COHORT MONITORING AND DIFFERENTIATED CARE MANAGEMENT (DCM)

Differentiated Care Model aims to improve the outcomes of TB treatment among high risk TB patients

BACKGROUND

TB patients experience various drop-offs during the care cascade from diagnosis to recurrence-free survival. Due to the heterogeneity of health systems - a function of both geography and differential program management-care cascades can vary at a district, tuberculosis unit (TU), or facility level. Clinical drop-offs during the care cascade include pre-treatment lost to follow-up; limited improvement at end of intensive phase (IP); unsuccessful treatment outcomes; and post-treatment TB recurrence or mortality. These measures reflect a sub-group of patients that are “high-risk” and require additional support beyond the standard of care provided by the health system.

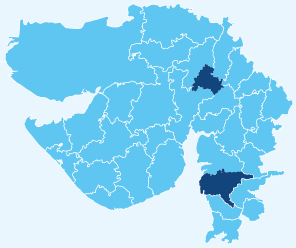
Under DCM intervention, 1,310 patients have been enrolled to be followed up at treatment initiation, end IP and end of their CP phase. It includes 631 (48.2%) patients in Gujarat and 679 (54.8%) in Jharkhand.

OBJECTIVES

- Demonstrate a care cascade monitoring framework that illustrates drop-offs at sequential stages and contributing factors to drop-offs
- Identify the type and proportion of high-risk patients, defined as patients who require support beyond the standard of care offered by the health system
- Scale up the DCM activity in CGC primary states and scale up states

GEOGRAPHIES

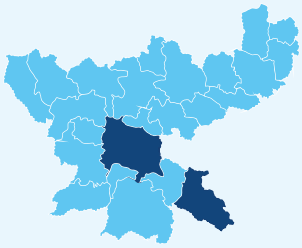
DCM cohort - Eligible patients have been enrolled at the below 15 facilities in CGC districts



Gujarat:

Surat: Civil Hospital, Pal (CHC), Limbayat (CHC), Dindoli (UPHC), Mandvi (CHC)

Gandhinagar: GMERS, Mansa (SDH), Kalol (CHC), Dehgam (CHC)



Jharkhand:

Ranchi: Sadar DTC, RIMS

East Singhbhum: Ghatshila SDH and MGM Medical College DTC

OVERVIEW FOR DCM COHORT MONITORING

01	02	03	04	05
DCM assessment at 15 facilities	Home visit at treatment initiation	End IP follow-up through Call Center and/or in-person CC visit	Home visit at end of treatment and culture test	Verbal autopsy

KEY ACTIVITIES

DCM assessment at health facilities:

- All individual TB patients (Transfer In/Transfer Out/Referral/diagnosed within facility/under IP/CP treatment) giving consent and getting registered at the DCM facility are screened on DCM parameters. All DS-TB patients aged above 12 years undergo DCM assessment.
- Altered parameters are reviewed by the Medical Officer (MO) and appropriate next steps are recommended. Care Coordinator assigned to the DCM facility conducts follow-up calls as per MO recommendation e.g if MO requires patient to return for additional tests, suggest admission/referrals or others.
- For all those DCM patients who have one or more abnormal/altered parameters and are not marked by MO for any further actions are also telephonically called by CC within 15 days of registration.

Patient home visits by the Care Coordinator:

All DCM patients and community cohort patients receive three home visits by the respective TU-assigned CC (Initial home visit; End of IP visit: End of treatment visit):

- **Visit during treatment initiation:** Care Coordinator pay home visit to the DCM enrolled TB patients for Mental Health and substance abuse screening and put them on counselling or refer for facility-based care. Assessment for Quality of Life (QOL) and Adverse Drug Reaction (ADR) are also carried out.
- **End of IP Follow-up:** This is delivered through hybrid model. Tele-counsellors at WHP's Centralised Control Centre (CCC) connect with the patients telephonically for Mental Health and substance abuse screening, Quality of Life Assessment and Adverse Drug Reaction (ADR). Patients who couldn't be contacted telephonically, denied or refused to talk are assigned to care coordinators for follow-up through home visits.

- **Visit at the end of treatment:** Care Coordinators visit the patient for Mental Health and substance abuse screening, Quality of Life Assessment and Adverse Drug Reaction (ADR). In addition, assessment is done regarding patient's Hb level, weight gain, support received under Nikshay Poshan Yojana (NPY), and dietary practices of the patient. The patient is also supported with free sputum and culture test.

Verbal autopsy:

Understanding the causes of TB-related deaths is crucial for improving TB elimination strategies and reducing mortality rates. India has one of the highest burdens of TB in the world, and the accurate determination of TB-related deaths is crucial for effective disease control and surveillance. National tuberculosis elimination program mandate an in-depth Death Audit by the medical officer of all deaths occurring in TB patients.

Till Dec 2023, 62 Verbal Autopsies have been conducted in Jharkhand out of the reported 151 TB Deaths. In Gujarat, 103 Verbal Autopsies were conducted out of the total 255 TB Deaths reported in Ni-kshay (April 1, 2023).

SCALE-UP OF DCM ACTIVITIES

State-wide expansion in Gujarat and Jharkhand

The activity has been expanded across all the districts in Gujarat and Jharkhand, with support from State TB departments. From Aprill 23 onwards patients have been enrolled across TUs through HWC/PHC/CHC to identify risk factors (Pulse Rate, Respiratory Rate, Oxygen Saturation (SPO2), Blood Pressure, Temperature, Height, Weight, MUAC, General Condition, Icterus, Peripheral Oedema, HB, HIV, Diabetes).

Expansion in additional states

WHP has been providing technical assistance to five additional states - Bihar, Himachal Pradesh, Punjab, Sikkim and Uttar Pradesh, through training of trainers (ToTs). Post ToT, district level cascade training have been initiated for district NTEP officials and staffs to ensure roll-out of DCM in public health facilities. The progress is monitored using Nikshay data from the DCM module files to analyse the uptake of the DCM activities at facility and patient's level.

MAJOR OUTCOMES

- 1,310 patients enrolled from April to June 2023. It included 64.8% males and 35.2% females.

Cohort Monitoring Overview (patients assessed)

DCM	Treatment initiation	End IP	End CP
1,310	1,251	1,055	728
Apr'23 to Jun'23	Apr'23 to Jun'23	Apr'23 to Sep'23	Sep'23 to Feb'24

- 1,184 (90.3%) patients found having deranged parameters with weight and haemoglobin being the top two deranged parameters.
- 265 (21.3%) patients were having MH issues. A majority of them (95.04%) were mild and rest showed moderate and severe symptoms. 247 (19.7%) patients were also found having Substance Abuse issues.
- These patients were assessed again at end IP. Out of 1,310 patients, 1,055 patients could be successfully assessed. Among them, 86 (8.5%) patients were having MH issues.

- Among these patients, 728 patients have completed the treatment and have got successfully interviewed for End CP assessment. Among these 17 (2.4%) patients were identified with MH issues with 88% being mild, 6% being moderate and 6% being severe. Furthermore, among these 728 patients, 38 (5.2%) reported to have started using tobacco, alcohol or both and 191 have reported to have reduced/ stopped substance consumption. For 674 patient's sputum collected from patient door-step, 10 smear positive were identified and 18 culture positive (12 MTB and 6 NTM).

ABOUT THE CGC PROJECT

Closing the gaps in TB care cascade (CGC) is a four-year (2020-2024) project funded by United States Agency for International Development (USAID). Care cascades provide a framework to monitor system-level responsiveness to the patient throughout their treatment journey. The project which started from two districts each in Jharkhand (Ranchi & East Singhbhum) and Gujarat (Gandhinagar and Surat), has now been scaled to all the districts in these states. Based on the success of the CGC interventions, five additional states (Bihar, Sikkim, Uttar Pradesh, Punjab and Himachal Pradesh) are now being supported by WHP for scale-up of CGC activities. The project is providing technical support to the states for training of human resources, roll-out of differentiated TB care, post-treatment follow-up, integration of mental health services and evidence from monitoring of activities aimed at closing the gaps in TB care cascade.

TB patients are screened for altered parameters

World Health Partners (WHP) is a non-profit Indian society that sets up programs to bring sustainable healthcare within easy access to underserved and vulnerable communities. It innovatively harnesses already available resources more efficiently by using evidence-based management and technological solutions. WHP is best known for its programs focused on early detection and treatment of tuberculosis in urban and rural settings supported by community-based activities to ensure prevention. The organization uses all available resources - both in the public and private sectors to ensure that people living in any part of the country will have access to high-quality treatment.

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