTEP Staff	Implemented- Xray , CBNAAT , DMCs equipped and readily accesible
Effective private provider engagement - Doctors and Pharmacists	STO, MOSTC, DPC,ACSM,STS,STLS,TBHV,DPS	Needs strengthening - Feb 2020
Universal testing for drug-resistant TB (U-DST) implementation	CBNAAT lab, DTO, MOTC, MOPHI, CBNAAT LT	Already Being done for all Sputum and Fluid samples
Systematic screening of high risk populations	MOSTC, MOPHI, STS, CHO, ANM, ASHA, BHW/MPW	Implemented - Needs Strengthening
Incentives for Private Sectror - 500/- on notification and Rs. 500/- on treatment completion	STO, NTEP, NHM STATE CELL	Initiated

Action Points under DETECT Strategy

Key Strategies for DETECT - Plan of Action	Responsiblilty	Status and Way forward
Intensified ACSM (Advocacy Communication & Social Mobilization)	DMHS, NTEP	To be inrtensified through innovative approcahes
Developing web-tools for real time notification from all public and private institutes	NTEP Cell, DMHS, NHM State Cell	Tools to be designed and implemented
Sputum collection and transport schemes made available to the private sector.	STO, MOSTC, DPC	Implemented - Need reinfocement
Engagement of AYUSH doctors & CHOs for TB referrals from OPDs, RBSK team & Field Visits	STO,RBSK,CHOs,STS	Through Periodic Trainings and sensitiztion
Regulations for compulsary pre-employment & periodic screening of factory workers	Sec Health, DMHS, Labour Department	Enforcement Process not initiated

6.2. TREAT

The strategies under this head aims to provide sustained, equitable access to high quality TB treatment, care and support services responsive to the community needs without financial loss thereby protecting the population especially the poor and vulnerable from TB related morbidity, mortality and poverty.

Prompt initiation of treatment with the right regimen, regular intake of all doses, prevent or manage factors adversely affecting a good treatment outcome like adverse reactions to drugs (ADR), co morbidities, social inclusion issues, substance abuse, smoking and unfavorable occupations so that the patient becomes healthy by all means. It is important in preventing long term morbidity due to TB sequelae. It is also important in achieving a goal of zero TB death.

Key Focus areas for the strategy:

Prompt initiation of treatment once a case is notified.

Providing daily regimen using FDCs to all TB patients.

DST guided treatment for DR-TB under PMDT

Patient-centric approach to treatment.

Ensuring completion of treatment

Prevent loss at cascade of TB care.

Principles of TB treatment:

A patient centric approach will be adopted by the district to achieve 100% Success Rate. Patients are classified based on drug sensitive and drug resistant patterns like mono, poly, multi and extensive drug resistance. The principles of treatment for TB are:

> ➢ Screen all patients for rifampicin resistance and additional drugs wherever indicated.

- For drug sensitive TB, administer daily fixed dose combinations of first-line anti-tuberculosis drugs in appropriate weight bands for all forms of TB and in all ages, including four drug FDC in the intensive phase and three drug FDCs in the continuation phase.

- All Rifampicin Resistant /Multi Drug Resistant TB patients are subjected to Drug resistance treatment regimen like shorter regimen, conventional regimen, H Mono therapy and Newer drug Regimen as per the need of the patient. Also, DST to all second line drugs will be performed. Bedaquiline has been started with the DR-TB regimen.

- Where DST patterns for extended DST are available, the management protocol will follow essential optimized regimen for patients diagnosed with drug resistance other than MDR and XDR TB.

- Minimize leakage across the care cascade and maximize adherence through innovative patient support strategies and real time monitoring.

- Mandatory Screening of Co-morbid conditions like HIV and Diabetes in TB patients and vice-versa.
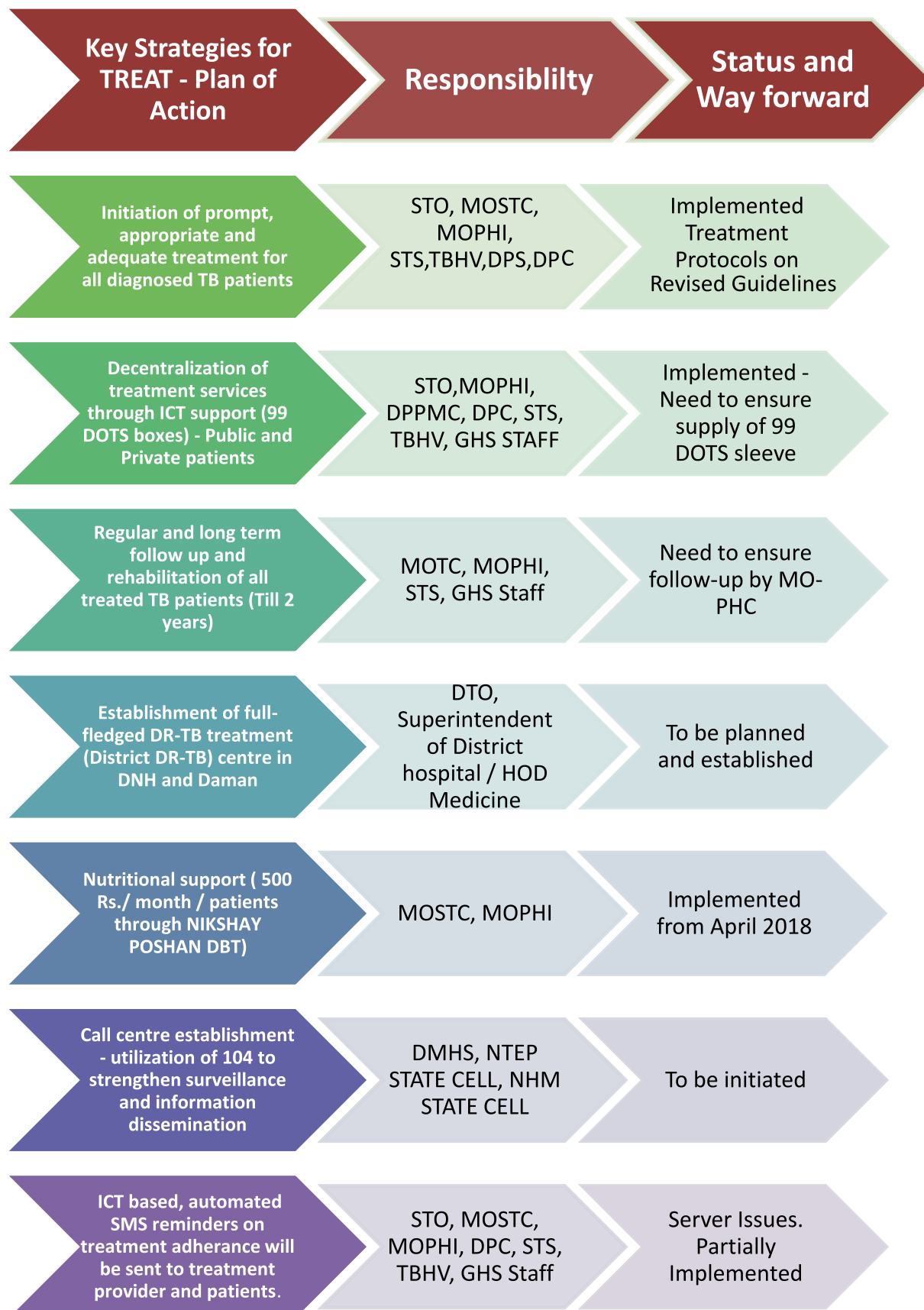
The objective of these activities is to increase success rate of TB patients (drug sensitive and drug resistant TB). This objective will be further reinforced by –

Introduction of new drugs and regimens

Use of patient friendly treatment provision strategy (community DOT, ICT DOT, Family DOT)

Action Points under TREAT Strategy

Key Strategies for TREAT - Plan of Action	Responsiblilty	Status and Way forward
Initiation of prompt, appropriate and adequate treatment for all diagnosed TB patients	STO, MOSTC, MOPHI, STS,TBHV,DPS,DPC	Implemented Treatment Protocols on Revised Guidelines
Decentralization of treatment services through ICT support (99 DOTS boxes) - Public and Private patients	STO,MOPHI, DPPMC, DPC, STS, TBHV, GHS STAFF	Implemented - Need to ensure supply of 99 DOTS sleeve
Regular and long term follow up and rehabilitation of all treated TB patients (Till 2 years)	MOTC, MOPHI, STS, GHS Staff	Need to ensure follow-up by MO-PHC
Establishment of full-fledged DR-TB treatment (District DR-TB) centre in DNH and Daman	DTO, Superintendent of District hospital / HOD Medicine	To be planned and established
Nutritional support (500 Rs./ month / patients through NIKSHAY POSHAN DBT)	MOSTC, MOPHI	Implemented from April 2018
Call centre establishment - utilization of 104 to strengthen surveillance and information dissemination	DMHS, NTEP STATE CELL, NHM STATE CELL	To be initiated
ICT based, automated SMS reminders on treatment adherance will be sent to treatment provider and patients.	STO, MOSTC, MOPHI, DPC, STS, TBHV, GHS Staff	Server Issues. Partially Implemented

6.3. PREVENT:

Aims to Prevent the emergence of TB in susceptible populations through integrated approach.

- Scale up air -borne infection control measures at health care facilities
- Identification and Treatment for Latent TB infection in contacts of bacteriological -confirmed cases.
- Addressing social determinants of TB through inter- sectoral approach .
- Contact screening and IPT prophylaxis

AIR BORNE INFECTION CONTROL

Acute respiratory infections (ARIs) are the leading cause of morbidity and mortality from infectious disease worldwide, particularly affecting the youngest and oldest people in low and middle-income nations. These infections, typically caused by viruses or mixed viral– bacterial infections, can be contagious and spread rapidly. The primary mode of transmission of most acute respiratory diseases is through droplets, but transmission through contact (including hand contamination followed by self-inoculation) or infectious respiratory aerosols at short range can also happen for some pathogens in particular circumstances.

In modern medicine, Infection Prevention and Contro l (IPC) measures in health-care settings are of central importance to the safety of patients, health-care workers and the environment, and to the management of communicable disease threats to the global and local community. TB infection control is a combination of measures aimed at minimizing the risk of TB transmission within populations. The foundation of such infection control is early and rapid diagnosis and proper management of TB patients.

> ## CHALLENGES AT COMMUNITY LEVEL in UT of DNH and DD

Social habits

> - Cough etiquettes not being followed
> - Indiscriminate spitting
> - Sneezing without covering face
> - Alcoholics, smokers and mentally challenged patients
> - Delay in reaching health facility for specific diagnosis

Special groups

> - Migrant population, backward areas and tribal pockets
> - Old age homes, poor homes, shelters/camps, children homes, jails, hard to reach areas
> - Co-morbid conditions like Diabetes, HIV, Cancers, etc.

Environmental aspects

> - Environmental pollution
> - Indoor air pollution

> ## CHALLENGES AT INSTITUTIONAL LEVEL

Outpatient facility
> - Patients with chest infection at outpatient settings
> - Overcrowding - mixing of patients in queues and waiting areas
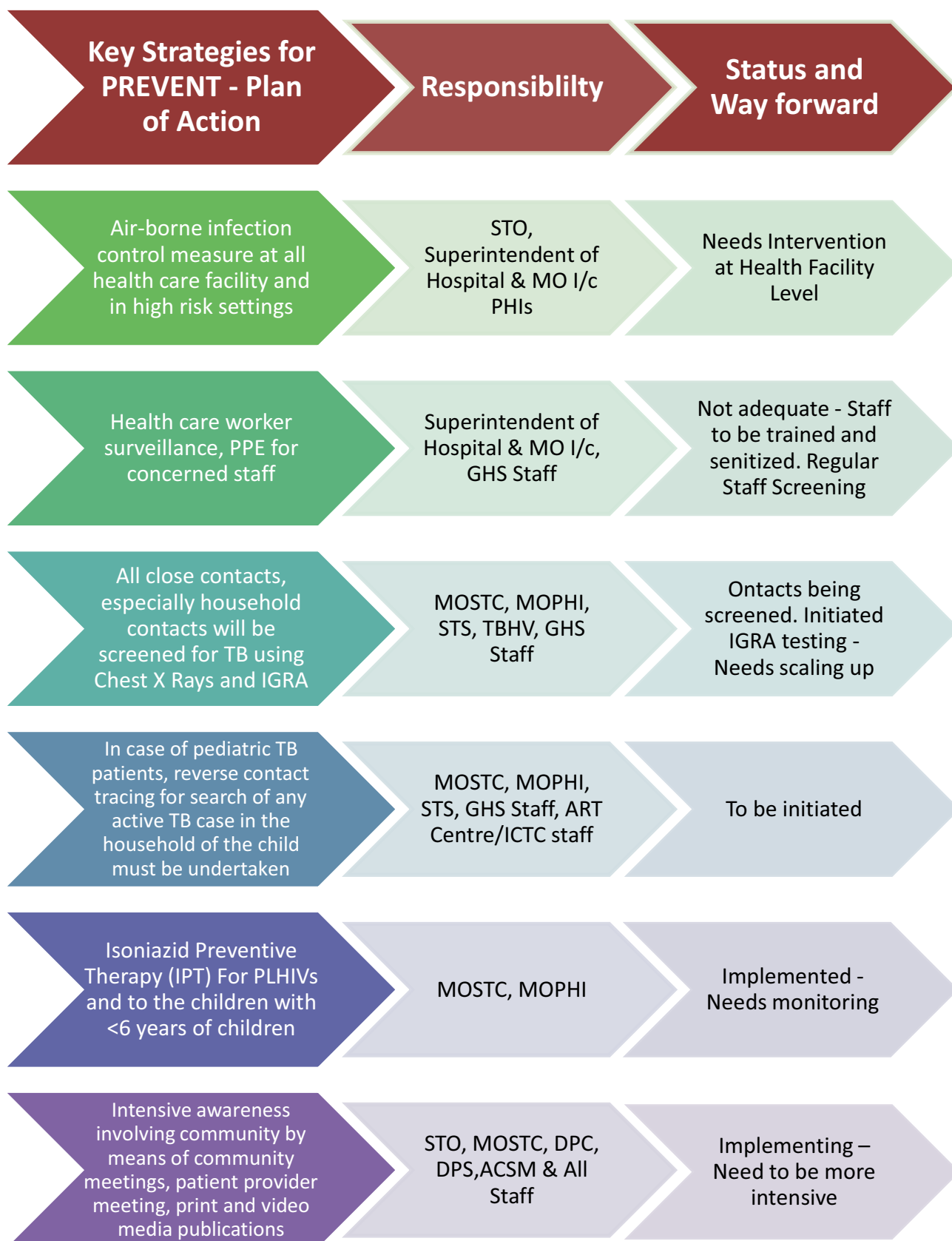> - Poor ventilation in the facilities
>   In patient facility
> - Cough screening, separation, fast-tracking, mask and counseling provision missing
> - Infectious patients getting admitted at General wards
> - Cough etiquettes not followed in wards
> - Overcrowding in the wards – no restricted entries

The activity under this key strategy aims to prevent new infection due to tuberculosis as well as the emergence of drug resistance. The different

Action Points under PREVENT Strategy

Key Strategies for PREVENT - Plan of Action	Responsiblilty	Status and Way forward
Air-borne infection control measure at all health care facility and in high risk settings	STO, Superintendent of Hospital & MO I/c PHIs	Needs Intervention at Health Facility Level
Health care worker surveillance, PPE for concerned staff	Superintendent of Hospital & MO I/c, GHS Staff	Not adequate - Staff to be trained and senitized. Regular Staff Screening
All close contacts, especially household contacts will be screened for TB using Chest X Rays and IGRA	MOSTC, MOPHI, STS, TBHV, GHS Staff	Ontacts being screened. Initiated IGRA testing - Needs scaling up
In case of pediatric TB patients, reverse contact tracing for search of any active TB case in the household of the child must be undertaken	MOSTC, MOPHI, STS, GHS Staff, ART Centre/ICTC staff	To be initiated
Isoniazid Preventive Therapy (IPT) For PLHIVs and to the children with <6 years of children	MOSTC, MOPHI	Implemented - Needs monitoring
Intensive awareness involving community by means of community meetings, patient provider meeting, print and video media publications	STO, MOSTC, DPC, DPS,ACSM & All Staff	Implementing – Need to be more intensive

6.4. BUILD

This key strategy caters to the need of infrastructure development capacity building of existing health staff and filling the gaps in resources for effective implementation of strategies for achieving TB free status. This also includes pathways for private sector participation, in order to improve efficiency, effectiveness and accountability of the health system for an improved response to the TB epidemic.

➢ Build synergies with existing health service delivery mechanism under Urban Health Mission and plan for integration of services
➢ Reform and restructure HR in TB programme to align with the enhanced programme needs for surveillance, participation of private sector and community participation.
➢ Strengthen NTEP's regulatory capacity to control TB drugs through appropriate laws, regulations, and policies.
➢ Position TB high on the health agenda of the UTs to ensure adequate resources, greater demand for and universal access to TB care services.

Key Points for the strategy

Strengthen infrastructure & improve monitoring & supervision

Build and strengthen enabling policies, empowered institutions and human resources with enhanced capacities

To achieve universal access to early accurate diagnosis of TB and enhancing case finding efficiency, identification of presumptive TB cases at the first point of care and linking them to the best available diagnostic tests is of paramount importance. Early case detection is vital to interrupt the transmission of TB disease.

The health system needs to be fully prepared to handle the additional responsibilities and workload.
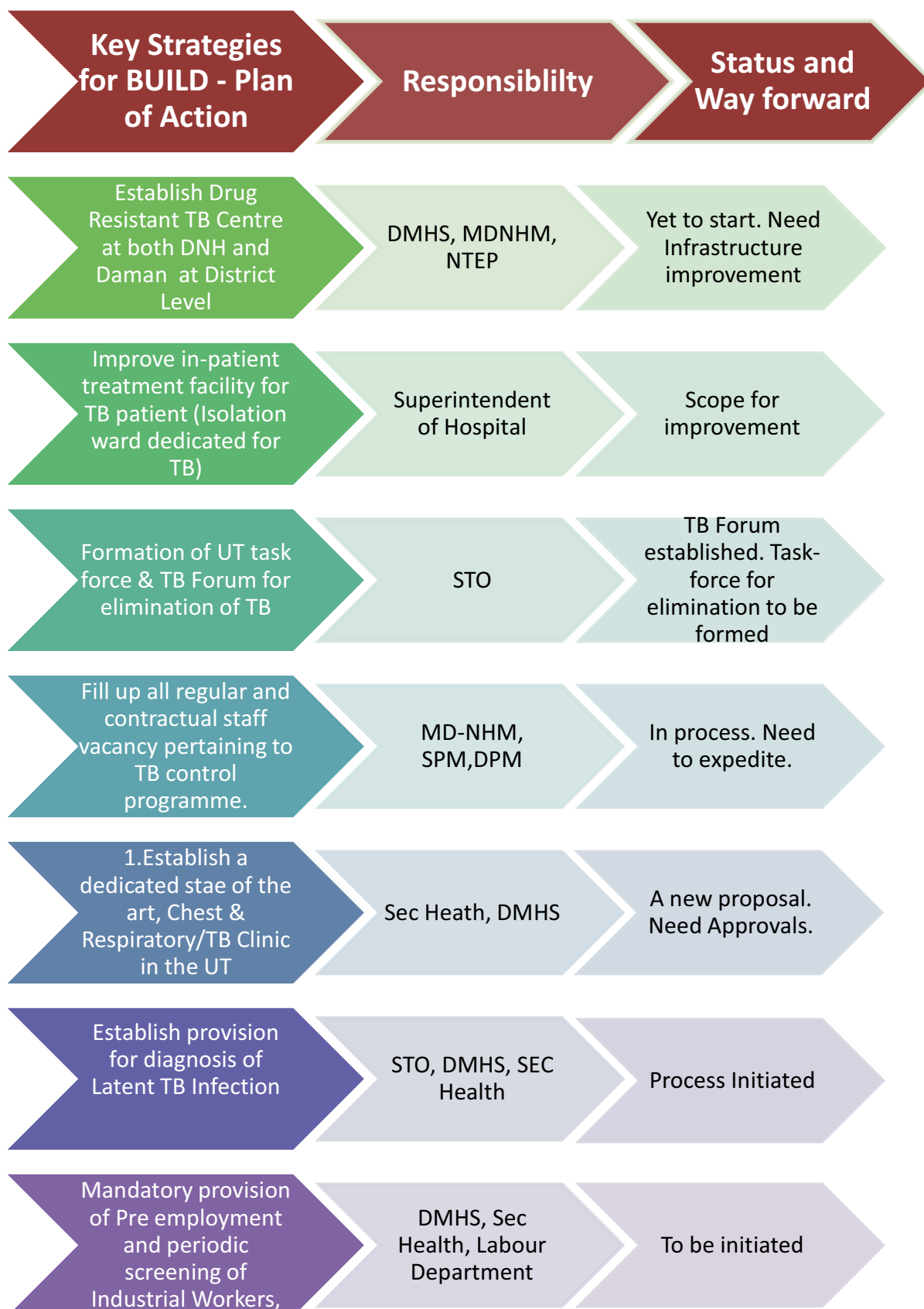
Most importantly, Designated Microscopy Centers(DMCs), Sputum collection and transportation systems, X-ray facilities, CBNAAT machines, treatment support groups, social and nutritional support systems, facilities for detection and management of co-morbidities, universal DST and in-patient facilities for seriously ill drug sensitive and drug resistant TB patients have to be ensured in the districts.

Institutional management of seriously ill patients

➢ It is important to manage seriously ill TB and DRTB patients in tertiary care institutions where there are facilities for such management. District hospital should have state-of-art Isolation wards for TB and DRTB cases, with strict Infection Prevention and Control measures being followed. In addition, sub district level hospital should have at least 3-4 beds to manage seriously ill TB patients.

Action Points under BUILD Strategy

Key Strategies for BUILD - Plan of Action	Responsiblilty	Status and Way forward
Establish Drug Resistant TB Centre at both DNH and Daman at District Level	DMHS, MDNHM, NTEP	Yet to start. Need Infrastructure improvement
Improve in-patient treatment facility for TB patient (Isolation ward dedicated for TB)	Superintendent of Hospital	Scope for improvement
Formation of UT task force & TB Forum for elimination of TB	STO	TB Forum established. Task-force for elimination to be formed
Fill up all regular and contractual staff vacancy pertaining to TB control programme.	MD-NHM, SPM,DPM	In process. Need to expedite.
1.Establish a dedicated stae of the art, Chest & Respiratory/TB Clinic in the UT	Sec Heath, DMHS	A new proposal. Need Approvals.
Establish provision for diagnosis of Latent TB Infection	STO, DMHS, SEC Health	Process Initiated
Mandatory provision of Pre employment and periodic screening of Industrial Workers,	DMHS, Sec Health, Labour Department	To be initiated

CHAPTER 7- GENERAL ACTIVITY PLAN FOR TB ELIMINATION

7.1 Mapping Of Panchayat / Village / Pada Wise TB Cases

Activities for TB eliminations are to be planned, implemented, supervised and monitored at the most peripheral panchayati raj institution level reaching out up to the village/ hamlet level. To prioritize TB elimination activities, it is important to have village/municipality ward/Hamlet wise mapping of TB cases.

From the TB registers/Nikshay, each case registered/ notified is assigned to the respective sub centre/village according to the residential address. Ideally, non-NTEP TB cases notified from private sector are also to be mapped. Since the actual population up to the Hamlet/pada level is not available, the absolute number of cases has been considered in place of cases per 1000 population to divide the villages/Pada/Hamlets into high and low endemic areas. An arbitrary value of cumulative 05 cases or more since January 2016 has been considered as the cut off to designate an area as high endemic. Those with incidence of 01 or less cases in this period have been taken as low endemic. The places having 2-4 cases are categorized as moderately endemic. Based on these criteria, the table below is indicative of vulnerability mapping of D&NH.

> **High endemic Pockets :**

> Urban: Bavisafaliya, Ultanfaliya, Ambedkar Nagar, Indira Nagar, Gayatri Mandir, B/H Bahumali complex, Brahanfaliya & Dandulfaliya (Ward 15)

Table 7.1: Village wise TB Cases since Jan 2016 (Dadra and Nagar Haveli)

PHC	No of Sub-centre/village	Number of Padas	Padas with >5 cases of TB	Least cases (less than 1) of TB	
				Only 1 case	Zero cases
Amboli	9	69	4	24	7
Randha	4	37	0	7	2
Dadra	4	21	5	17	1
Dapada	9	59	4	30	7
Dudhani	9	50	2	15	12
Mandoni	7	60	2	27	3
Kilvani	6	49	4	27	7
Masat	2	29	8	25	4
Rakholi	4	45	6	39	8
Naroli	6	58	2	40	4
Rudana	7	59	6	35	3
UHC A	5	118	11	17	29
UHC B			19	17	48
Total	72	646	73	320	135

High endemic pockets OF TB in DNH

🔴 - High endemic pockets of TB

Fig no 7. 1: Showing High endemic pockets of DNH

- Rural: Athal (nr dharamkata), Dhapsa (vadfaliya), Khanvel (Dungripada, Bhagatpada, Kumbharpada), Rudana (Paraspada), Shelti (Vanganpada), Talavali (Paraspada), Sayli (Bhoyapada, Kinaripada), Rakholi (Patelpada,Khadipada, nr Alok comp.), Samarvani (Schoolfalia, Krishna comp., Masat (Padrifalia,Bensa,Khadipada), Galonda (Patelpada), Silli (Kuwapada), Vasda (Mulgam), Chisda (Hedvachimal), Gunsa (patelpada),Karchond (Patelpada), Demni road, Amboli (Manipada,Dungripada), Kherdi (Kumbharpada)

- 46 Padas spread over 30 villages – Reported ≥ 5 cases in last 3 years.

- 57 Padas of rural area had no TB case since January 2016

Daman and Diu Village Wise Cases 2019:

VILLAGE - DAMAN	ON TREATMENT	OUTCOME ASSIGNED	TOTAL
Dabhel Census Town	71	55	126
DMC- Nani Daman	45	31	76
Kachigam Census Town	33	24	57
Bhimpore Census Town	18	10	28
Dunetha Census Town	17	1	18
Varkund	8	8	16
Ringanwada	7	2	9
Marwad Census Town	6	4	10
Devka	4	7	11
DMC-Moti Daman	3	6	9
Kadaiya Census Town	2	4	6
Nailapardi	1	1	2
Pariyari	1	1	2
Magarwada	1	3	4
Zari	0	3	3
Dholar	0	1	1
Janivankad	0	1	1
Grand Total	217	162	379

RNTCP TOTAL PATIENTS NOTIFIED – DAMAN DISTRICT

Village Wise Status of TB Cases
(Notified Cases 2019) — Diu

Diu - Village Wise Data	Outcome Assigned	On Treatment	Total Case Notified
DMC Diu	4	4	8
Vanakbara Gram Panchayat	3	3	6
Saudwadi Gram Panchayat	3	1	4
Bucharwada Gram Panchayat	1	1	2
Zolawadi Gram Panchayat	1	0	1
Grand Total	**12**	**9**	**21**

Fig no 7. 3: High endemic areas of Diu

Although the above categorization is based on area of residence of the cases, the UTs will strive to do the GIS mapping of incidence of TB cases on priority basis to analyze the detailed epidemiologic significance and cluster of cases.

7.2 Formation of UT Task Force for TB Elimination

UT/State TB Elimination Board/Task force could be the apex body to take policy decisions on strategy, operations, resources and timelines for TB Elimination. It will be the direct demonstration of state government's stewardship for TB elimination. It will monitor implementation of TB elimination strategy at all levels and adopts appropriate corrective measures on recognition of shortfalls or gaps. Bases on these objectives, a task force for TB elimination will be formed at the UT level with Secretary Heath as the chairperson with members as per need.

The Board will meet once in three months. It will take policy decisions on strategy, operations, resources, and timelines TB elimination. It will take decisions on appropriate local adaptation of national guidelines for National Tuberculosis Elimination Program [NTEP], and seek resources beyond the budgeted resources in NTEP PIP. The board will also take final decisions on procurement of goods and contractual services for TB elimination. It will guide the government on recruitment of regular staff to the key positions of TB control and elimination.

7.3 Sensitization of All Key Stakeholders

➢ State Program Officers, District Level Key Policy Makers and Administrators, Medical Officers, Other Systems of Medicine

➢ To be sensitized on principles, strategies, Plans and activities for TB elimination. This will help in disseminating the information to the concerned officers and staff of the respective systems.

➢ TB elimination demands close integration of most of the national programs.

➢ TB elimination activities are decentralized to population units. Gram Panchayats are the most peripheral population units empowered to take decisions.

➢ Presidents of local self-governments are to be sensitized on TB elimination and empowered to lead the battle against TB in their respective jurisdiction.

➢ The theme of "My TB free panchayat/ Municipality/ Corporation" is to be disseminated effectively to promote ownership by the LSG heads.

➢ Medical Officer of Peripheral Health Institution (PHC/CHC) leads the public-health executive and is responsible for implementation of public health programs in the panchayat. All medical officers, especially those who hold charge of the institutions must be trained on the principles, strategies and activities of TB elimination.

- Supervisory health staffs play an important role in planning, training, monitoring and supervision of TB elimination activities and linkages with local self- governments. Their sensitization is crucial in successful implementation of TB elimination activities.

7.4 Training of NTEP Key Staff

- District TB Centre staff, MOTCs, Treatment Organizers, STSs, STLSs, TBHVs, and Laboratory Technicians are to be trained on the principles, strategies and activity plan for TB elimination.

- Training sessions with TB elimination strategy document and activity plan.

- At the end of the session, the key staff should be able to provide technical and management leadership for TB elimination in their respective areas.

Table no 7.2: Training of NTEP staff

Objective	Training of all NTEP key officials of the UTs
Concept	All NTEP Key staff to be master trainers of DNH & DD TB Elimination Mission
Process	2 days training for NTEP Field Staff on DNH & DD TB Elimination Mission
Timeline	Training need to be completed before 31st January 2019
Expected outcome	All NTEP key staff could lead the TB Elimination Mission successfully
Monitoring Indicator	Number of NTEP key officials trained out of those listed

7.5 DIAGNOSIS AND TREATMENT OF LATENT TB INFECTION (LTBI)

Community based screening for diagnosis and treating LTBI will be the most challenging and resource intensive cumbersome task. Supplemental it raises the issues of people approval, civic rights, adherence and methodology.

A. DIAGNOSIS OF LTBI: TESTING FOR LATENT TB INFECTION

Tuberculin Skin Test (TST) or Interferon Gamma Release Assay (IGRA) will be used for diagnosis of LTBI as per the recommendations of the national programme. TST is economical, but less accurate. IGRA is very costly, though accurate. The screening of high-risk populations for latent tuberculosis infection and provision of treatment of latent infection as described below will be one of the key strategies to achieve the goal of tuberculosis free DNH and DD.

Screening of High Risk Population for Latent TB Infection -

1. HIV affected adults and adolescents and children aged ≥ 12 months with unknown or positive tuberculin skin test (TST) and are unlikely to have active TB disease will receive TB preventive therapy as a part of comprehensive HIV care.

2. HIV affected infants aged < 12 months who are in contact with a case of TB and are investigated for TB should receive 6 months of isoniazid preventive treatment (IPT) if the investigation shows no TB disease.

3. HIV-negative children aged < 5 years who are household contacts of people with bacteriologically confirmed pulmonary TB and are found not to have active TB will be given TB preventive treatment

4. Children aged 5 years, adolescents and adults who are household contacts of people with bacteriologically confirmed pulmonary TB who are found not to have active TB will be considered for TB preventive treatment upon recommendation by the national programme.

5. Screening of Health Care Personnel – Health staff directly involved in patient care and contact

6. Screening of general population may be considered after the recommendation of Central TB division

B. TREATMENT OF LTBI:

All individuals with LTBI may not be evolved to active TB. The risk to develop active disease among HIV positive individuals is around 60-80%. It justifies treatment of LTBI among them, this evidence has been incorporated and implemented in NTEP, as a prophylactic therapy isoniazid is recommended to all HIV positive individuals irrespective of LTBI test positivity, so LTBI testing is not recommended for HIV positives by programme. The risk of progressing to disease is not accurately measured among the infected who have malnourished, diabetes, renal disease, etc. Since the main objective is to break the ongoing transmission, treating LTBI may be considered among these high risk populations. Patient centric counselling and treatment will be 'offered' to these individuals they will be encouraged to opt for treatment and monitored for adherence and treatment completion. However, people who do not opt for treatment may be closely followed up for symptoms of active tuberculosis, at the onset of which a CBNAAT must be done on the appropriate sample and if found positive, or clinically diagnosed having active TB, must be treated with full course of anti TB treatment.

Treatment options recommended by WHO for LTBI include:

1. 6-month isoniazid or

2. 9-month isoniazid, or

3. 3-month regimen of weekly rifapentine plus isoniazid

4. 3–4 months' isoniazid plus rifampicin

5. 3–4 months' rifampicin alone

Among these options, presently 6-month isoniazid regimen will be implemented. A 3-month regimen of weekly rifapentine plus isoniazid is operationally feasible in view of ease of administration, and monitoring for adherence, this regimen will be explored for implementation based on the program recommendations.

7.6 ENHANCING PRIVATE SECTOR ENGAGEMENT

Engaging private sector will be the priority in order to eliminate TB from the UTs by the end of the year 2022. The strategy for the UTs will not just limit to notification but will be extended to following up of these patients by the health staff in order to ensure adherence and treatment completion. Following are the strategies which are proposed for engagement with private sector:

a) Strict implementation of TB notification from private health care provider and chemists remains the mainstay to further strengthen TB notification.

b) Once a year UT level workshop with private practitioners through professional organizations along with district level CME's

c) Once a year UT level workshop involving chemist association, wholesalers, department of food and drug administration.

d) Implementation of policy of providing INR 1000 as an incentive to private practitioners for TB notification and reporting treatment outcome.

e) Engaging AYUSH health care providers which will contribute in early symptom identification and referral for diagnosis of TB. They will also play a key role in counseling of TB patients on treatment and will be part of treatment support system.

IMPLEMENTATION OF REGULATORY APPROACHES TO STRENGTHEN TB NOTIFICATION

a)   UT will continue to strictly implement the policy of mandatory TB notification from private health care providers. Those not notifying TB cases will be liable to punishments laid down under IPC 269 and IPC 270.

b) With collaboration with Department of Food and Drug Administration the state will continue to seek TB notification under the schedule H1 drug policy act.

PUBLIC HEALTH ACTION TOWARDS TB PATIENTS IN PRIVATE SECTOR

a)   TB patients notified through private practitioners or through chemist will be home visited by the government health staff for counseling on treatment adherence, follow-up of treatment, contact screening and linking them with the social welfare schemes.

b) Private sector managing TB patients also have the responsibility under public health action to notify TB cases and to report TB treatment outcome. State will ensure that all the private practitioners report the treatment outcome of all TB cases notified by them

CHAPTER 8 - STRATEGIC PLAN FOR ELIMINATION OF LEPROSY

UT Of Dadra & Nagar Haveli and Daman & Diu

Background

India has made tremendous progress in leprosy control and the disease was declared eliminated in the year 2005 at national level. Still India contributes more than half of the global burden of leprosy and the state of Chhattisgarh and Union Territory Dadra and Nagar Haveli are yet to achieve the leprosy elimination status. Dadra and Nagar Haveli houses 0.03% of country's population, however contributes to 0.3% country's new leprosy case load and tops in key leprosy indicators in the country. The prevalence rate (PR) and new case detection rate (NCDR) in Dadra and Nagar Haveli (DNH) are currently 3.1 per 10,000 and 37.74 per 1,00,000 population respectively as against the national rates of 0.62 per 10,000 and 08.69 per 100,000 population respectively. Further, the proportion of child cases of Leprosy is 13% in Dadra Nagar Haveli against the national level of 7.67%. Tribal make up 52% of the population in D&NH and importantly 96.8% of the leprosy cases are observed among them. High proportion of child cases indicates active transmission of leprosy in the community.

As part of the strategy to reduce transmission of leprosy infection, single dose of Rifampicin post-exposure chemoprophylaxis (L-PEP) was introduced to the contacts of leprosy patients of Dadra & Nagar Haveli in the year 2015.

8.1 NLEP in Dadra & Nagar Haveli

NLEP is being implemented in Dadra and Nagar Haveli since its inception in India by the Central Leprosy Division under MoHFW, Govt. of India. Leprosy has been a problem for DNH for more than a decade

although the overall country situation in India is not alarming. India has achieved the elimination stage of Leprosy prevalence but Dadra & Nagar Haveli continues to be on top of the ladder in high PR pockets of Leprosy in the country with a PR of 3.20 as on September 2019.

8.2 Epidemiological Scenario of Leprosy in DNH

Dadra Nagar & Haveli (DNH) is situated on the border of South Gujarat and Maharashtra. It is surrounded by Leprosy high endemic blocks of Gujarat and Maharashtra. The geography, location and the demographic profile of the UT has some direct and indirect impact on the overall situation of Leprosy. Within the UT, there is wide variation of Leprosy incidence and prevalence. The present status of Leprosy in the UT in comparison to country situation is as shown below –

Table no 8.1: Status of Leprosy in the UT in comparison to country situation

	PR	ANCDR	MB%	Child%	Deformity Gr II (%)
DNH	3.2	43.6	13	9	0
INDIA	0.69	8.69	51.48	7.67	3.05

8.3 Situation Analysis of Leprosy in Dadra & Nagar Haveli

The incidence and prevalence of Leprosy and the trend of important indicators of NLEP in the UT of D&NH is as shown in the table below

Table no 8. 2: Program indicators of NLEP at DNH   :

Indicator	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20 (Dec 19)
PR/ 10,000	2.93 (105)	3.6 (135)	4.04 (158)	4.99 (204)	6.77 (263)	6.7 (267)	4.9 (202)	3.6 (154)	2.9 (129)
ANCDR/ 100000	66 (237)	98.3 (368)	81.8 (320)	77.7 (318)	106.6 (425)	96.3 (384)	66 (273)	61 (261)	45.1 (149)
MB%	36 (86)	23.1 (85)	30 (97)	35.8 (114)	26.5 (113)	26.3 (101)	23 (63)	30 (78)	19 (28)
Female%	55 (130)	58 (215)	56 (178)	58 (183)	60 (255)	52 (198)	52 (143)	51 (135)	52 (78)
Child%	20 (48)	26 (96)	24 (76)	20.8 (66)	23.3 (99)	20 (76)	18 (48)	16 (42)	11 (17)

As illustrated in the table above, the UT is way behind in achieving the goal of elimination of leprosy (i.e., Prevalence rate of less than 1 case/10000 population) in 2018. The Prevalence Rate of Leprosy has been continuously increasing for last few years and is currently highest among the states/UTs of India. There were <u>154</u> leprosy cases on record as on 31st March 2019 with a prevalence rate of 3.6.

The cause of concern is high child case load, indicative of active transmission of Leprosy and a relatively high incidence among the females in D & NH for last few years. The high transmission of Leprosy in the UT warrants a review of current strategies under NLEP and requires additional efforts to combat the still high PR despite a substantial decline in last couple of years.

Objectives and Targets of NLEP

- Prevalence of less than 1 case per 10000 population in all PHCs area.
- Strengthening Disability Prevention & Medical Rehabilitation of persons affected by leprosy in all PHCs area.

Programme Strategy under NLEP

- Total integration of General Health Staff to provide new Cases detection and follow-up of New & Old Cases in the field.
- Monitoring and Supervision of G.H.C. Staff done by State Health Society (NLEP) under NRHM – SMO/NMS as well as General Health Supervisors of PHCs.
- Increasing reporting of Leprosy cases in migrant populations pockets and geographies with high Industrialization
- Carrying out house hold contact survey for early detection of cases with MPW/ANM of sub centre in the Union Territory D & NH.
- Involvement of ASHA workers for suspecting new cases and ensuring completion of treatment.

Strengthening of Disability Prevention & Medical Rehabilitation (DPMR) services by implementing new Upgraded Simplified Information System (USIS)

by Sub centre to PHC and District/ UT level.

8.4 Performance of NLEP

8.4.1. Case detection and Management

8.4.1.1 Routine case detection: The strategy for case detection under NLEP include both active and passive case finding. In the UT, passive case finding is done at all the Health facilities up to PHC level. The diagnosis is based on clinical features and physical examination of a suspected case of Leprosy.

Active case finding is being done by the field workers (ANM/MPW/ Health Supervisors / NMS) during the SAPs and FLCs (Focused Leprosy Campaigns). After the advent of Para Medical Workers (PMWs), a category of paramedics recruited especially for active case finding of Leprosy and performing the other field activities related to NLEP in the UT, the active case finding in between the surveys have been strengthened.

8.4.1.2 Special activities Plan (SAPLCDC & FLC) : In order to rapidly detect the Leprosy cases in the community and specially flush out the hidden cases within the population, special active search for suspects of Leprosy is organized for short period by doing a quick but extensive survey through physical screening of the whole population. In the UT of DNH this active search for new cases is being done for last 5 years. The outcomes of these surveys is depicted in the table –

Table no 8.2: Outcomes of surveys

Year	2016 (Sep) LCDC	2017 (July) SAP	2017 (Oct) LCDC	2018 (Feb) LCDC	2018 July SAP	2018 Oct. LCDC	2019 Mar. LCDC	2019 Oct LCDC
Target Pop	397623	261704	412675	412791	311743	424394	424394	440066
% coverd	(92.73) 368736	(95.68) 250412	(91.62) 378112	(97.29) 401618	(91) 285552	(94) 399511	(95.2) 404431	(96.2) 423170
New Cases	96	58	59	47	59	37	29	32
MB	24	14	8	15	14	9	6	5
PB	72	44	51	32	45	28	23	27
Child	15	13	4	6	10	5	4	5
Child %	15.62	22.41	6.78	12.76	16.9	13.5	13.7	15.6
Gr-I	1	0	1	2	0	0	0	0
Gr-II	3	0	0	0	0	0	0	0

As evident from the table above, despite active search every year, the new cases are being detected in every active case finding drive. The positive factor is the decreasing number of actual cases in each subsequent LCDC and SAP.

8.4.2. ProgrammeIndicators–Output of NLEP Activities

a. Prevalence Rate (PR) & ANCDR (Annual New Case Detection Rate)

– Leprosy, being a chronic communicable disease with a mean incubation period of 5 – 7 years, is assessed by its point prevalence denoted by the PR and annual incidence determined by the ANCDR (Annual New Case Detection Rate). The trend of these indicators in D&NH is as shown in the graphs below –

PR

	2011-2012	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20(Dec)
PR	2.93	3.6	4.04	4.99	6.77	6.7	4.9	3.6	2.9
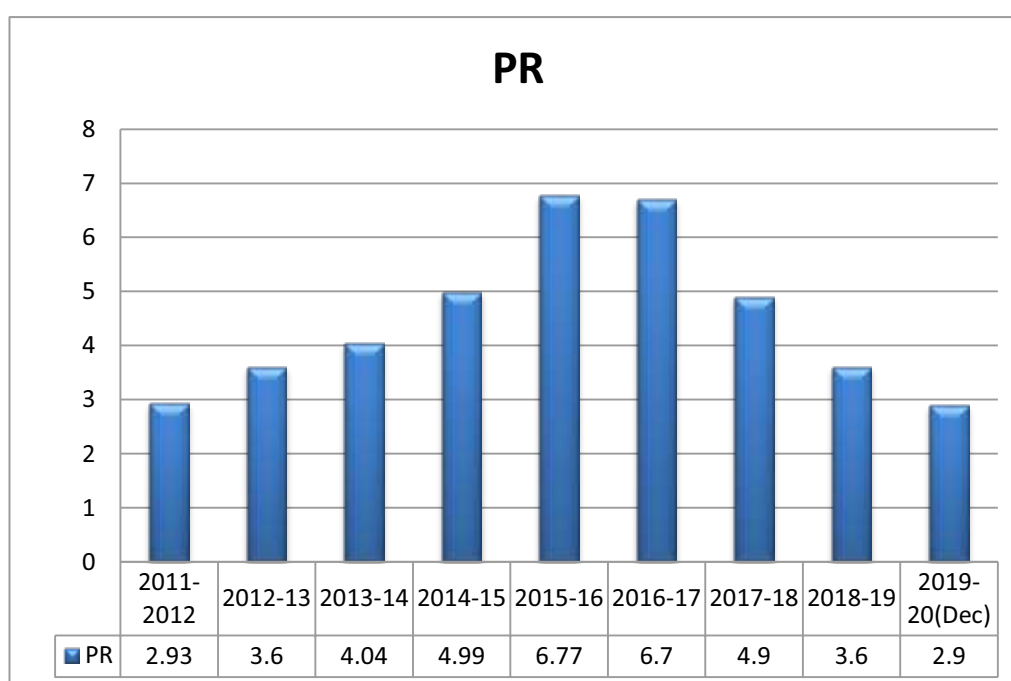
Figure No 8.1 Year wise PR of LEPROSY at DNH

b. Annual New Case Detection Rate (ANCDR) – This indicator indicates towards the incidence of new cases in a population calculated for a year. The incidence of new cases is both the indicator of active transmission as well as previous infection. A decreasing absolute number of cases is a good sign of effective control of transmission of new infection in a community.

ANCDR

ANCDR	2011	2012	2013	2014	2015	2016	2017	2018	2019	19-20(Dec)
ANCDR	6	6.6	9.8	8.1	7.7	10.6	9.6	6.6	6.1	4.5
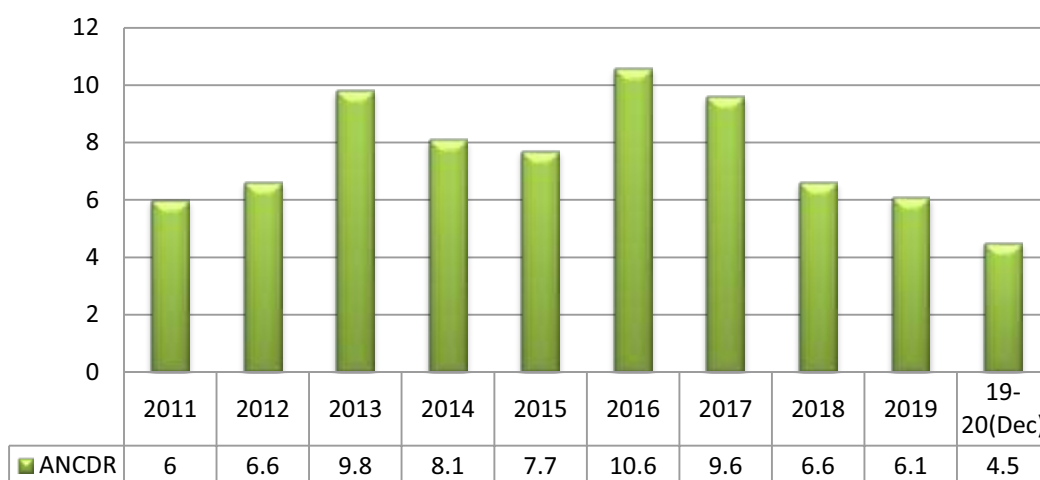
Figure No 8.2 Year wise ANCDR of LEPROSY at DNH

As evident from the graph above, the ANCDR for Dadra & Nagar Haveli is showing a definite decline in recent years.

c. Child proportion of New Cases – This indicator indicates the active transmission of Leprosy in the community. The data of previous 6 years is shown in the graph below

Child %

Child %	2011	2012	2013	2014	2015	2016	2017	2018	2019	19-20(Dec)
Child %	19	20	26	24	20.8	23.3	20	18	16	11
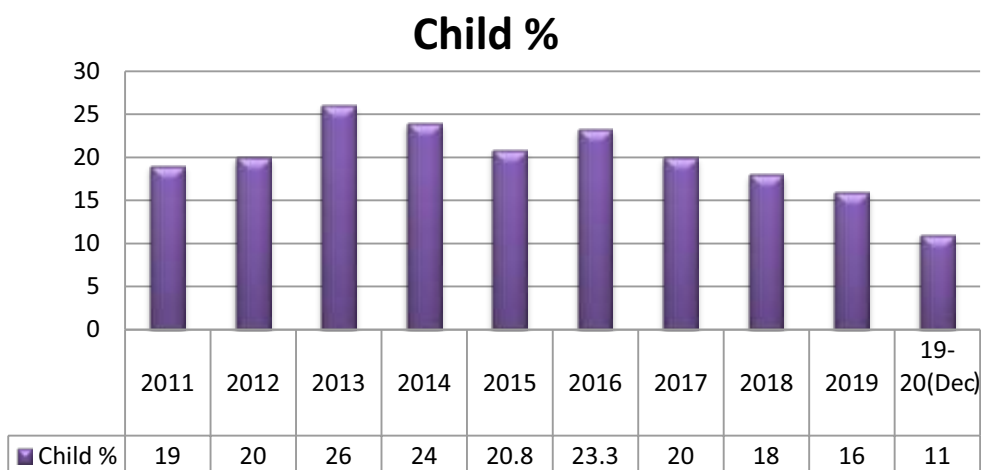
Figure No 8.3 Year wise Child Proportion of LEPROSY at DNH

As reflected from the graph above, D&NH is experiencing a gradual but consistent decline in this important indicator. It implicates that the transmission of new infection is decreasing and in the long run, the decline in incidence and prevalence of Leprosy in the UT are likely to be sustained.

d. Grade II Disability – The Leprosy is a chronic granulomatous disease defamed due to permanent disabilities it produces. The mortality per se due to Leprosy is not a general sequel. But the deformities and the resulting disabilities it produces, has since long been the cause of stigma associated with it. To prevent disability in a new case of Leprosy by detecting it early before the development of any Grade I of Grade II deformity indicates the effectiveness of case
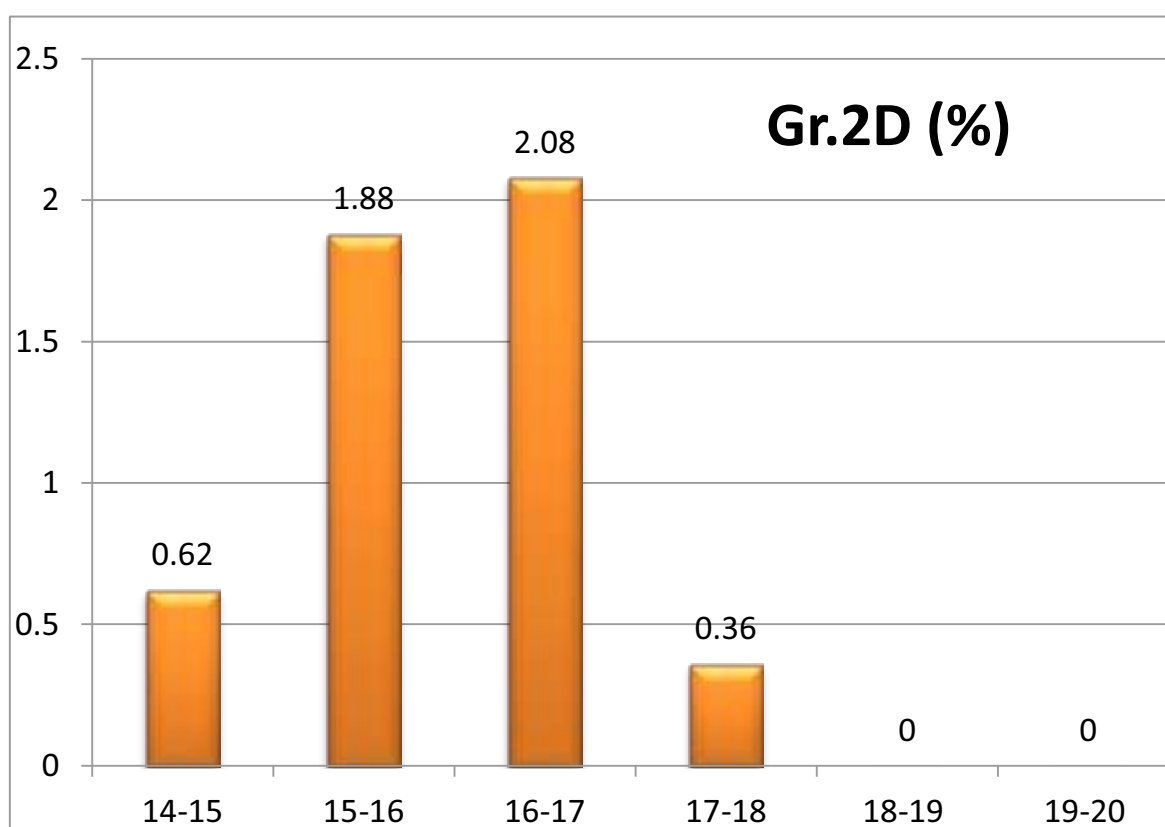
Gr.2D (%)

Figure No 8.4 Year wise Gr. II Disability % at DNH

The UT achieved Zero Grade II Disability in March 2018. Since then no new Grade II Disability case has been reported.

8.5 Road Map for Leprosy Elimination Dadra & Nagar Haveli

India, as a nation achieved elimination status for Leprosy in the year 2005. It doesn't mean that all the states and UTs achieved the elimination status at the same time. In the year 2005 itself a few states and UTs remained back from achieving this target of elimination stage. The UT of Dadra & Nagar Haveli was one of them. For more than a decade after the

milestone in Leprosy at the country level, D&NH is still striving hard to reach there.

For effective control of Leprosy in this UT of Dadra & Nagar Haveli, the major issue is reducing the Prevalence Rate (PR) to below 1 per 10,000 of population, maintain the Grade II Disability rate to less that 1 per million populations. The time bound targets has been worked upon keeping the long incubation period of the disease and has been drafted as shown below –

Table no 8.3: Time bound targets

Indicator	Latest Status 2019 (March)	Targets			
		2020 (March)	2021 (March)	2022 (March)	2022 Dec.
Prevalence Rate (per 10,000)	3.6	2.7	1.9	1.3	<1
Grade II Disability (% of New Case)	0	Maintain '0'	Maintain '0'	Maintain '0'	Maintain '0'

To achieve the target of PR less than '1' by December 2022, some strategies based on the current situation of Leprosy in the UT needs to be framed and adopted for years to come. The strategies should guide the activities and help in achieving the targets – both short term and long term.

8.5.1 Strategies

The current status of Leprosy in the UT and its course through the previous 4 – 5 years gives the indication what to adopt as guiding principle for the future course of action for an effective Leprosy control in the UT. Based on the scientific evidence and keeping track with the Programme Guidelines under NLEP, these strategies will be the blue print for continuous efforts towards elimination of Leprosy from the UT.

A. Early detection & Prompt treatment to reduce transmission - To cut the transmission of Leprosy, early detection is foremost entity. To supplement this, prompt and complete treatment is equally

important. The mainstay of this strategy will be three rounds of Active Case Detection Drives to cover whole of population and one round of Focused Leprosy Campaign in area reporting any MB of a child case.

B. Enhancing treatment completion rate – Incomplete treatment no only gives rise to relapse and resistance but also remains a threat to others as a hidden source of infection.

C. Prophylactic Rifampicin Administration - For every new case detected, the contact tracing followed by SDR PEP to all the contacts of new cases within a fortnight of detection.

D. Mass prophylaxis to high endemic Padas / Hamlets - There are some high endemic pockets in the UT who have been continuously reporting new cases over the years. Those Padas/Hamlets has already been identified (Annexed). As a strategy, the hamlets reporting even a single child or MB case further will be taken as high endemic and all the residents of that locality will be administered a single dose of Rifampicin prophylaxis.

E. Focused and need based awareness drive – To increase the awareness of general population and high endemics pockets of the UT, IEC will be planned and executed on routine basis. This will promote voluntary reporting apart from making the people aware of Leprosy.

To implement these strategies, annual plans will be made for every year to achieve the yearly targets. The Annual Action Plan for 2019-20 is annexed with the document.

8.6. Situational Overview of Leprosy in Daman and Diu

Daman and Diu leprosy case prevalence rate is well below 1 per 10,000 population and it has been sustained since last 7 years.

Table no 8.4: Indicators of NLEP program at DD

KEY INDICATORS	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	Current
Prevalence Rate	00	0.04	0.87	0.34	0.53	0.6	0.69	0.67
Annual New Case Detection Rate	0.38	1.45	9.27	2.30	2.33	5.50	6.87	6.5
Total No. of New Leprosy Case Detected	01	04	21	06	05	19	24	24
MB Cases	01	01	18	03	04	14	14	14
No of Children among New Cases	00	04	02	01	01	01	02	00
Grade II Disability Cases among New Cases	00	01	03	00	01	01	02	02
Children with Grade II Disability among New Cases	00	01	01	00	00	00	00	00

Year Wise Key Indicators of Leprosy of DD :
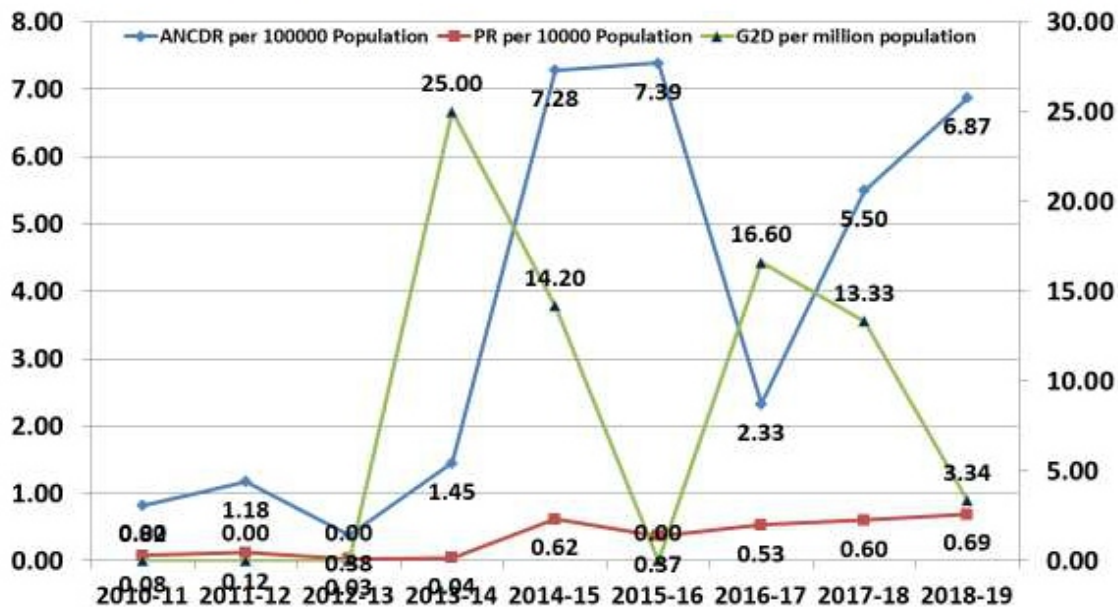
Figure No 8.6.1 Key Indicators of LEPROSY at DD

Year Wise Grade II Disability of Leprosy of DD :
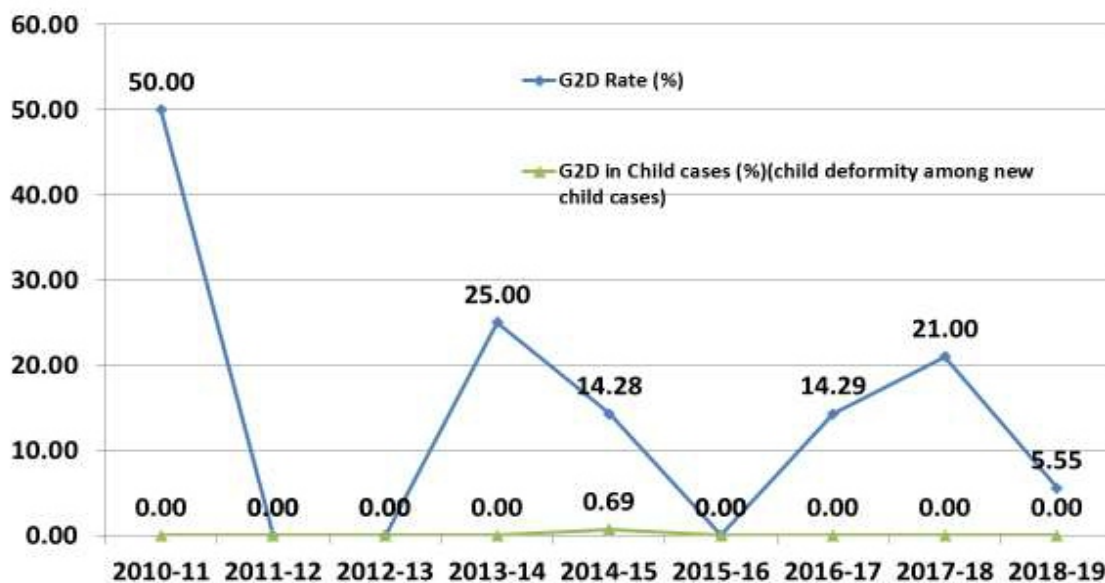
Figure No 8.6.2 Grade II Disability of LEPROSY at DD
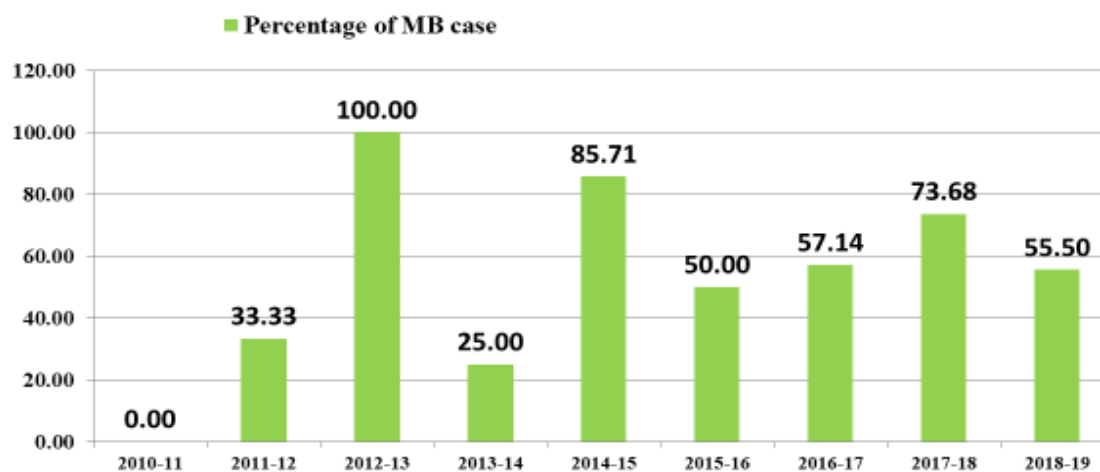
Year Wise MB % of Leprosy of DD :

Figure No 8.6.3 MB % of LEPROSY Cases at DD
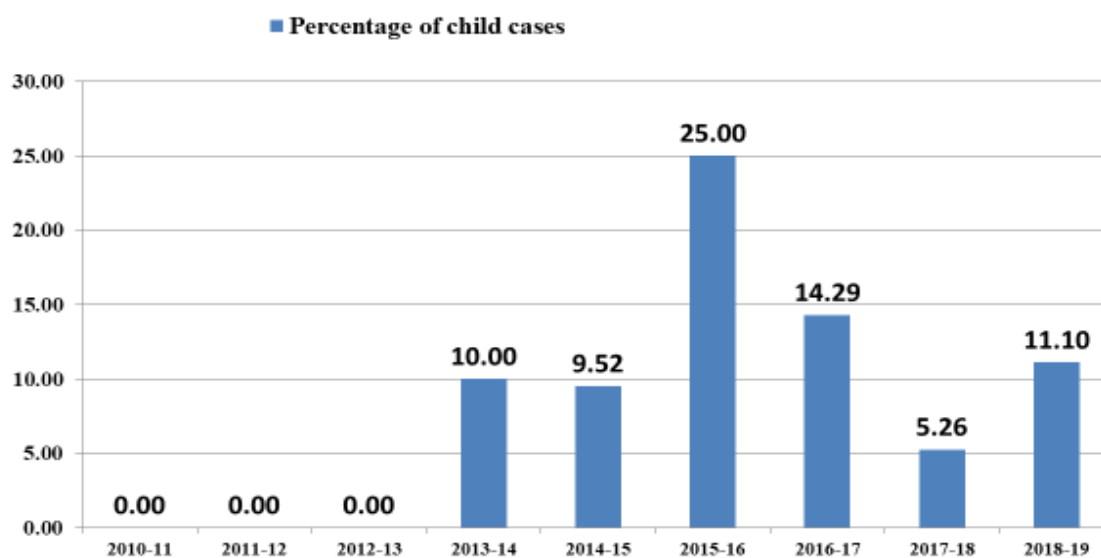
Year Wise Child % of Leprosy of DD :

Figure No 8.6.4 Child % of LEPROSY Cases at DD

Best Practices and Action Plan to maintain PR below 1 per 10,000 population

➢ Prompt distribution of MCR footwear and Self-Care Kits to all eligible patients.

➢ Real time reporting of suspect referral through webpage as a pilot project. Confirmation of these cases was done within 24 hours of reporting.(Data Of Suspects)

➢ Mandatory CBC, RBS, BP, HIV, Sputum testing for all confirmed cases before initiating MDT to rule out co-morbidities.

➢ Shramyogi Swasthya Sewa mobile Van visits Industries, Construction Sites targeting labourers and migrant workers.

➢ Examination of confirmed cases identified at PHC by Physician and/or Dermatologist.

➢ Strengthening ABSULS – Training and Supervision

➢ Sensitization and refresher training for RBSK teams.

➢ Digitization of data pertaining to field work under NLEP to get real time updates, ensuring no suspect is missed. This will also increase accountability of ASHA, ANMs and Male Health Workers. Complete Implementation of NIKUSHT portal in Daman and Diu

➢ Training of Community Health Officers for a supervisory and nodal role at village level under NLEP

➢ "100 Days" plan to cover workers in major industries by deploying teams specialized in screening – Estimated Population to be covered 50,000.

➢ Sensitization of Private Practitioners and enabling their active involvement

➢ Involving NGOs, Lions Club, Rotary Chapter and Industrial Association for support and care _ Nutritional , vocational and rehabilitative services that are not covered under the ambit of NLEP

Chapter 9 - MULTI-SECTORAL COORDINATION

9.1 Introduction

Strategies to end TB will have to address social and economic determinants which are risk factors for developing TB. Risk factors such as lack of awareness, poverty, malnutrition, urbanization, indoor air pollution, overcrowding, etc. require inter-departmental/ ministerial coordinated activities and the program will proactively facilitate this coordination to end TB. Inter-sectoral coordination will play a pivotal role in addressing social and economic determinants for TB. Role of different ministries for TB elimination has been described below:

9.2 Role of Department of Panchayat and Rural Development

1. Involvement of PRI for active TB care and control activities, thereby providing informer, DOTS provider incentives to eligible beneficiaries.

2. PRI members with other stakeholders involved in the planning of activities, awareness generation, mapping, surveys, active case fiPRI me, treatment support group activities, interventions for special groups, supervisory visits, linking TB patients with other social welfare schemes.

3. Facilitate the opening of a bank account of TB patients for Nikshay Poshana Yojana under Pradhan Mantri Jan-Dhan Yojana (PMJDY) and ensuring the benefits of Pradhan Mantri Suraksha Bima Yojana and Pradhan Mantri Jeevan Jyoti Bima Yojana (PMJJBY).

4. Under Pradhan Mantri Awas Yojana- Gramin (PMAY-G) providing incentives to pucca house, with basic amenities, to all eligible TB patients who are houseless householder and those households living in kutcha and the dilapidated house is expected to reduce overcrowding in these high-risk group. The program will proactively facilitate this linkage of eligible TB patient to Yojana.

9.3 Role of Department of Tribal Welfare

1. TB screening among Tribal Residential School inmates by Medical Officers and Paramedical Staff.
2. Linkage of TB patients of tribes to a scheme of development of Particularly Vulnerable Tribal Groups (PVTGS) for socio-economic development in a comprehensive manner.

9.4 Role of Department of School Education

1. Facilitating the linkage of eligible TB patients to scholarships scheme like Dr. Ambedkar pre-matric and post-matric scholarship for de-notified, nomadic and semi-nomadic tribes (DNTS), and post-matric scholarship, etc.

2. Teachers and students of Secondary Schools to be trained and sensitized on various aspects of TB Control Programme by District TB officials for awareness generation and community mobilization.

3. Conducting regular awareness generation activities among students and teachers through Essay, Debate, Song, Slogan and Drawing Competitions on various National days.

4. Expansion of Right to Education for the affected and infected MDR/XDR TB children.

9.5 Role of The Department 6 Social Welfare

1. Linking the TB patients who have suffered disability due to TB treatment (MRD, XDR) to the existing social welfare schemes of the department.

2. Strengthening the rehabilitation of TB survivors who have suffered disability due to TB treatment

3. Initiation of Nutritional Support to TB patient for the entire duration of their treatment

Conclusion

The vision of this strategic document is to formulate strategies in accordance to the National Health Programmes pertaining to the control of Tuberculosis and Leprosy for effective control of these two major communicable diseases in the Union Territory of Dadra & Nagar Haveli and Daman and Diu. The strategies adopted here will be guiding principles for activities towards achieving a TB free state as per the NSP 2017-25 and to achieve the elimination stage for Leprosy (less than 01 new case under treatment per 10000 of population.

The strategies controls of Tuberculosis under the different pillars are based on the guiding principles of National Strategic Plan 2017 – 2025 for control and elimination of Tuberculosis in India. The generic activities described above are in accordance to the principles of TB elimination campaign at large. These activities will support directly or indirectly in the implementation of the strategies for TB Free DNH & DD.

These are not the complete package. These activities are to be intelligently adapted to the local setting within the UTs by the UT's TB elimination task force.

This strategic document has also laid down the road map for reaching the stage of TB Free as well as Leprosy elimination as per definitions under the respective The interim targets and the goals fixed for the year end of 2022 are kept optimistic and on the higher end to motivate for optimal output of both the National Health Programmes. To achieve the year on targets, micro planning and a annual plan for every year keeping in view the target for the year and achievement of the previous year will be prepared. Good micro planning and close supervision will improve the efficiency of the existing human resource and help in the optimum utilization of resources.

ANNEXURES

ANNEXURE 1. ACTION PLAN FOR 2019-20 – TB ELIMINATION

S.N	Indicators	Current Status 2018	Target for 2019	Strategy	Activities Planned for 2019
1	Case Notification rate (per 100000 population)	DNH: 119 (per 100000 population). In 2017 it was 123 per lakh population. DD:132(2018) 147(2017)	5% increase over current status (Strategy is to reduce transmission by early detection & prompt treatment which will substantially reduce new case within a couple of years)	- Increase referrals for sputum examination from OPDs & Field. - ACF (Active Case Finding) driver to cover 25% of population in every quarter - Maintain quality of TB diagnosis - Optimal use of CBNAAT by testing every diagnosed TB patient by CBNNAT (Universal DST).	-To increase notification from both private and public health facilities – monthly review & feedback to public & private facilities -To increase referral for sputum examination from adult OPD & routine visits of field staff - Active Case Finding Drives in every quarter (March, July & October 2019 and January 2020) - Retraining of Health Staff & DOT providers on revised TOG & Diagnostic algorithm – JULY 2019 - Targeted and need based IEC for self-reporting started from May 2019 (monthly schedule)
2	Sputum Conversion rate	DNH 95%. (Increased from 92% in 2017) DD: 97%	To maintain and try to increase by 2% over current rate	-Strict monitoring of follow up sputum and treatment adherence	- Maintain timely follow ups & same day reporting of lab results. - Line listing of TB cases at all PHCs &SCs (DOT Centres)for effective routine follow-ups

S.N	Indicators	Current Status 2018	Target for 2019	Strategy	Activities Planned for 2019
3	Success rate	DNH 96.29% (Increased from 92.23% in 2017) DD 91%	Maintain & try to increase by 1 – 2% over current status.	-Timely follow ups -Adherence to treatment protocols	- Increase field visit by STS for treatment adherence and decreasing defaults – at least one home visit to each patient every month - Continue DBT of Rs.500/pm to all TB patients for nutritional support to TB patients (started in April 2018).
4	Default rate (Loss to Follow up)	DNH 2.54% DD 4.12%	To Decrease it by 0.5 %.	-Increase initial & during treatment counselling of all TB patients	- Increase field visit by STS for treatment adherence and decreasing defaults - Fortnightly review to detect prospective defaults
5.	Proportion of TB cases with known HIV status	DNH and DD100%	Maintain	-Continue HIV testing of diagnosed TB patients at all DMCs	-Strengthen Linkages with ICTC/FICTC -Monitor FICTC at all PHCs/CHCs - Monthly review of status

ANNEXURE 2 NATIONAL LEPROSY ERADICATION PROGRAMME– ACTION PLAN FOR 2019-20

S.N	Indicators	Current Status 2018-19	Target/Expected for 2019-20	Strategy	Activities Planned & implementing for 2019-20
1	Prevalence rate (PR) per 10000 population	3.6 (154)	<2.7	- Early detection & Prompt treatment to reduce transmission - Increase treatment completion rate - Prophylactic Rifampicin to contacts of new cases	- Active case finding survey in every 4 months– June/July 2019, Oct /Nov 2019 & Feb/March 2020 (One SAP & 2 round of LCDC) - Continuous active search by PMWs & MPWs in identified hot spots in routine field visits - Timely disbursal of incentives to ASHA – Quarterly - Keep the time lag between diagnosis & PEP to <15 days. - Continue prophylactic Rifampicin to 50 or more healthy contacts as per local situation & availability of contacts
2	ANCDR per Lakh Population	61 (261)	Maintain & Try to increase	- Active case detection survey - Continue active case findings through Field Staff in routine field visits	- Retraining of MOs & field staff on diagnosis of Leprosy – By September 2019 - Improve the quality of active search surveys and digitalise the records of such surveys by retraining & cross checks
3	MB Proportion (%)	30 (78)	Below 25	-Early detection & prompt treatment of PB cases - Improve nutrition of Leprosy cases	-Iron & Folic acid supplementation to new cases - Focused Leprosy Campaign in areas with new MB & Child cases in January 2020. - Train field staff and ASHA to identify anemia & other deficiencies in Leprosy cases – By July 2018 - Need based IEC to increase self reporting at onset of symptoms – Continuous process

S. N	Indicators	Current Status 2018-19	Target/Expected for 2019-20	Strategy	Activities Planned & implementing for 2019-20
4	Grade – II Disability	0.0 (No case)	Maintain	- Increase DPMR activities	- Early detection of Lepra Reaction & its complete treatment to prevent nerve damage - Promote & train/retrain new & old cases for Self care of anaesthetic limbs (Grade I disability)
5	Child Proportion (%)	16 (42)	<15	- Prophylactic Rifampicin to household, neighbourhood and school contacts of child cases	- Utilize the school health team for early detection of child cases through periodic screening - Assessment of nutrition of child contacts during contact examination.

ANNEXURE 3 - TUBERCULOSIS VULNERA BILITY SCREENING INT ERVIEW GUIDE

Step 1. Introduce yourselves. Tell them why you are meeting them.

Step 2. Tell them briefly about TB using the TB brochure/ pamphlet, hand over one pamphlet to the family

Step 3. Write down the names of all members, their sex, age and Aadhar number. Only after filling this information, start the interview. Question set one is common to all.

SCREENING FOR TB

Q1. Does the house have any of the following characteristics? If yes, mark yes against all members. If no, mark no against all members.

Key Population	Yes/No
1a. Tribal	
1b. Coastal	
1c. Slum	
1d. A past or present TB patient in the family	

Question sets 2, 3 and 4 are to each individual. If any member is absent at the time of interview, information can be collected from another appropriate member.

Q2. Does the person belong to any of the following occupation classes?

Occupation	Yes / No
2a. Health care worker (Doctor/nurse/lab technician/nursing assistant/attender)	
2b. Mine/quarry worker	

Q3. Does the individual fit into any of the following Key population classes?

Key population classes	Yes / No
3a. Past or present TB patient	
3b. Diabetic	
3c. Chronic respiratory disease	
3d. Liver/ kidney disease	
3e. Bed ridden/ under palliative care	
3f. Past/present smoker	
3g. Regular consumer of alcohol	

Q4. Ask each member if he/she has the following symptoms.

1. Cough for more than 2 weeks
2. Fever for more than 2 weeks
3. Weight loss
4. Haemoptysis
5. Night Sweats

4a .Any two of these symptoms is present, mark yes	
1. Cough for more than 2 weeks	Yes / No
2. Fever for more than 2 weeks	Yes / No
3. Weight loss	Yes / No
4. Night Sweats	Yes / No
5. Haemoptysis	Yes / No

4a. If any two of these symptoms is present, mark yes in the column 4a.

Fill a referral slip and mark yes in column 4b.

4b. Filled a Referral slip	Yes / No

In the referral slip, appointment date is to be marked. Presumptive TB persons in the first two houses should be given appointment on following Monday, from next two houses on following Tuesday and so on. Ask the person to report to DMC before 9.00 am on the date of appointment. Only individuals with definite symptoms are to be referred.

In case the presumptive TB person is bed ridden, hand over two sputum containers to the family member and ask to take two sputum samples to the designated microscopy- center   .