Closing the Gaps in the TB Care Cascade (CGC) Project

ADDRESSING MENTAL HEALTH ISSUES AND SUBSTANCE USE DISORDER AMONG PATIENTS WITH TUBERCULOSIS

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Acronyms & Abbreviations

AB-HWC	Ayushmana Bharat – Health and Wellness Center
ASSIST	Alcohol, Smoking, and Substance Involvement Screening Test
BPRS	Brief Psychiatric Rating Scale
CAGE AID	CAGE Adapted to Include Drugs
CBAC	Community-Based Assessment Checklist
CCs	Care Coordinators
CGC	Closing the Gaps in TB Care Cascade
CHO	Community Health Officer
CIP	Central Institute of Psychiatry
CP	Continuation Phase
DMHP	District Mental Health Program
DOTS	Direct Observed Treatment
DR-TB	Drug-Resistant Tuberculosis
HMHA	Hospital for Mental Health, Ahmedabad
HOD	Head of a Department
HSC	Health System Coordinator
IIPHG	Indian Institute of Public Health Gandhinagar
MDD	Major Depressive Disorder
MDR	Multi-drug Resistant
MH	Mental Health
NMHP	National Mental Health Program
NTEP	National Tuberculosis Elimination Program
PHQ-2	Patient Health Questionnaire-2
PHQ-4	Patient Health Questionnaire-4
PSW	Psychiatric Social Work
RINPAS	Ranchi Institute of Neuro-Psychiatry and Allied Sciences
STO	State TB Officer
TB	Tuberculosis
TCCs	Tobacco Cessation Centres
TU	TB Unit
WHO	World Health Organization
WHP	World Health Partners

About the CGC Project and Project Geographies

The Closing the Gaps in TB Care Cascade (CGC) consortium, led by World Health Partners (WHP) in collaboration with the Institute of Public Health Gandhinagar and Everwell Health Solutions Pvt. Ltd., is focused on visualizing various stages of gaps in the delivery of tuberculosis (TB) care. Critical gaps have been identified, including patient loss due to challenges in accessing TB diagnostic tests, prescription of accurate diagnoses, TB treatment, adherence to daily medication, and maintaining a TB-free status post-treatment. The project aims to design an implementation and monitoring framework for the TB care cascade, while also demonstrating intervention models to effectively address these identified gaps. Furthermore, the project specifically targets cascades for TB sub-populations, including those with drug-resistant TB (DR-TB), comorbidities, and other high-risk factors.

CGC Project Geographies:

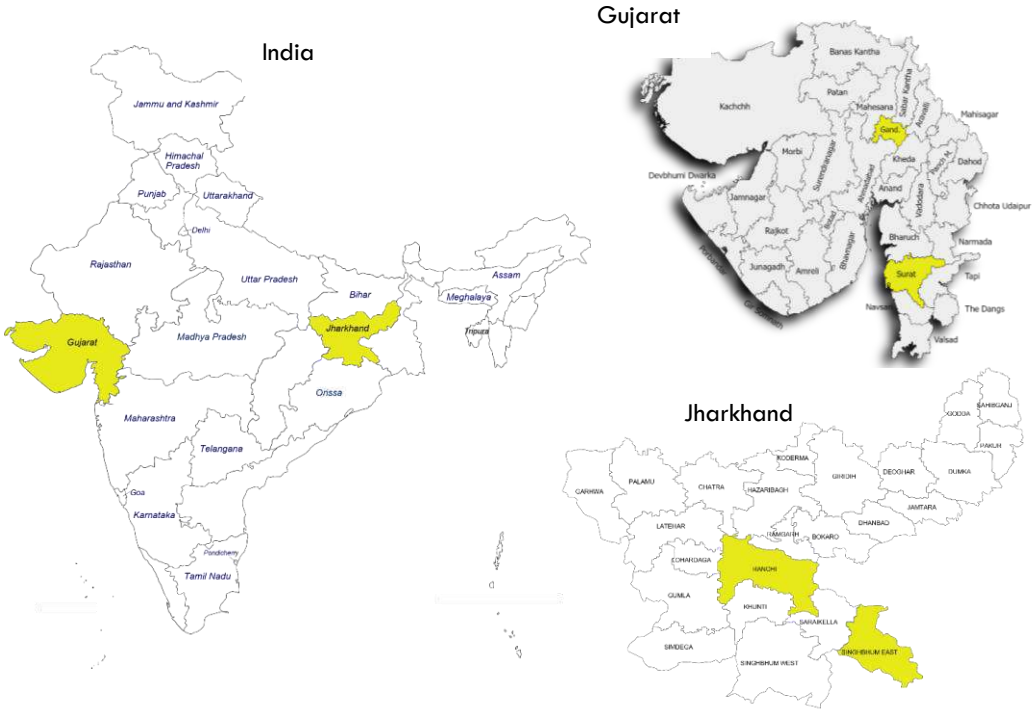


Table 1. Geography coverage of intervention under the CGC Project

State	District	Population	TU	Intervention TU
Jharkhand	East Singhbhum	0.6 million	10	10
	Ranchi	1.5 million	15	15
Gujarat	Gandhinagar	0.3 million	5	5
	Surat	4.4 million	27	15
		Total	**57**	**45**

SECTION 1

1.1 BACKGROUND AND RATIONALE

Tuberculosis (TB) stands out as a significant global public health concern, ranking as the second leading cause of death due to infectious diseases. In 2020, around 1.5 million people worldwide affected with TB, with India accounting for nearly 34% of total deaths. Extensive efforts in treatment and prevention are underway globally to address this disease burden. In India, a substantial 95% of notified TB patients initiated treatment in 2020, reaching 97% in Jharkhand and 98% in Gujarat. However, the cure rate for TB patients in India remains at 61%, with variations noted, such as 72% in Gujarat and 58% in Jharkhand. These figures underscore the multifaceted factors influencing treatment and completion among TB patients.

Patient behavior within the TB care cascade encompasses actions taken by individuals to manage with their symptoms. This cascade involves steps at each level of care, starting from seeking care to completing treatment. The gaps between these steps represent individuals experiencing suboptimal outcomes, a phenomenon observed globally and in India.

Mental health issues and substance use disorders often coexist with TB, posing additional challenges. Drug-induced psychiatric symptoms and TB-related stigma can have profound effects on patients, leading to depression, loneliness, anxiety, and low self-esteem. Depression prevalence among TB patients can be as high as 50%, influenced by biological, social, and behavioral factors. Reports indicate a 74% prevalence of depression and anxiety among TB patients referred for psychiatric care, and 32% among Multidrug-Resistant TB (MDR-TB) patients who had initiated treatment. Addressing these mental health issues is crucial, as they can impact the care cascade and treatment outcomes.

The prevalence of depression and anxiety among TB patients is linked to factors such as social stigma, social support, and the physiological impact of the disease. Alcohol use disorder prevalence is reported at 20% among TB patients in India, and smoking, a recognized independent risk factor for TB, may contribute to over 20% of the global TB incidence, according to WHO estimates.

Literature suggests that untreated mental health issues and substance use disorders during TB treatment can adversely affect the care cascade and treatment outcomes. Depression is associated with patient delay, poor quality of life, and unfavorable treatment outcomes. Substance use among TB patients may impede treatment adherence, continuity of care, and overall treatment outcomes.

In response to these challenges, World Health Partners initiated a "Mental Health" intervention in Gujarat (Gandhinagar, Surat Rural, Surat Municipal Corporations) and Jharkhand (Ranchi, East Singhbhum) in 2021. Recognizing the triggers for depression and anxiety among TB patients, including poor knowledge about TB infection and treatment, alcohol and tobacco use, isolation, and family and community stigma, a "Substance Abuse Intervention to Improve Quality of Care" was piloted in the same regions this year. The Indian Institute of Public Health,

Gandhinagar (IIPHG), is documenting these interventions to support their scale-up, detailing the implementation process and lessons learned.

1.2 Objectives of intervention

- Estimate the prevalence of mental health issues and substance use disorders among TB patients.
- Identify and enumerate challenges contributing to the onset of mental health issues and substance abuse in TB patients.
- Create and validate a screening tool suitable for administration by frontline workers to identify mental health issues and substance abuse.
- Design an intervention model for providing counseling and referral care to TB patients experiencing mental health issues.

1.3 Activities undertaken to document the process flow of the intervention

Various activities were carried out to document the flow of mental health interventions. The complete list of these activities is presented in Figure 1 below:

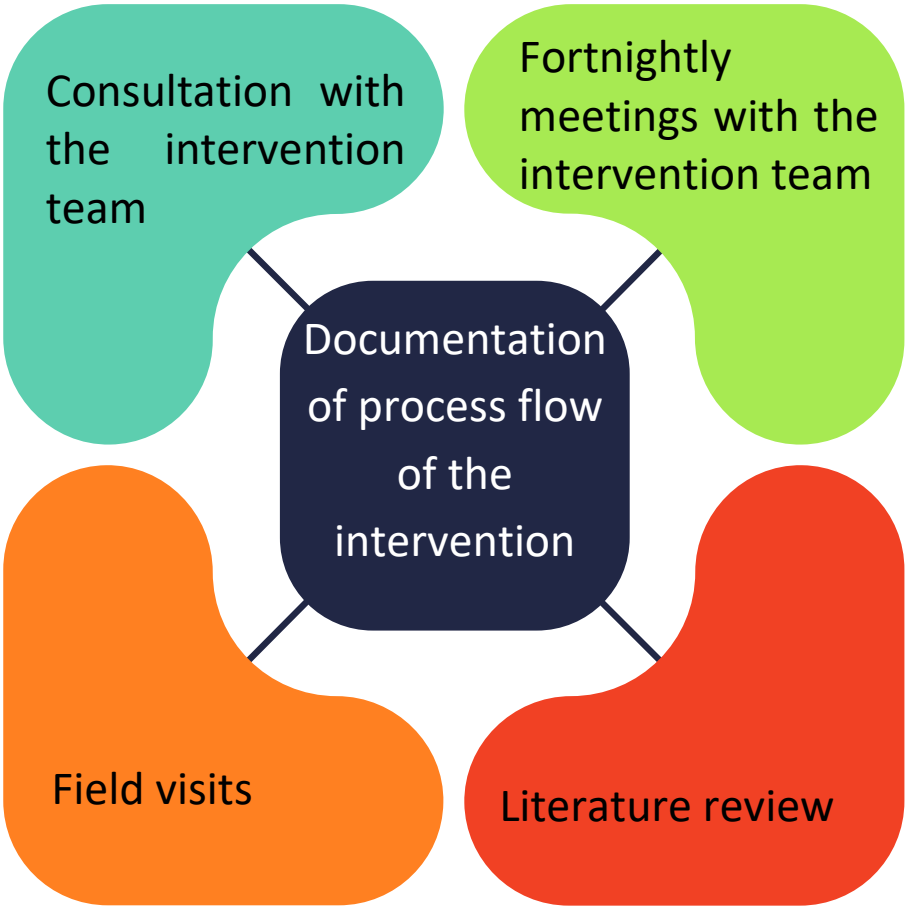


Figure 1. Activities to document Intervention process flow

- **Consultation with the intervention team:** Initial consultations were conducted with all stakeholders from WHP to comprehensively grasp the intervention protocol and its diverse activities. Additionally, consultations were held with stakeholders from both the WHP team and the IIPH Gandhinagar team to establish consensus regarding the necessity of process documentation and determine the modalities for its execution. The outline of the process documentation was then finalized through these collaborative discussions.

- **Continued fortnightly meetings with the intervention team:** Bi-weekly meetings were consistently held with the relevant thematic leads to review progress every 15 days. These meetings served as a platform to discuss any updates or modifications in the protocol or interventions. Additionally, they provided an opportunity to exchange field feedback, inputs, and insights among the thematic leads.

- **Literature Review:** Extensive research papers and reports focusing on mental health issues and substance use among TB patients, and their impact on treatment outcomes, were reviewed to substantiate the document.

- **Primary Evidence Generation through Field Visits:** The documentation team from IIPHG conducted visits to patients and care coordinators, aiming to comprehend the intervention process flow, address field-level challenges, gather insights, and assess monitoring mechanisms.

SECTION 2

2.1 INTERVENTION FLOW

An intervention aimed at enhancing the quality of care for TB patients with mental health issues and/or substance abuse was implemented across all four designated regions of the CGC project: Gandhinagar and Surat in Gujarat, and East Singhbhum and Ranchi in Jharkhand. The rollout encompassed all Treatment Units (TUs) in Gandhinagar, East Singhbhum, and Ranchi, as well as specific TUs in the Surat district/corporation.

The primary focus of the intervention involved early screening (within seven days of notification) of TB patients for mental health and substance abuse, followed by counseling sessions as an integral part of the intervention, if deemed necessary.

The structured approach consisted of the following steps:

- **Screening:** All TB patients aged 18 years and above, as notified under NI-KSHAY, underwent screening using a predetermined tool.
- **Enrollment:** Patients identified during the screening process were enrolled for the next level, which included four weekly counseling sessions based on pre-established criteria.
- **Post-Counseling Screening:** Following the completion of counseling sessions, a subsequent screening was conducted, and the intervention outcome was determined based on the results.

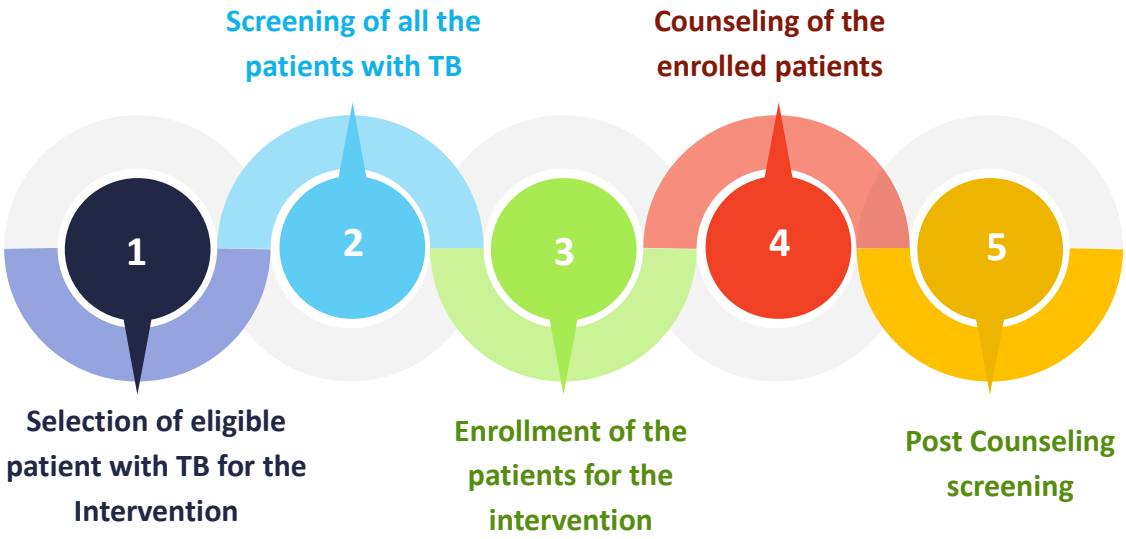


Figure 2. Process of Intervention

2.2 Developing the tools to screen the TB Patients

The screening tools underwent a thorough finalization process, involving multiple consultations with various stakeholders at different implementation stages. Pre-validated tools were ultimately selected for the screening activity. A rigorous process of tool finalization was adopted, fostering an in-depth understanding of the screening process among the recruited TB patients and ensuring their support for the subsequent levels of actions.

2.2.1 Process of the tool development (for Mental Health issues screening)

- A brief psychiatric rating scale (BPRS)19 and the physical health questionnaire 2 (PHQ-2)20 were collaboratively developed with state TB officials in Gujarat and Jharkhand to screen for mental health concerns in patients during the initial phase of treatment (phase 1). Both tools were utilized for patient screening.
- Following continuous inputs and feedback from field workers and stakeholders at the state and district levels, the decision was made to utilize the physical health questionnaire 4 (PHQ-4)21 tool along with a symptom checker for screening. Starting in October 2021, the PHQ-4 & symptom checker tool was implemented for screening across all selected geographic areas.
- Specific considerations were taken into account during the tool development process. These considerations included simplicity in administration by frontline workers, minimal training requirements, seamless integration into the current TB workflow, validation of tools, and categorization of problems into mild, moderate, or severe risk.

The rationale for revision in the tools (Mental health Assessment)

The BPRS and PHQ-2 tools were initially employed in phase 1, subsequently replaced by the PHQ-4 and symptom checkers. Notably, the PHQ-4 includes two additional questions related to anxiety compared to the PHQ-2. Moreover, the symptom checker tool incorporates various elements from the BPRS instrument that are pertinent to psychotic behavior. The revision of the tools was guided by the following considerations:

- Various stakeholders convened during the implementation phase to address on-the-ground issues, gather comments, and explore ideas for improvement.

- Tools underwent revision following numerous consultations and inputs from stakeholders, considering operational feasibility, staff comprehension levels, staff capabilities, and the intended scale-up of the project.

- After careful deliberation, it was concluded that the BPRS tool is more apt for diagnostic purposes; alternative tools may be explored to fulfill screening requirements.

Details of the various tools used for screening are outlined as follows:

1) **PHQ-4:**

Purpose: PHQ-4 functions as an early screening tool for symptoms of depression and anxiety, featuring two questions for each symptom.

Scoring: A PHQ-4 score ranges from 0 to 12, obtained by summing the individual scores of the two screening questions (refer to Annexure 1).

2) **Symptom Checker:**

Purpose: The symptom checker tool is designed for screening psychotic behavior.

Components: This tool comprises statements covering five symptoms associated with psychotic behavior, including conceptual disorientation, suspiciousness, hallucinatory behavior, unusual thought content, and grandiosity (refer to Annexure 1).

2.2.2 Process of the tool development (Substance use screening)

- The Alcohol, Smoking, and Substance Involvement Screening Test (ASSIST)21 was selected for screening TB patients during the initial phase following team collaboration. Subsequently, it underwent modifications to better align with the context and encompass all relevant data.
- The decision to utilize the Drug Use Screening Questionnaire for screening was reached after field testing the instrument and incorporating continuous input and feedback from field personnel, the team, and various stakeholders.
- Specific considerations were taken into account during the finalization of these tools, emphasizing simplicity for personnel use and minimal training requirements.

The rationale for revision in the tools (Substance use screening)

Tools underwent revision based on the following observations:

1) During the pilot phase, it was identified that both the original and updated ASSIST tools are extensive and time-consuming for screening. Furthermore, it was observed that Care Coordinators (CCs) required rigorous training to administer the tool promptly and elicit the desired responses from patients.

2) Details of the various tools used for screening are as follows: [Please provide additional details or specify the tools for further information.]

3) **ASSIST:**

- **Description:** The Alcohol, Smoking, and Substance Involvement Screening Test (ASSIST) was developed by an international group of researchers and clinicians as a technical tool for the World Health Organization (WHO).
- **Purpose:** This instrument is designed for use in primary care, general medical care, and other settings to facilitate the early identification of substance use disorders and health hazards associated with substance use.

- **Components:** ASSIST consists of eight questions covering various substances, including marijuana, cocaine, amphetamine-type stimulants (including ecstasy), inhalants, sedatives, hallucinogens, opioids, and other drugs.
- **Scoring:** Each substance receives a risk score, which is categorized into low risk, moderate risk, and high risk, aiding in the assessment of substance use-related risks.

4) **Substance Use Screening Questionnaire:**

   Description: It represents a modified version of the CAGE-AID semi-structured interview schedule.

   Purpose: The primary objective is to assess the frequency, severity, and receptiveness to counseling concerning drug abuse behaviors specific to the intervention.

   Characteristics: This questionnaire is meticulously crafted to provide a comprehensive evaluation of substance use. A detailed reference of the questionnaire can be found in Annexure 2.

2.3 Training of the Care Coordinators (CCs) for intervention

Prior to deploying the project for both interventions, comprehensive training sessions were conducted for all care coordinators. These training sessions were facilitated by specialists. Beyond the initial instruction, multiple refresher training sessions focusing on addressing challenges, providing solutions, and incorporating new developments were scheduled for field employees. The aim was to enhance their knowledge and facilitate the implementation of the intervention process with greater ease.

2.3.1 Training for Mental health care intervention

Content: The training session's content was developed in accordance with the mental health intervention protocol, comprehensively covering all aspects of the screening activity and counseling sessions to ensure the proper implementation of the intervention.

The training included the following topics:

- Orientation to mental health and the prevalence of mental health disorders.
- Screening tools for mental health issues and the administration approach for these tools.
- Identification of basic psychiatric illnesses, signs, and symptoms, encompassing both common mental disorders and severe mental disorders.
- Communication and counseling training.
- Introduction to a digital platform for data management.
- Discussion on service delivery, emphasizing the mental health intervention protocol.

Method: Separate state training sessions were conducted for both geographies. However, it's noteworthy that no post-training evaluation was undertaken in either state.

Here are the details of the training sessions conducted:

Training Session in Gujarat:

The training was conducted at the Hospital for Mental Health under the guidance of Dr. Ajay Chauhan, the State Nodal Officer, Gandhinagar, and the team from January 28th to 30th, 2021. The session saw the participation of a total of 25 attendees, comprising 14 Care Coordinators (7 from Ahmedabad and 7 from Surat), 2 Health Service Coordinators (HSCs), 2 Management Information System (MIS) personnel, and 5 staff members from the World Health Partners (WHP) team.

- Mode of Training: In-person training
- Number of Days/Schedule: The training spanned 2.5 days.
- Materials Used: The training utilized a variety of materials, including audiovisual presentations, exercises and activities, handouts, hospital orientation, clinical rounds with patients, and case-based studies.

Training Session in Jharkhand:

The training session in Jharkhand was organized at the State TB Cell by Mrs. Shantana Kumari, Mental Health Consultant NMHP, Ranchi, Jharkhand, along with the WHP team on January 4th, 2021. The session witnessed the participation of a total of 19 attendees, including 14 Care Coordinators (CCs), 2 Health System Coordinators (HSCs), and 5 members from the World Health Partners (WHP) team.

- Mode of Training: In-person training
- Number of Days/Schedule: The training spanned 1 day.
- Materials Used: The training incorporated various materials, including audiovisual presentations, exercises and activities, and case-based studies.

2.3.2 Training For Substance Use Intervention

The content of the training session was tailored in accordance with the intervention protocol, encompassing all facets of the screening activity and counseling sessions to ensure the proper implementation of the intervention. The following topics were included in the training:

- An Introduction to Substance Use Disorders.
- The Relationship between the Adverse Effects of Substance Use and Tuberculosis.
- Introduction to Assessment Tools, Scoring, and Interpretation.
- Training for the Brief Psycho-Social Intervention Process and Referral Procedure.

Method: Separate training sessions were conducted for both states. Unfortunately, specific details of the training sessions are not provided in the previous conversation. If you have the details, please provide them, and I would be happy to assist further or elaborate on the information you have.

Training session (Gujarat):

The WHP team organized the training in February 2022, with a total of 20 participants in attendance, including 14 Care Coordinators (6 from Gandhinagar and 8 from Surat), 2 Health System Coordinators (HSCs), and members from the WHP staff.

- Mode of Training: On-site training
- Number of Days/Schedule: The training spanned 1 day.

Training session (Jharkhand):

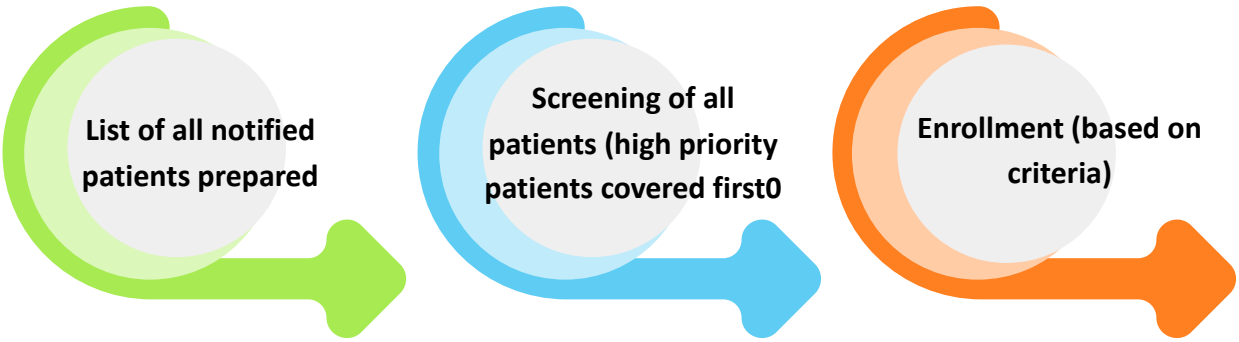
The WHP team organized the training in February 2022, with a total of 20 participants in attendance. This included 14 Care Coordinators (7 from Ranchi and 7 from East Singhbhum), 2 Health System Coordinators (HSCs), and members from the WHP staff.

- Mode of Training: On-site training
- Number of Days/Schedule: The training spanned 1 day.

2.4 Selection process to enrol TB patients into the intervention

Patients underwent screening using the PHQ-4, a symptoms checker for mental health issues, and an SAS questionnaire for substance abuse.

Figure 3. Enrollment Procedure



After the screening, patients were enrolled in the intervention based on the following criteria for the four counseling sessions.

Table 2. Selection criteria for the intervention

Particluar Details	Mental Health (Using PHQ-4 and a symptom checker)	Substance use (SAS Questionnaire)
Eligible for counselling (**if ALL of the below criteria are met)**	➢ Patients considered "mild" as per PHQ-4 scoring criteria ➢ The patient is considered "mild" based on CC's subjective observation. ➢ The patient is communicative / responsive and able to engage in counselling intervention (based on patient observation)	➢ The patient is/was a weekly or daily user of any substance in the last three months (Q2 = Weekly or Daily/nearly daily) ➢ The patient is willing (Q5 = "Yes") ➢ The patient is communicative/ responsive and able to engage in counselling intervention (based on CC's observation)
Eligible for referral	➢ Criteria for referral to a mental health professional for further evaluation, psychiatric care, or hospitalisation: Sum score >5 for PHQ-4 **or** ➢ "yes" in any one of the symptoms in the symptom checker	**(If all criteria are met)** ➢ The patient is a weekly or daily user of any substance (Q2 = Daily/nearly daily) ○ and/or the patient is non-communicative and non-responsive due to substance use ○ and/or the CCs feel that the case is too serious, cannot be managed by counselling and need a referral ○ and/or patients not willing for counselling sessions
	➢ Patients show no improvement after intervention	➢ Patients show no improvement after intervention

The Target Audience For Interventions

Both interventions were designed to encompass all TB patients notified from the selected geographical areas. However, priority was assigned to the following categories of patients:

- All DR Patients
- All TB-HIV Patients

- All TB-DM Patients
- All Re-treatment Patients
- Tribal and Female Patients
- Tobacco and Alcohol Users

Once a patient is diagnosed with TB and officially notified, Care Coordinators (CCs) conduct visits to all the notified patients, either in person or through telephonic communication, within seven days of notification. In Gujarat, CCs obtain the patient list from NI-KSHAY, while in Jharkhand, CCs retrieve the list from the Lab Register or NI-KSHAY in coordination with the relevant Treatment Units.

2.5 Data collection methods

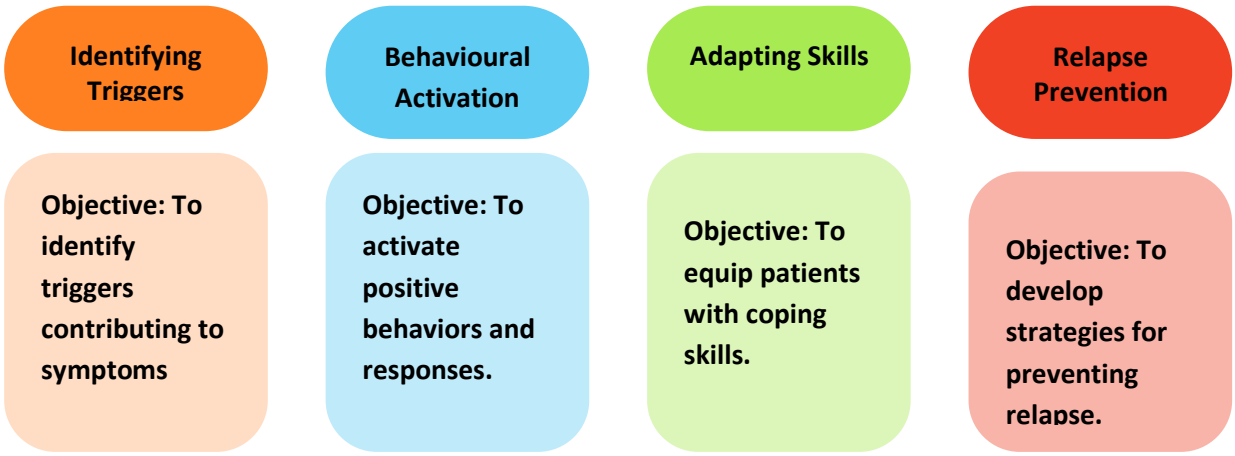
Data collection is facilitated through the use of a digital platform. The mobile-based application is utilized to gather all information pertaining to the screening activity and the enrollment of patients.

2.6 Counselling/ Intervention sessions after screening

Four counseling sessions were structured for the intervention, conducted on a weekly basis, with the core emphasis on behavioral change. The primary focus of behavioral modification centered around understanding the significance of triggers, comprehending the underlying causes of behavior, and evaluating their influence on the quality of life. In the concluding session, a post-screening assessment was conducted, and an intervention outcome was determined.

2.6.1 Mental Health Sessions

The four sessions were organized with distinct objectives for each:



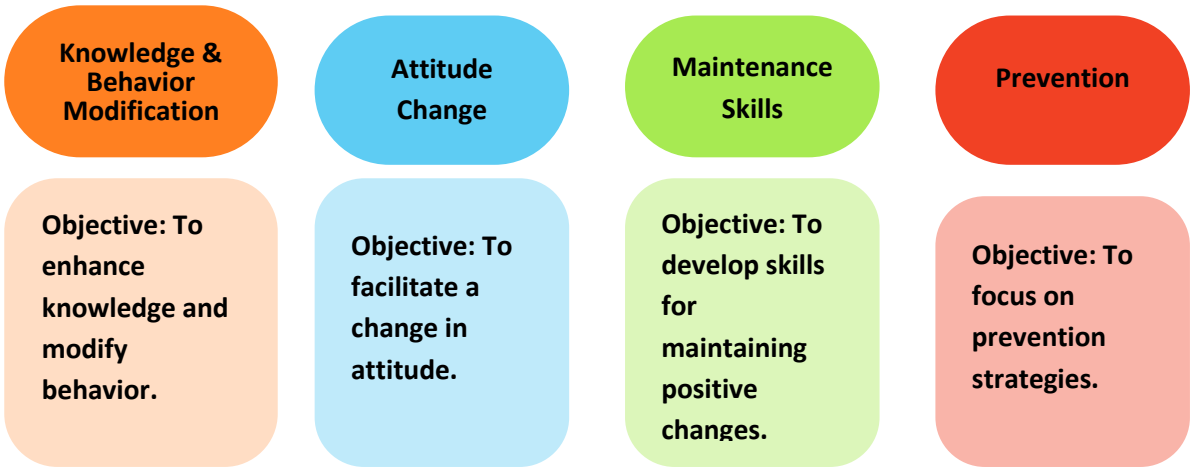
The counseling sessions were designed to alleviate symptoms of depression and anxiety, instill motivation in patients to prioritize their health and well-being, and encourage the continuation of pursuing personal goals.

Table 3. Details of Mental Health Counselling Sessions

Sessions	Timeline	Objective	Content of the session
Session 1 Identifying Triggers	First Visit (Within the seven days of notification)	To assist patients in identifying triggers contributing to a negative state of mind.	Patients are provided with the worksheets once enrolled, and CC explains to them how to fill those worksheets. These worksheets help patients observe their daily routine over seven days and understand their state of mind, and by discussing worksheets, CCs help patients identify their trigger points.
Session 2: Behavioral Activation	After one week of session 1	Develops goal-oriented behaviour in patients to overcome identified triggers. Patients engage in small, daily activities to cope	Once patients identify triggers, healthcare workers can frame counselling sessions and support the patient by selecting activities to cope with identified triggers and develop goal-oriented behaviour. The target activity is identified through a collaborative process of assessment. Based on the assessment, a few activities can be selected (Refer to Activity Grid)with the patient as an action plan.
Session 3: Adapting Skills	After one week of session 2	Discusses the physical, emotional, cognitive, and behavioural experiences of the patient when performing activities	CCs review the activities completed over the last seven days and any consequent changes in mood or outlook. This session focuses on patients' sensation, emotions, thought, and behaviour during task performance.
Session 4: Relapse Prevention	After one week of session 3	Motivates patients to sustain positive changes experienced	Patients reflect on factors contributing to maintaining their old behaviour (negative behaviour) and factors contributing to the patient feeling okay, good, and/or accomplished to maintain the new behaviour (positive behaviour change).
Extended 2 Visits	To motivate and counsel the patients to improve their mental health status.		

2.6.2 Substance Use Sessions

The four sessions were structured with specific objectives for each:



These sessions were designed to achieve targeted objectives related to knowledge enhancement, behavior modification, attitude change, development of maintenance skills, and prevention strategies.

The intervention aimed to achieve several goals, including enhancing patients' assertiveness, quantifying substance use through a scheduling framework, and fostering motivation for self-care. For patients with occasional drug use, a single session was dedicated to education and behavior modification.

This form of counseling proves beneficial for managing mild cases, even when administered by non-specialist healthcare workers in routine healthcare settings. The details of the counseling sessions are outlined as follows.

Table 4. Details of substance use disorder counselling sessions

Sessions	Timeline	Objective	Content of the session
Session 1: Knowledge and behaviour modification	First Visit (Within the seven days of notification)	To educate the patient on the impact of substance use, assist patients in identifying triggers contributing to the use of substance use, provide them personally relevant feedback, and motivate them to change	**Session 1(A):** Knowledge sharing session (knowledge about substance use and its risks) encourages patients to abstain from their substance use behaviour. **Session 1 (B)** consisted of 5 easy steps: asking, feedback, advice, responsibility, and concerns, which take 10 to 15 minutes to complete.

Session 2: Attitude change with the help of substitutions	After one week of session 1	To develop action-oriented behaviour in patients to overcome already identified triggers by scheduling frameworks and providing a reflection on the impact and creating cognitive conflict in the patients or developing discrepancies about their substance use	In this session, the care coordinator discusses **action-oriented behaviour** (What do you like to do most, which helps you to divert your mind or makes you forget about substance. Any substitution used to avoid substance – list down substitutions) in patients to overcome the use of substances by scheduling frameworks. This would be directed towards a change in behaviour based on consumption. A schedule framework is the formation of a schedule to cut down substances used by hours and quantity if discontinuing isn't possible.
Session 3: Maintenance skills	After one week of session 2	Maintenance of the patient's skills of altering, avoiding or controlling substance use	This session begins with a quick discussion on the previous session, substitutions or engagement of activities. The session also explores the ideas used by patients for substituting the substance and appreciates rewarding behaviour. Patients are encouraged by clues like different ways to avoid triggering situations with the help of examples.
Session 4: Prevention perversion	After one week of session 3	To prevent relapse behaviour, followed the post-intervention screening using the same questionnaire	Relapse prevention skills are essential to learning to live a happy life in recovery. To maintain recovery, help clients to learn relapse prevention techniques to achieve goals. There are a vast array of relapse prevention tools one can implement into their daily routine to help prevent relapse. It is necessary to implement these coping skills to prevent relapse. Recovery

			from alcohol or other drugs is a process of personal growth with developmental milestones. At any stage of recovery, there is a risk of relapsing, making relapse prevention skills highly important to know and understand. **Preventive skills include:** 1. Self-care 2. Decide Goal/ambition/aim 3. Join support group 4. Get help

2.7 Gender-Sensitive counselling

Female patients experiencing physical, emotional, mental, and social issues may not feel at ease sharing their concerns with male healthcare workers. Conversely, male patients may sometimes feel uncomfortable discussing certain issues with female care coordinators. In such instances, gender-sensitive counseling was provided, matching the patient with a care coordinator of the same gender. Healthcare workers identified patients requiring gender-sensitive counseling and referred them to the senior gender counseling supervisor. The gender counselor engaged with the patient on specific issues and challenges, prioritizing patient confidentiality.

2.8 Referral and post referral mechanism (for moderate and severe category patients)

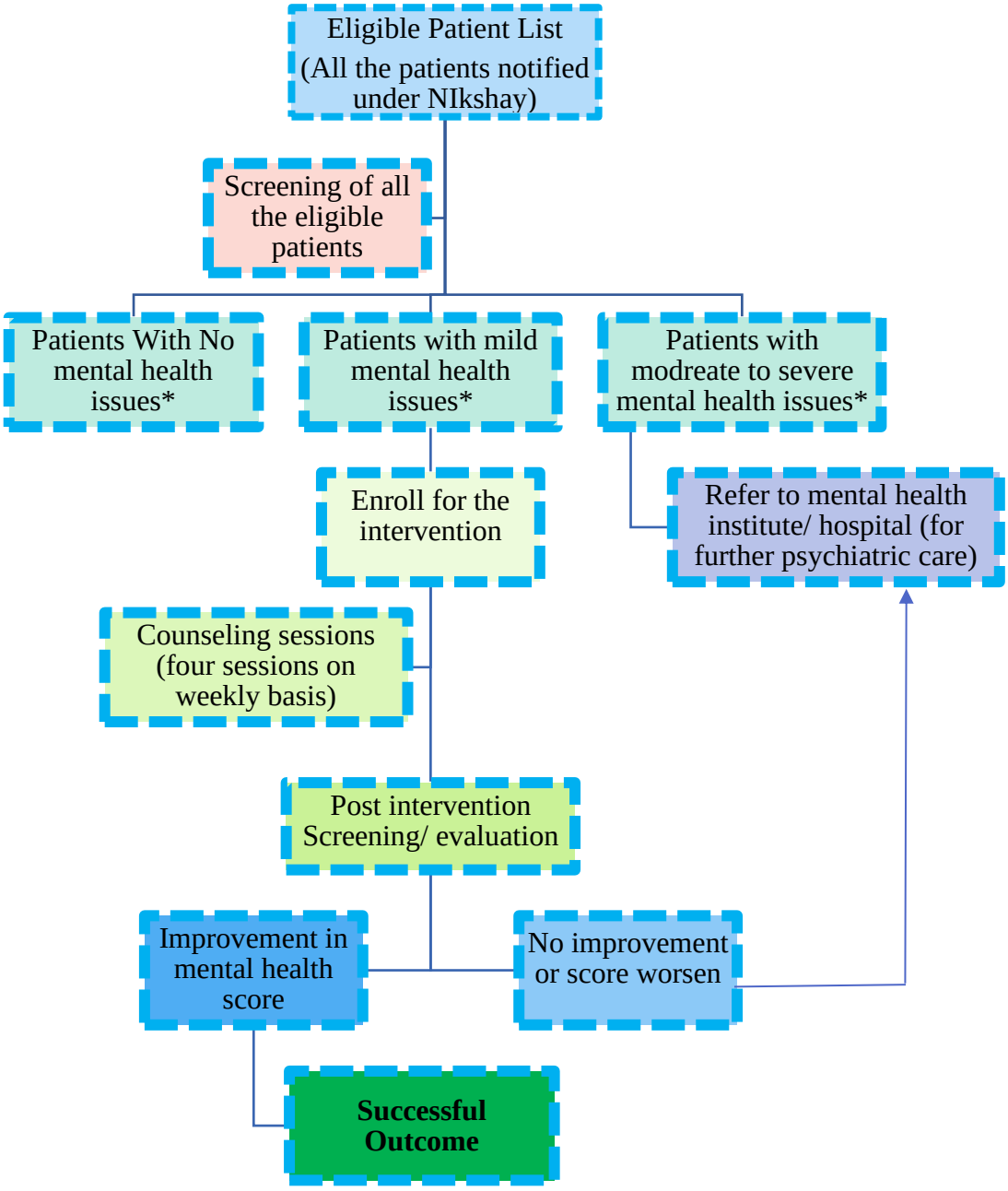
Patients with moderate to severe mental health issues and those engaging in daily substance use were referred to the identified mental health institute or hospital for additional psychiatric care and support. A detailed list of referrals can be found in Annexure 3 & 4. At the referral agency, these patients received treatment based on their condition and institutional norms. Subsequent to the referral, follow-up was conducted through telephonic conversations to confirm whether the patient had completed the referral process. Care Coordinators (CCs) maintained regular follow-ups with referred patients through frequent phone calls.

SECTION 3

3.1 INTERVENTION ALGORITHM

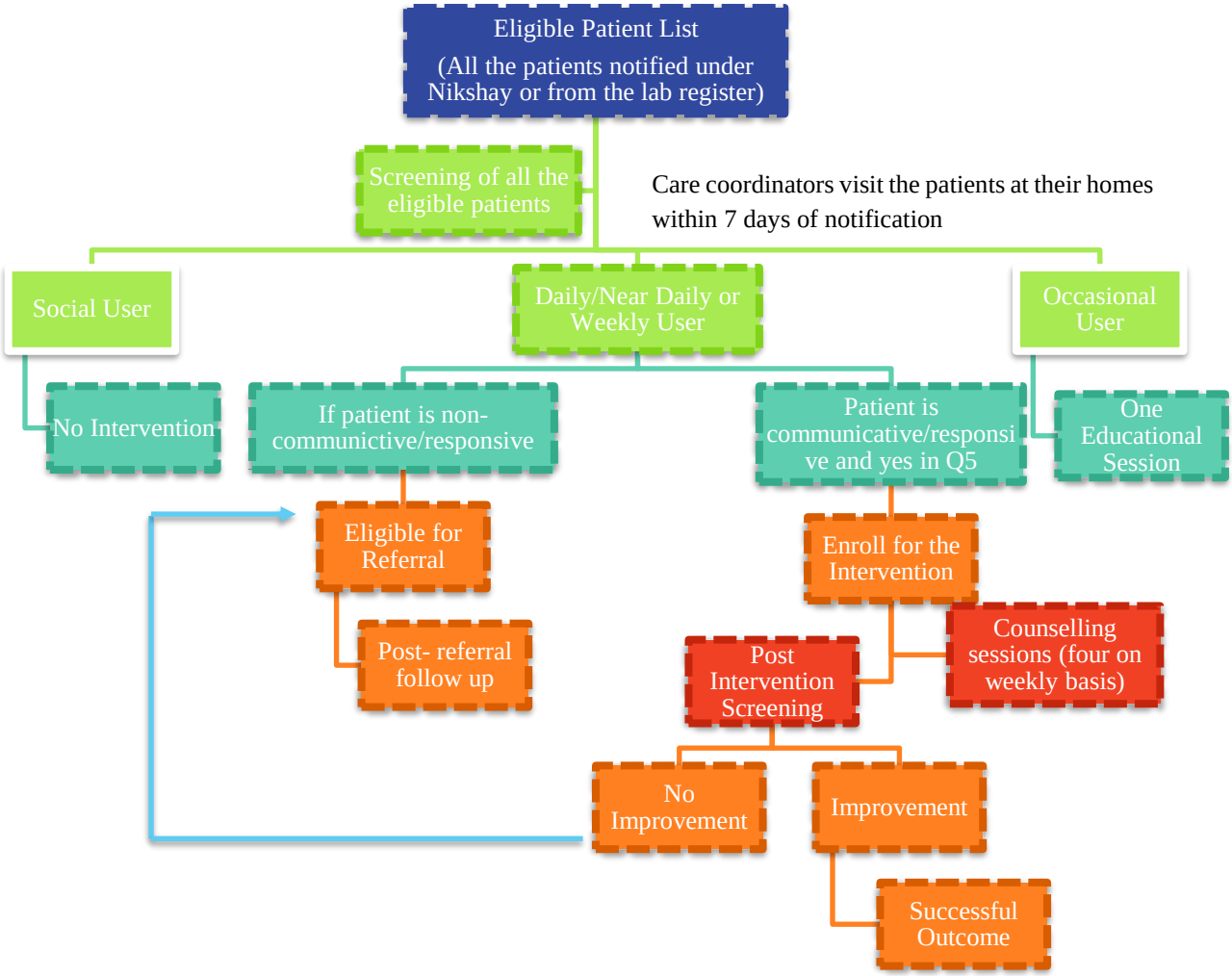
The final algorithm of the mental health and substance abuse intervention after the modification and implementation over the stipulated duration is depicted here in the following figures 4 &5:

Figure 4. Mental Health Intervention Algorithm



** Mental health issues like depression, anxiety and psychotic behaviour screened*

Figure 5. Substance use Intervention Algorithm



SECTION 4

4.1 MONITORING MECHANISM

4.1.1 QUALITY ASSURANCE FOR WORKFLOW CHECKPOINTS

Thematic leads played a crucial role in evaluating the screening and counseling conducted by Care Coordinators (CCs) to ensure the quality of the intervention. Utilizing a rating scale, thematic leads assessed the CCs' proficiency in using screening instruments and their counseling abilities for both interventions. Each CC received a score based on the thematic leads' observations and ratings during patient visits.

For each CC, 20% of the screenings and 20% of the counseling sessions were subject to evaluation. This assessment involved a combination of methods, with 10% based on reviewing audio recordings of the sessions and another 10% through physical accompaniment and direct observation of healthcare worker-patient interactions.

Spot checks and back checks were employed as part of the physical quality check, as detailed in Annexure 5. Spot checks involved concurrent evaluations in the field, comparing the results to the CCs' scores. Back checks were conducted promptly after screening and/or intervention, either on the same day or the next day for screening and on the same day for intervention. The quality assessor used the same evaluation technique employed during the screening to collect and compare the results with the CCs' scores.

4.1.2 PERFORMANCE AND OUTCOME INDICATORS

4.1.2A MENTAL HEALTH

Screening indicators include:

- The percentage of notified patients who have undergone mental health screening.
- The percentage of notified patients who have undergone mental health screening within 15 days of diagnosis or notification.
- The prevalence of mild, moderate, and severe mental health issues.
- The average Quality Assurance scores for healthcare workers administering screening tools.

Counseling Intervention metrics comprise:

- The percentage of eligible patients successfully enrolled in the intervention.
- The percentage of enrolled patients who successfully complete all four phases of the intervention.
- The percentage of patients experiencing a reduction in symptoms post-intervention, among those who have completed the entire intervention.
- The percentage of referred patients who are successfully referred post-intervention.

4.1.2B Substance use

Screening Indicators include:

- The percentage of targeted patients who underwent substance abuse screening.
- The percentage of targeted patients who underwent substance abuse screening within seven days of diagnosis.
- The percentage distribution of mild, moderate, and severe substance abuse across domains of depression, anxiety, and psychosis.
- The average Quality Assurance scores for healthcare workers administering screening tools.

Counseling Intervention metrics comprise:

- The percentage of eligible patients successfully enrolled in the intervention.
- The percentage of enrolled patients who successfully complete all four phases of the intervention.
- The percentage of patients experiencing a reduction in symptoms post-intervention, among those who have completed the entire intervention.
- The percentage of referred patients confirmed to be under referral care.

4.2 Relapse monitoring

During the continuation phase of anti-TB treatment or after completing the 60-day intervention, patients underwent re-screening using the same screening measure. This process aimed to identify any resurgence of abnormal mental health symptoms and substance use behavior. If it was determined that patients had resumed drug use or were experiencing mental health issues, they were promptly referred for institutional care. Subsequently, patients underwent additional screening during follow-up visits, irrespective of the completion status of their intervention.

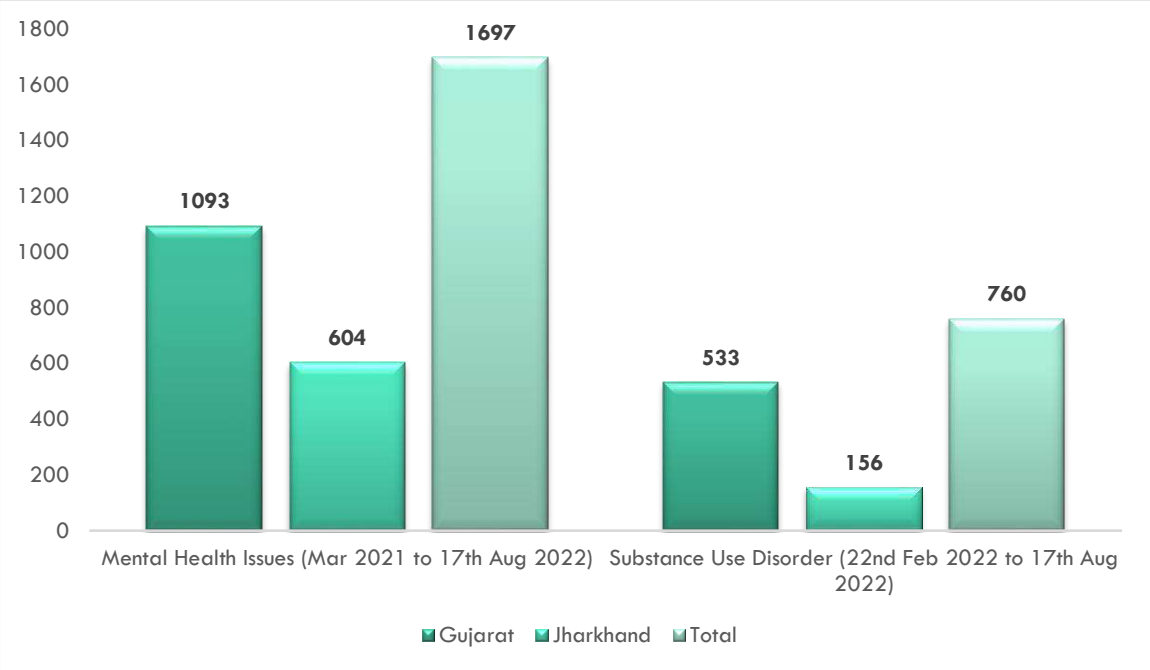
SECTION 5

5.1 PRELIMINARY RESULTS AND PROGRESS

5.1.1 INTERVENTION OUTCOME

Till 17th Aug 2022, 1697 TB patients were enrolled for the intervention to address mental health issues and 760 for substance use disorder (Table 5.).

Table 5. The total No. of patients enrolled for the intervention



In Gujarat:

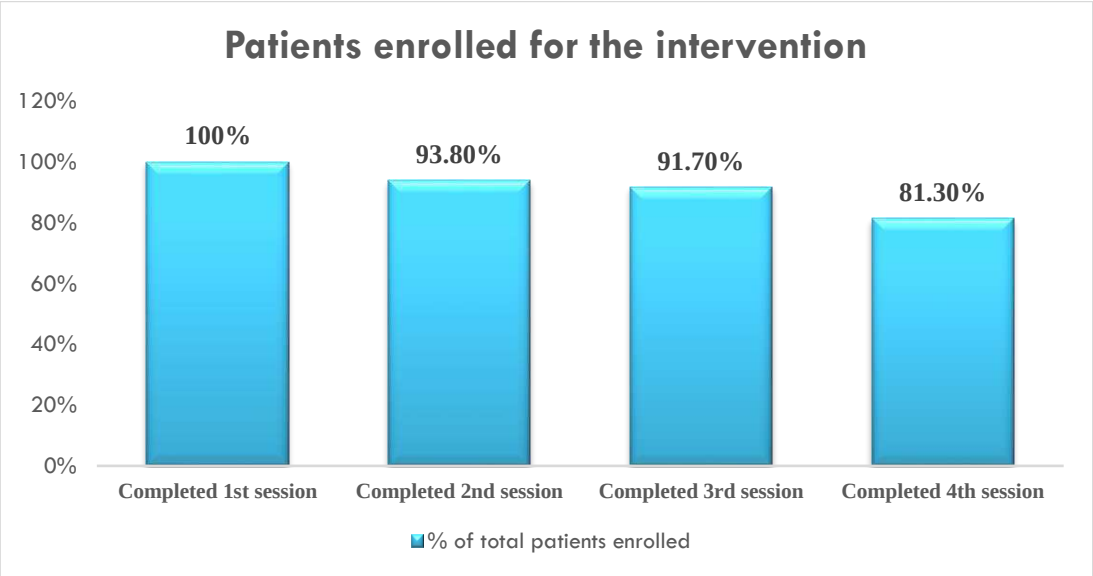
- During the period from March '21 to September '21, a total of 1651 patients, constituting 21.8% of the notified 7571 patients, underwent successful screening for mental health issues using BPRS and PHQ-2 tools. Among the screened individuals, 14.8% were identified with mental health issues.
- Specifically, 210 patients, accounting for 12.7%, were found to have mild mental health issues during this period.
- In the second phase, a total of 3523 patients, equivalent to 32.2%, were successfully screened for mental health issues using the PHQ-4 tool. Within this group, 866 individuals (24.6%) exhibited mild symptoms, and further details are available in Table 6.

Table 6. Details of screening for Mental Health issues, Gujarat (March 2021 to 17th Aug 2022)

Sr.No.	Indicators		BPRS (March 2021 to Sep 2021)	PHQ-2 (March 2021 to Sep 2021)	PHQ-4 (Oct 2021 to 17th Aug 2022)
1.	TB notification		**7571**	**7571**	**10943**
2.	Patients Screened		1651 (21.8%)	1651 (21.8%)	3523 (32.2%)
3.	Screening details	None	1407 (85.2%)	1503 (91.0%)	2651 (75.2%)
		Mild	210 (12.7%)	78 (4.7%)	866 (24.6%)
		Moderate	25 (1.5%)	70 (4.2%)	5 (0.1%)
		Severe	9 (0.5%)	0 (0)	1 (0.03%)

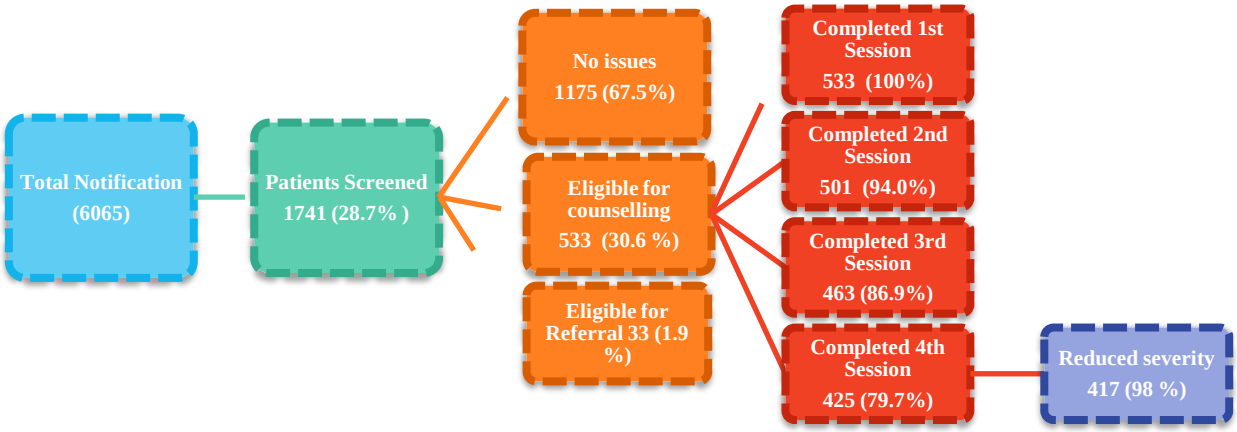
Out of a total of 1093 patients with mild mental health issues who were enrolled for the intervention, 81.3% completed all four sessions. Among those who completed the intervention, specifically 876 individuals (98.5%), reported successful intervention outcomes.

Figure 6. Details of patients enrolled for the mental health issues, Gujarat (March 2021 to 17th Aug 2022)



As depicted in Figure 7, a total of 1741 patients (28.7%) underwent screening for substance use disorder, and among them, 533 individuals (28.7%) were deemed eligible for counseling. All 533 eligible patients were enrolled in the intervention, with 98% reporting successful treatment outcomes.

Figure 7. Details of screening for Substance Use Disorder, Gujarat (22nd Feb 2022 to 17th Aug 2022



In Jharkhand:

Between March '21 and September '21, a total of 2879 patients, accounting for 47.7% of the notified 6031 patients, underwent successful mental health screening using BPRS and PHQ-2 tools. Of the total screened patients, 7.4% were identified with mental health issues, and among them, 144 (5%) patients were found to have mild mental health issues.

In the subsequent steps, 52.8% of patients with mild mental health issues were enrolled. Among them, 64 individuals (84.2%) completed all four sessions, all of which reported successful intervention outcomes.

Moving on to the second phase, a total of 3587 patients (43.0%) were successfully screened for mental health issues using the PHQ-4 tool. Within this group, 504 individuals (14.1%) were found to exhibit mild symptoms.

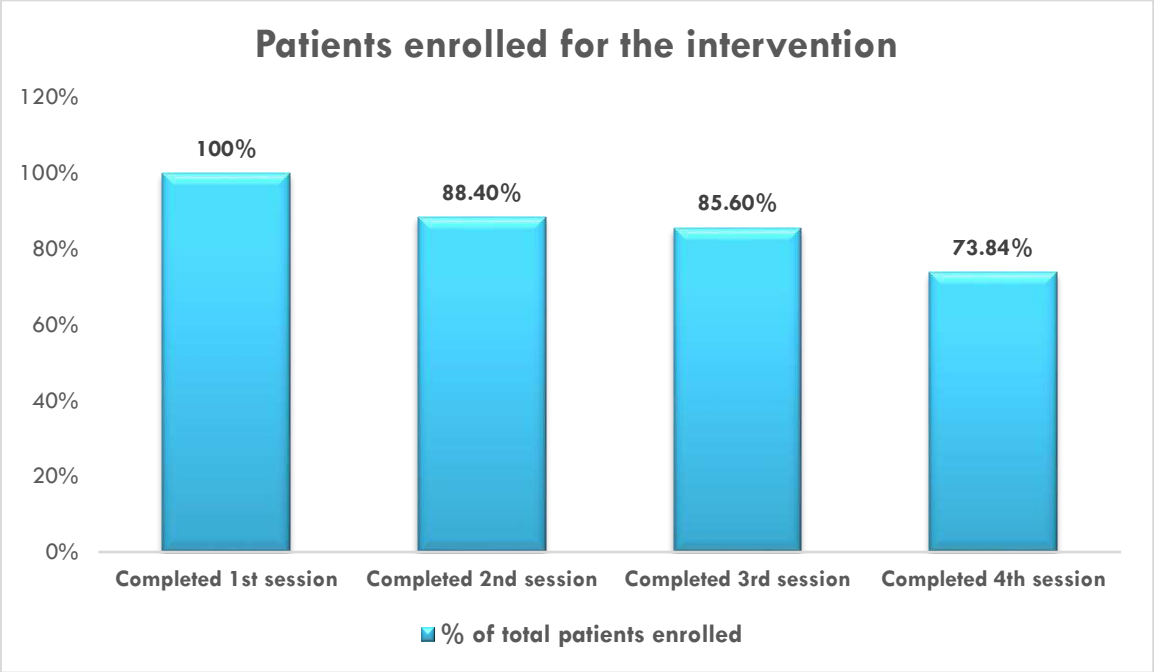
Table 7. Details of screening for Mental Health issues, Jharkhand (March 2021 to 17th Aug 2022)

Sr.No.	Indicators		BPRS (March 2021 to Sep 2021)	PHQ-2 (March 2021 to Sep 2021)	PHQ-4 (Oct 2021 to 17th Aug 2022)
1.	TB notification		**6031**	**6031**	**8336**
2.	Patients Screened		2879 (47.7%)	1891 (31.4%)	3587 (43%)
3.		None	2667 (92.6%)	1838 (97.2%)	3046 (84.9%)

	Screening details	Mild	144 (5%)	38 (2%)	504 (14.1%)
		Moderate	45 (0.7%)	15 (0.8%)	25 (0.7%)
		Severe	23 (0.8%)	-	12 (0.3%)

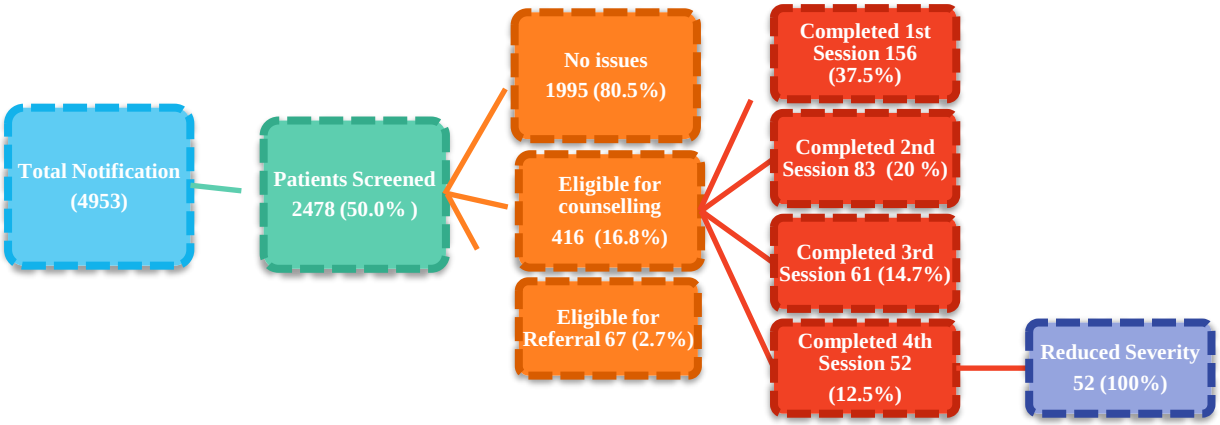
A total of 604 patients were enrolled in the intervention. Among those who attended all the sessions, every patient reported a reduction in the severity of symptoms related to mental health. Additional details are available in Figure 8.

Figure 8. Details of patients enrolled for the mental health issues, Jharkhand (March 2021 to 17th Aug 2022)



A total of 2478 patients, constituting 50% of the screened individuals, underwent screening for substance use disorder. Among them, 416 patients (16.8%) were deemed eligible for counseling. All 416 eligible patients were subsequently enrolled in the intervention, with 98% reporting successful treatment outcomes.

Figure 9. Details of screening for Substance Use Disorder, Jharkhand (22nd Feb 2022 to 17th Aug 2022)



5.1.2 Treatment Outcome

In Gujarat: A total of 808 patients received the intervention for mental health. Of this group, 36% reported a successful outcome, while more than 50% are still undergoing treatment. The overall adherence to the intervention was reported at 88%.

Adherence status of Mild patients from Oct-21 to Jul-22			
Treatment Outcome	**No. of Patients**	**%**	**Tech + Manual Adherence**
Successful outcome	**293**	**36%**	**94%**
Died	33	4%	86%
Lost_To_Follow_Up	7	1%	56%
Not_Evaluated	5	1%	79%
Treatment_Failure	3	0%	99%
Treatment_Regimen_Changed	25	3%	75%
Still On Treatment Patients	442	55%	85%
Grand Total	**808**	**100%**	**88%**

In Jharkhand: A total of 517 patients received the intervention for MH; out of that, 54% reported a successful outcome, while 39% are still on the treatment. Overall adherence was reported 74%.

Adherence status of Mild patients from Oct-21 to July-22			
Outcome	**No. of Patients**	**%**	**Tech + Manual Adherence**
Successful outcome	**279**	**54%**	**85%**

Died	10	2%	83%
Lost_To_Follow_Up	10	2%	85%
Not_Evaluated	10	2%	54%
Treatment_Failure	2	0%	99%
Treatment_Regimen_Changed	4	1%	99%
Still On Treatment Patients	202	39%	60%
Grand Total	517	100%	74%

5.2 Scale-up of Mental Health Intervention

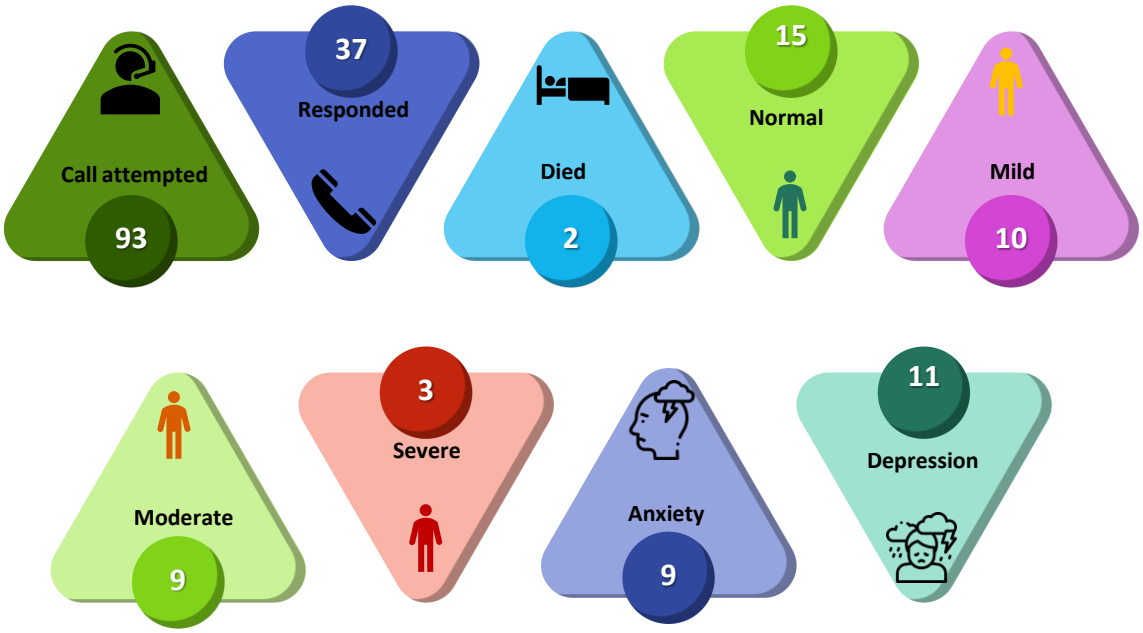
- **Gujarat Initiative:** The intervention for DR-TB patients was expanded in Gujarat, covering 36 districts. The National Tuberculosis Elimination Program (NTEP) team and district District Program Managers (DPS) conducted mental health screening for DRTB patients using the PHQ-4 tool. A total of 159 DRTB patients were screened, revealing that 20% had mild issues, and 2% had moderate issues. In summary, 22.1% of DR-TB patients were identified as experiencing mental health issues. The mental health screening activity is integrated into the pre-treatment assessment of DRTB patients by NTEP staff, primarily DPS. DPS employ the PHQ-4 with a standard scoring system for patient screening. Based on DPS observations, patients may receive counseling for mental health issues or be referred for further psychiatric assistance at nearby government health facilities providing psychiatric care. Prior to commencing screening and counseling, all DR-TB counselors underwent comprehensive training. The state manages all relevant data pertaining to screening and counseling sessions. In case consultation is needed, WHP's toll-free number and the Sanjevani platform are available. The CGC team offers technical support in monitoring and evaluating the scale-up intervention on a fortnightly basis.

- **Jharkhand Initiative through 104 Health services**:

  In Jharkhand, the intervention for the mental health assessment of DR-TB patients was expanded, supported by Piramal Swasthya and NTEP Jharkhand. Within this initiative, NTEP Jharkhand supplied a new patient list (prior to treatment initiation) to 104 teams for mental health assessments on a weekly or monthly basis. This list was then shared with designated call center executives responsible for administering the PHQ-4. Patients identified through

this process were provided with counseling and referral services based on the severity of their mental health condition, categorized as mild, moderate, or severe. The in-house counselors of Piramal Swasthya played a crucial role in delivering the counseling services. For referrals, patients were either connected with the nearest Health and Wellness Centers (HWCs) functioning as SPOKES or further linked with HUBS (CIP) through the E-Sanjeevani platform. Alternatively, patients were referred to DMHP, TCC, ICTC, RINPAS, or CIP as needed.

- The calling service was started on the 1st of Aug,2022, and to date total of 93 attempts have been made. Of those 93 patients, two died, and 37 responded and were screened. After screening, ten patients were found to have mild mental health, nine moderate and three severe.



5.3 State and National Level Advocacy Programme

5.3.1 Meeting with NTEP and NMHP

A meeting was convened to discuss collaboration between the National TB Elimination Programme (NTEP) and the National Mental Health Programme (NMHP) with the aim of addressing alcohol usage and enhancing mental health among TB patients. Chaired by Dr. Alok Mathur, ADDG (NMHP), the meeting took place on 8th September 2020 at Nirman Bhawan, New Delhi.

During the meeting, one of the key suggestions was to establish an operational mechanism in collaboration with NMHP, the National AIDS Control Program (NACP), the Drug De-addiction Program (DDAP), and the Ministry of Social Justice and Empowerment (MSJE). Additionally, it was recommended to develop joint Information, Education, and Communication (IEC) materials and conduct awareness activities.

5.3.2 Consultative Workshop

In both states, consultative workshops were organized on the theme of "Mental Health issues among COVID-19 and TB affected communities." These workshops provided a platform to share data trends and key insights on mental health, gender-based violence, and TB. Furthermore, stakeholders were informed about the initial findings of the intervention.

In Gujarat, the consultative workshop took place on 29th April 2022. Meanwhile, in Jharkhand, a similar workshop was organized on 25th February 2022. The participants in the Jharkhand workshop included stakeholders such as the State Tuberculosis Officer (STO), other state officials, mental health professionals from the District Mental Health Programme (DMHP), the Director of the Communicable Diseases Initiative Program (CIP), and the Head of the Department (HOD) from the Department of Psychiatric Social Work (PSW) at RINPAS.

5.3.3 Capacity Building of the Staff

- World Health Partners (WHP) is actively implementing the "Comprehensively Address Mental Health (CAMH) Issues during COVID-19 Pandemic" initiative, supported by USAID. CAMH is designed to effectively tackle the growing psycho-social issues emerging among individuals and communities in the post-COVID situation. The program places a particular emphasis on early screening and management of mental health (MH) challenges.

- In both states, WHP is conducting training sessions for Community Health Officers (CHOs) to enhance their skills in dealing with mental, neurological, and substance use disorders as part of the CAMH initiative. These training sessions also include sensitization on mental health issues and challenges faced by TB patients.In Gujarat, this activity was planned for the two project districts and the other five districts (Ahmedabad, Kheda, Mahesana, Patan, and Vadodara)

- In Jharkhand, this activity was planned for the two project districts and the other three districts.

5.3.4 Guidance document on TB MH integrated services

The development of an operational guidance document on the management of patients with TB and mental health issues signifies a significant step. This document is specifically designed for utilization by State and District TB Officials. Its primary purpose is to offer guidance on screening the mental health status among TB patients, aligning with India's efforts towards TB elimination.

5.3.5 NTEP- NMHP Framework

A document outlining a collaborative framework approach to address mental health among TB patients has been prepared. This document highlights various integration possibilities between

the two national health programs to effectively tackle mental health issues among TB patients. The overarching goal of this comprehensive framework is to reduce morbidity and mortality associated with TB in populations facing mental health challenges. The approach includes awareness generation, prevention, early detection, and prompt management to achieve optimal treatment outcomes.

Furthermore, the document suggests an intervention structure for addressing substance abuse-associated problems among TB patients. This involves engaging the existing joint network of the Ministry of Social Justice & Empowerment (MSJE) and the Drug De-addiction Programme under the Ministry of Health and Family Welfare, Government of India. The collaborative effort aims to enhance the overall effectiveness of interventions for individuals dealing with both TB and mental health issues.

5.3.6 Metting with Mental Health Division

An initiative was undertaken to schedule a meeting between the Mental Health Program Division, Central TB Division, and a few implementing partners. The primary objective of this meeting was to collaboratively build a joint framework addressing both TB and mental health issues. This effort reflects a commitment to fostering synergy and coordination between different stakeholders to enhance the overall approach to managing individuals dealing with both TB and mental health challenges.

SECTION 6

6.1 CHALLENGES FACED DURING THE IMPLEMENTATION AND ACTIONS TAKEN

Areas of Intervention	Challenges faced	Actions Taken
Tool design and administration	Ground-level staff faced some difficulties in administering the tools due to following reasons: **BPRS (MH)** • BPRS tool is very technical, comprehensive and hence time-consuming (Average 20-30 minutes required to administer the tool) • It includes clinical terms which are difficult to understand for the ground-level staff with minimal training in mental health. • Healthcare workers who had minimal training find difficulty assessing the severity of the symptoms as the scoring for the tool is very subjective.	**BPRS (MH)** After feedback from the field staff and observation, tools were revised, and simpler tools were introduced.
	PHQ-4 (MH) • At the field level, patients could not correctly say the frequency of days when they felt anxious or nervous; hence, ground-level staff faced problems identifying the category, which might affect the overall score of the screening.	**PHQ-4 (MH)** Hence, an exact number of days is also included for ease in the tool administration and more reliable and exact patient information.

	• It was also observed that the staff was well trained in applying tools; however, they were less proficient in administering symptom checkers than PHQ-4. This may be because the symptoms checker tool includes more technical terms than the PHQ-4 tool.	
Screening of the TB patients	**Mental Health** • The notification rate of the selected areas is high and especially in surat. One care coordinator (CC) has 4 TUs/areas (some have 3 or 5), so it is impossible to screen every notified patient due to a high workload. CCs try their best to cover as many patients as possible. However, all patients were not covered for the screening.	In the second phase of the intervention, the target audience is identified; however, the cohort is all the notified patients, but the patients from the target audience are given priority.
	Substance Use • Reluctance from the patients and their families to conduct the screening and the counseling sessions at their home, especially when the patient is of a young age group and unmarried. It was observed that there is still stigma prevalent at the field level. The patient's family members were more concerned that if their neighbors and others came to know about this disease, there might be a problem in their marriage in the future.	Screening and counseling sessions for such patients with stigma are carried out at the healthcare facility.
	Both • In the initial phase of the implementation quality of the screening was not up to the mark.	After the first initial training, CCs were frequently trained, briefed, and oriented during a monthly meeting to improve the screening.
Counselling	**Mental Health**	

sessions	• The quality of the screening and the sessions can be further improved through more robust training sessions, including practical demonstrations. ○ One field-level challenge remained unfolding on how to ask mental health screening and counselling questions. Even though with many prompts, there might not be an appropriate response from the participants. On the other hand, the counsellor has to lead the discussion by probing and emphasising the fact in different dimensions because this has a direct impact on the scoring of the mental health status. • Currently, the staff filled out the worksheets as it was observed in phase 1 that patients had difficulties filling their worksheets, mainly illiterate patients. One positive thing about sheets filled by the staff is that it is assumed that the worksheets are being filled for all the patients. However, it may not be an honest reflection of the activities given to the patients.	CCs were frequently trained to improve the quality of the sessions.
	Substance Use • It was observed that during the counseling session, when patients were being asked whether they had quit an addiction or not. Initially, they incline to reply that they had left. But, while inquiring further and after asking many times or other family members, they agreed that they reduced but did not quit. Hence, it is equally important to reassure the information provided by the patients is correct for better outcomes and implementation.	CCs were frequently trained to improve the quality of the sessions.
Referral	• Most of the time, patients who fall under the referral category for further psychiatric care do not visit the referred centre, even after frequent reminders. In such cases, the staff members need to frequently contact the patient to	The efforts were made to link the patient with govt health system through the system staff and provided best possible

	remind them to visit the centre, but every time they used to give some excuses and eventually, even after putting so much effort, they do not visit the centre. ● Some patients prefer to take counselling sessions from CCs rather than visit the referral centre.	support for instituitional care.

Additional Cross-Cutting Challenges observed during the field visits:

- It was found that the unavailability of transportation services, lack of time, and financial constrain were the main factors at the patient level for not visiting the referral centre.
- The perceived severity of consuming substances was very low, especially among tobacco users. Chewing tobacco is very common for them and their family members and therefore pay less attention. As a result, certain patients seem least interested in the counselling sessions.
- Behaviour change is not an overnight process, and various factors affect this, like the behavior of the other family members towards the patients can trigger the behaviour. When the patient is actually trying to quit the addiction, but the family members still do not believe in them and doubt them, which further demotivates the patient and makes the patient emotionally weak, which can lead to the again starting the use of substances. In such cases, counseling the family members is equally important as counseling the patients.
- Currently, patients are being followed up only until the end of the intervention. Although relapse monitoring is being proposed, it will also consider only 60 days after the completion of the intervention, not the entire treatment period.

6.2 Discussion and Recommendations

The intervention was initially piloted in a small geographic area but later scaled up for DR-TB and priority-selected TB patients in both states. While the exact causal pathways between TB disease and mental illness remain unclear, the intervention systematically explored the longitudinal dimensions between mental illness symptoms and the progression of TB disease, particularly emphasizing the diagnosis and treatment initiation stages where substantial risks for mental illnesses exist.

The establishment of a patient support system was a crucial aspect of the intervention, focusing on person-centered care rather than solely patient-centered care. This approach incorporated essential components such as patient narrative, collaboration, and continuity.

At the time of diagnosis, common mental health challenges observed included anxiety-related symptoms linked to fears of death, serious illness, limited knowledge of TB disease, depressive feelings, and concerns related to worry, embarrassment, and shame. A TB diagnosis often resulted in shock, anxiety, and shame, leading to high levels of psychological distress. Additionally, the intervention noted that the longer duration of treatment, a higher number of pills, and the severity of illness increased the risk of mental health issues among MDR TB patients, ultimately influencing treatment outcomes. The evidence gathered suggested that implementing a supportive mental health care structure for TB patients from diagnosis through the treatment duration would likely lead to improved treatment outcomes.

The lessons learned during the current implementation are listed below.

1. ***Selection of Target population for Mental Health Care Intervention:***

   One of the key learnings from the intervention is the challenge of covering the entire notification cohort. To scale up the intervention to reach the entire notification cohort, there is a recognition of the need for an integrated approach between programs, specifically the AB-HWC (Ayushman Bharat - Health and Wellness Centers) and NTEP (National Tuberculosis Elimination Program). Additionally, integration with health system staff from NTEP and the General Health system is essential.
   The intervention should prioritize specific groups within the cohorts, such as key populations, those with MDR TB, individuals with comorbidities, and those experiencing severe complications of TB. This targeted approach aims to optimize the impact of interventions and better address the unique needs of different subgroups within the larger TB-affected population.

2. ***Building Health System to Address the Mental health and Substance Use disorders:***

   The screening mechanism during the diagnosis and treatment initiation phases should incorporate mental health screening and counseling support through risk stratification. Prioritizing the capacity building of health staff, including frontline workers, in mental

health care is essential. Simultaneously, the health system should identify a workforce dedicated to providing psychological support for both home and facility-based care, ensuring sustainability. Additionally, specialists should be designated for the treatment of severe mental health issues.

3. ***Expanding Counselling sessions from individual to household level:***

   To effectively deliver counseling sessions, it is imperative to cultivate enhanced interpersonal relationships with patients. Thorough training and consistent supervision and monitoring should be provided to all counselors. Additionally, during visits, it was noted that family members and peers play a crucial role in the deaddiction process and improving the patient's mental health. Therefore, counseling family members or friends should be considered as one of the significant contributing factors to the success of the intervention.

4. ***Follow-up or relapse monitoring mechanism for Mental Health issues or Substance Use Disorders:***

   While the revised protocol incorporates relapse monitoring at the end of the intensive phase, it is suggested to extend this intervention for a longer duration. This extension is anticipated to result in better outcomes, particularly in terms of long-term adherence to the treatment and overall treatment outcomes. Exploring mechanisms or linkages with routine follow-up or long-term follow-up activities can enhance the intervention's effectiveness, ultimately contributing to the goal of improving treatment adherence and outcomes. It is recommended to explore mechanisms that document adherence throughout the entire treatment duration for these patients, making the intervention more comprehensive.

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ANNEXURES

Annexure 1: Screening tool for Mental Health Issues

- **PHQ-4**

PHQ-4					
Over Last two weeks, how often you have been bothered by following problems? (Use "√ to indicate your answer)		Not AT all	Several days	More than half the days	Nearly every day
1	Feeling nervous, anxious on edge	0	1	2	3
2	Not being able to stop or control worrying	0	1	2	3
3	Little interest or pleasure in doing things	0	1	2	3
4	Feeling down or depressed, or hopeless	0	1	2	3

- **Symptom Checker**

CONCEPTUAL DISORGANISATION Rate based on the behaviour and speech observed during the patients' interviews. If the person's speech is confused, disconnected, vague, or disorganised. Or sudden topic shifts, incoherence, derailment, blocking. Do not rate the content of speech.	**YES**	**NO**
SUSPICIOUSNESS Do you suspect that someone is trying to harm you/talk about you or kill	**YES**	**NO**

you?		
UNUSUAL THOUGHT CONTENT Tick 'Yes' if the patient responds yes in any of the following questions "Can anyone read your mind?". "Do you have a special relationship with God "Is anything like electricity, X-rays, or radio waves affecting you?" "Are thoughts put into your head that is not your own?" "Have you felt that you were under the control of another person or force?"	**YES**	**NO**
GRANDIOSITY Does the patient talk too much/superior talks beyond his capability?	**YES**	**NO**
Is the patient expressing any suicidal tendencies? Or ask -Have you felt that life wasn't worth living? /or Have you had thoughts of hurting or killing yourself	**YES**	**NO**

Annexure 2: Screening tool for Substance use Screening

Substance abuse screening Questionnaire

Q1. Have you consumed any of the below substances in the last 3 months?

Note: If patient has stopped using substance after starting TB treatment, probe about period prior to TB treatment

- None
- Alcohol
- Tobacco
- Inhalants
- Cannabis
- Other (specify)

Q2. For each substance selected: How often do you consume this substance in a week? Display if any substance selected in Q1

Note: If patient has stopped using substance after starting TB treatment, probe about period prior to TB treatment

- Daily/nearly daily (4-7 times a week)
- Weekly (1-3 times a week)
- Occasional use (1-3 times a month)
- Social use only (i.e. holidays/ gatherings. etc)
- Other (specify)

Q.3 Have you ever felt bad, guilty, or thought to cut down on your drinking or drug use?

- Yes
- No

Q4. Have people annoyed you by criticising your drinking or drug use?

- Yes
- No

Q5. Is the patient willing to enroll in a counseling intervention? à display if Q2= Daily/weekly

- Yes
- No

Q6. Is there a family supporter available to monitor the patient? à display if Q5 = "Yes"

- Yes
- No

Administer the Substance abuse screening tool Questionnaire:

- If the patient-reported none in Q-1 for all the substances, the Care Coordinator will stop the interview at that point and will provide an educational session to the patient as well as leave behind a pamphlet .
- If the patient reported/consumed any substance in Q-1 then the care coordinator will ask all remaining questions to the patients.
- If the patients reported occasional use of any substance are eligible for one educational session.
- If the patients reported weekly or daily use of any substance in the last 3 months (Q2 = Weekly or Daily/nearly daily) and reported Yes in Q.5 and are communicative/ responsive and willing to engage in counseling intervention, he/she will be enrolled in counseling intervention. But if the CCs observed that the patient is highly intoxicated will be referred to institutional care.
- If a patient responds to weekly or daily use of any substance with non-communicative and non-responsive or/and not willing to enroll in a counseling session due to substance use he/she will be directly referred for institutional care. (Further details are provided in section 4.5).
- For ongoing intervention, after completion of counseling sessions if a patient shows persistent symptoms but are curable by providing two more counseling than two extended counseling sessions will be provided to the patient based on subjective observation of the care coordinators during the ongoing intervention before referring for institutional care.
- After completion of counseling sessions patients will be screened.If patient's show persistent symptoms he/she will be referred for institutional care.

Annexure 3: Agencies/facilities identified for referral (Mental Health issues)

Secondary Mental Health Care Services: Psychiatric Unit, District Hospitals

Sr. No.	Name	
1.	General Hospital, Bharuch, Bharuch	Civil Hospital Rd, Station Rd,
		Btwlad, Soneri Mahal,
		Bharuch, Gujarat 392011
		Phone: 02642 243 515
2.	General Hospital, Godhra, Panchmahal	Godhra-Damavav Rd, Gita
		Nagar, Godhra, Gujarat
		389001
3.	General Hospital, Himmatnagar, Sabarkantha	Civil hospital, Himatnagar,
		Gujarat 383001
4.	General Hospital, Junagadh	Majevdi Gate, Taleti Road,
		Opposite Mahasagar Travels,
		Jamalwadi Area, Junagadh,
		362002
5.	General Hospital, Mehsana	Opp. S. T. Bus Station, Nr Raj
		Mahel Raod, Pilaji Ganj,
		Mehsana, Gujarat 384001
		Phone: 097277 37953
6.	General Hospital, Palanpur, Banaskantha	Paalanpur, Banaskantha, NH-
		14, Banaskantha Road,
		Palanpur, Palanpur, Gujarat
		385001
7.	General Hospital, Sola, Ahmedabad	Sola, Civil, Ahmedabad,
		Gujarat 380060
		Phone: 079 2766 1187
8.	General Hospital, Petlad, Anand	12, Near Railway Station ,

		Dist Anand, Sherpura, Petlad,
		Gujarat 388450
		Phone: 02697 224 645
9.	General Hospital, Dahod, Dahod	National Highway 113,
		Burhani Society,
		Govindnagar, Dahod, Gujarat
		389151
		Phone: 02673 244 211
10.	General Hospital, Ahwa, Dang	SH 174, Ghandhi Colony,
		Ahwa, Gujarat 394710
		Phone: 02631 221 500
11.	General Hospital, Khambhaliya, Devbhumi	Navapala, Devbhumi Dwarka,
	Dwarka	Dwarka Gate Road, NH 8E,
		Khambhalia, Gujarat 361305
		Phone: 093124 01919
12.	General Hospital, Gandginagar, Gandhinagar	No.G-2, GH Road, Sector-12,
		Gandhinagar, Gujarat 382016
		Phone: 079 2322 1931
13.	General Hospital, Bhuj, Kachchh	Opposite Lotus Colony, G K General Hospital, Madhapar Road, Bhuj, Gujarat 370001 **Phone:** 02832 246 417
14.	General Hospital, Nadiad, Kheda	Civil Hospital Rd, Yogiraj Society, Nadiad, Gujarat 387001 **Phone:** 0268 252 9074
15.	General Hospital, Rajpipla, Narmada	Rajput Fadia, Rajpipla,

		Gujarat 393145 **Phone:** 094286 86533
16.	General Hospital, Navsari, Navsari	Railway Station Road, Navsari, Gujarat 396445 **Phone:** 02637 250 389
17.	General Hospital, Patan, Patan	Patan, SH-220, Patan Road, Patan, Patan, Gujarat 384265
18.	General Hospital, Porbandar, Porbandar	Near, Bhutnath Mahadev, Rani Baug, Panch Hatdi, Porbandar, Gujarat 360575 **Phone:** 0286 224 0923
19.	P.K. Hospital, P.K. Rajkot, Rajkot	Dudhsagar Marg, Ramnath Para, Near Juni Jail, Dudhsagar Road, Rajkot, Gujarat 360001 **Phone:** 0281 222 6188
20.	General Hospital, Surendranagar, Surendranagar	Laxmi Nagar, Wadhwan, Surendranagar, Gujarat 363002 **Phone:** 02752 222 052
21.	General Hospital, Vyara, Tapi	Vyara, Gujarat 394650 **Phone:** 02626 220 053
22.	Jamnabai Hospital, Vadodara, Vadodara	Panigate Road, Mandvi Cir, Vadodara, Gujarat 390017 **Phone:** 0265 251 7400
23.	General Hospital, Valsad, Valsad	Civil Rd, Halar, Jivan Nagar Society, Valsad, Gujarat 396001

Super Specialist Care Service: Mental Health Care Service: Hospital For Mental Health

Sr. No.	Name	Address
1	Hospital for Mental Health, Karelibag, Baroda, Gujarat	Mental Hospital Rd, Opp Jeevan Bharti School, Karelibagh, Vadodara, Gujarat 390018 **Phone:** 0265 246 6834
2	Hospital for Mental Health, Ahmedabad (MoU Signed: August'21)	Outside Delhi Darawaja, Opp. Hatheesinh Jain Temple, Shahibag, Ahmedabad, Gujarat 380004
3	Hospital for Mental Health, Bhuj	Camp Area, Jestha Nagar, Bhuj, Gujarat 370001 Phone: 02832-225 054
4	Hospital for Mental Health, Jamnagar	Vikas Gruh Road, Indradeep Society, Jamnagar, Gujarat 361008 **Phone:** 0288- 275 0218

Private Hospitals providing Psychiatric Services

Sr. No.	Name	Address
1.	Apollo Hospitals International Limited	Plot No.1A, Gandhinagar - Ahmedabad Road Bhat, GIDC Bhat, Estate, Ahmedabad, Gujarat 382424 **Phone:** 079 6670 1800
2.	Shalby Hospital	Opp. Karnavati Club, S. G.

			Road, Ahmedabad, Gujarat, India
			Phone:079 40203000
3.		CIMS Hospital	Off, Science City Rd, Science
			City, Panchamrut Bunglows II,
			Sola, Ahmedabad, Gujarat
			380060
			Phone: 079 2771 2771
4.		Rajasthan Hospital	10, Camp Rd, Jain Colony,
			Shahibag, Ahmedabad, Gujarat
			380004
			Phone: 099740 66000
5.		GIPS Hospital	Shreenath Complex, Umiya Vijay
			road, opp. Punit Nagar-1, Near
			Statue of Jhansi Ki Rani,
			Ahmedabad, Gujarat 380015
			Phone: 079 2660 8485

Mental Health Services by Non-Governmental Organisations

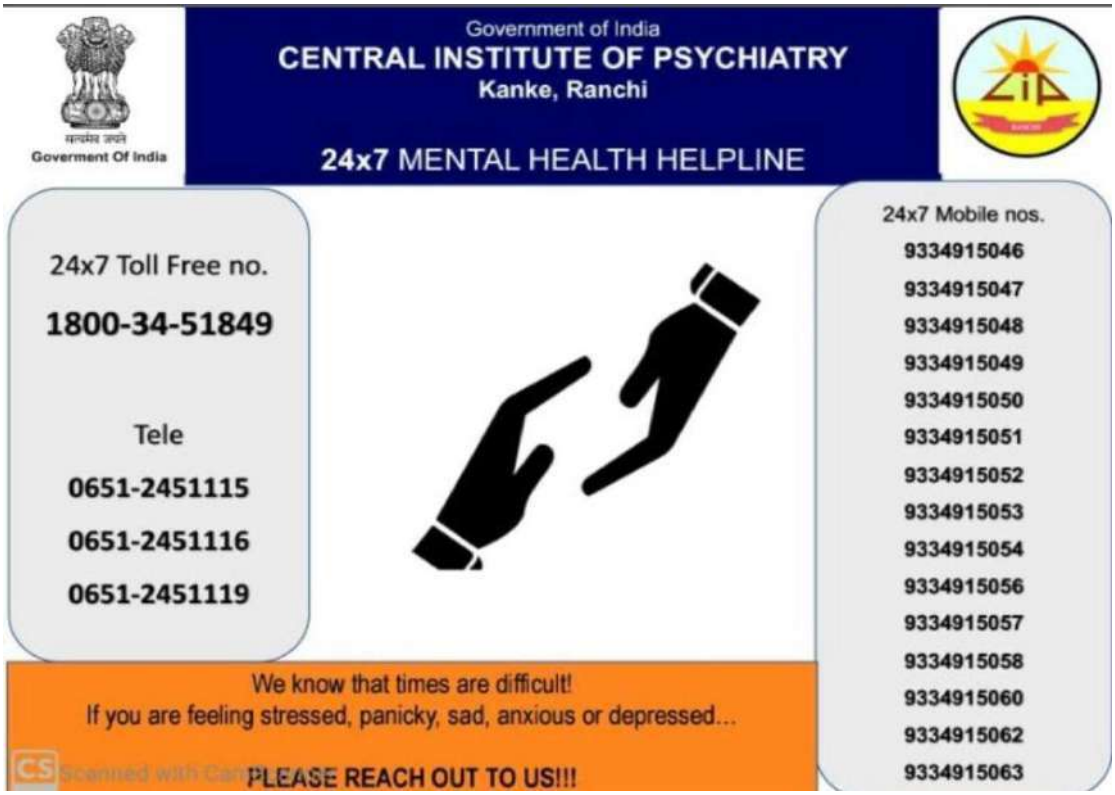
Sr. No.	Name	Address
1.	BM Institute of Mental Health	54, Ashram Rd, Ellisbridge,
		Ahmedabad, Gujarat 380009
		Phone: 079-2657 8257
2.	Kasturba Seva Ashram, Maroli, Navsari	Maroli, Gujarat 396415
		Phone: 02637-273 555
3.	Aadhar Helpline supported by the Altruist	**Phone:**09722100101

	Government Supported Psychiatric Evaluation and Psychotherapy			
	Sr. No.	**Name**		**Address**
	1.	Buddha Psychological Services Centre (BPSC) (Psychiatric evaluation and psychotherapy)		Institute of Behavioural
				Sciences, Nr. DFS Head
				Quarters, National Highway
				8C, Sector 9, Gandhinagar,

Gujarat Helpline

MOU signed with Gujarat Launch Jeevan aastha helpline run by Gandhinagar in month of July'21.

Mental Health services in Jharkhand



Mental Health Institutional Care available for referral at Ranchi District		
Sr. no.	**Name of Mental Health Institute**	**Address**
1	Ranchi Institute of Neuropsychiatry and Allied Sciences (MoU signed)	Kanke, Ranchi, JHARKHAND, PIN - 834006
2	Central Institute of Psychiatry (MoU signed: July'21)	Kanke, Ranchi, Pin-834006, India Tel No. - +91-651-2451115/116 ; 2231848
3	Davis Institute of Neuropsychiatry	Kanke, Ranchi
4	SAMDHAN - Complete Mental Health Care & Wellbeing	Kanke Road, Ranchi
5	Department of Psychiatry at RIMS (Rajendra Institute of Medical Sciences), Ranchi	Bariatu, Ranchi
6	Bhagwan Mahavir Medica Superspeciality Hospital	Bariatu Road, In front of PHED ColonyNear Booty More, Ranchi
7	Santevita Hospital	1 H. B. Road (Near Firayalal Chowk), Ranchi-834001, Jharkhand, India
8	Tobacco Cessation Cente	
9	District TB Centre	

Mental Health Institutional Care available for referral at East Singhbhum, Jamshedpur		
Sr. no.	**Name of Mental Health Institute**	**Address**
1	'sychiatric Department, MGM Medical College & Hospital	)iman Road, Hill View Colony, Mango Jamshedpur
2	DMHP Unit, Sadar Hospital	East Singhbhum, Jamshedpur
3	Tobacco Cessation Center	
4	District TB Centre	

Jharkhand Helpline

Annexure 4: Agencies/facilities identified for referral (Substance use)

Referral network in Jharkhand:

1. District Mental Health Programme (DMHP)
2. Central Institute of Psychiatry (CIP), Ranchi
3. CIP Help Line No for Substance use; +91 9334915049
4. Ranchi Institute of Neuro-psychiatry and allied Sciences(RINPAS)
5. TCC (तंबाकू नशा मुक्ति केंद्र), Jamshedpur,तंबाकू छोड़ने हेतु परामर्श के लिए भारत सरकार के टोल-फ्री पर अभी कॉल करे- 1800-11-2356

Tobacco Cessation Canters under NTCP	
State	**District**
Jharkhand	Bokaro
	Dumka
	Garhwa
	Koderma
	Chaibasa
	Ranchi
	Lohardaga
	Jamtara
	Saahebganj
	Singhbhum
	Saraikela

District Mental Health Program and other Psychiatric Services (Different Districts in Jharkhand)		
S.No.	**Place /District**	**Name of Psychiatrist/PSW/CP**
1.	DMHP, Dumka	Dr. Ram Sakal Handsdh
2.	DMHP, East Singhbhum	Dr. Rajeev Sharma
3.	MGM Medical College & Hospital, East Singhbhum	Dr. Keshav Ji & Dr. Pramila Purty
4.	Sheikh Bhikhari Medical College, Hazaribagh	Dr. Rupa Ghosh
5.	DMHP, Jamshedpur	Dr. Deepak Giri
6.	DMHP, Simdega	Ms. Sarmila Barik
7.	DMHP, Gumla	Dr. Sadab
8.	DMHP, Daltonjanj	Dr. Asif
9.	DMHP, Koderma	Mr. Sidhant Odhar
10.	DMHP, Deogarh	Dr. Ravi Ranjan Ray

Referral network in Gujarat:

- District Mental Health Programme (DMHP)
- TCC (तंबाकू नशा मुक्ति केंद्र) ,तंबाकू छोड़ने हेतु परामर्श के लिए भारत सरकार के टोल-फ्री पर अभी कॉल करे- 1800-11-2356

Sr.no	Name of the institution, Gujarat	Centre	District
Institution with free consultation			
1	Gujarat Kelavani Trust,	Deaddiction Centre & counselling centre	Ahmedabad
2	Nashabandhi Mandal,	Deaddiction Centre & counselling centre	Ahmedabad
3	Dr.B.R.Ambedkar De-addiction Centre,	Deaddiction Centre	Ahmedabad
4	Hospital for Mental Health, Ahmedabad	Deaddiction Centre & counselling centre	Ahmedabad
5	Alpha mind healing center,	Counselling centre	Baroda
6	Civil Hospial,Gandhinagar	Deaddiction Centre & counselling centre	Gandhinagar
7	Kanoria Hospital And Research Centre,	Deaddiction Centre	Gandhinagar
8	Jeevan astha Suicide helpline	Telecounselling	Gandhinagar
9	Turning point rehab,	Rehabilitation Centre,	Surat
10	Smimer Hospital for deaadiction centres	Deaddiction Centre & counselling centre	Surat
11	Civil Hospial, Surat	Deaddiction Centre & counselling centre	Surat
Institution with consulation fees			
12	New Hope Drug and Alcohol De addictition centre,	Deaddiction Centre	Ahmedabad
13	GIPS Hospital and De-addictionn centre,	Deaddiction Centre	Ahmedabad
14	Saksham Psychiatry Hospital and de addiction centre	Deaddiction Centre	Ahmedabad

15	Mann Hospital, Gandhinagar	psychiatric clinic	Gandhinagar
16	Dr. Piyush Goyal,	Deaddiction Centre	Surat
17	Serenity rehab Centre,	Rehabilitation Centre,	Surat
18	S C Patel Trust,	Deaddiction Centre	Baroda
19	Alcoholic De addiction center,	Deaddiction Centre	Baroda
20	Inner space healing center,	Counselling centre	Baroda
21	Baroda Rehab centre,	Rehabilitation Centre,	Baroda

Annexure 5: Quality Assessment

Spot quality Check:

The quality assessment during the screening and/or intervention.

Basic details:

- District……
- Name of the Care Coordinator……..
- Name of the Assessor/monitor……..
- Date of Assessment/monitoring…….
- Client Name…….
- Client's mobile number……

Screening tools Skills (Does the Care coordinator effectively screens the Patients on SAS Tool?):

- Is the objective of the screening clearly stated by the CCs? (Yes/No)
- Does the care coordinator ask each question as it was in the questionnaire? (Yes/No)
- Does the care coordinator ask the severity/option of each question? (Yes/No)
- Does the care coordinator probe questions whenever required? (Yes/No/not applicable)
- Does the care coordinator explain each question? (If the respondent was not able to understand the question) (Yes/No/not applicable)
- Does the care coordinator maintain Eye contact? (maintained /partially maintained/ Not maintained)
- Does the care coordinator listen effectively to the respondent? (Yes/No)
- Does the participant seem to understand the Screening tool? (Yes/No)

Counseling/Psycho-social Intervention Skills:

The number of the session:

- Session 1
- Session 2
- Session 3

Rate 1 to 5 Scale (5=Outstanding, 4= Very good, 3=Good, 2=Poor, 1=very poor)

- Active Listening
- Non-verbal Communication (Eye contact, Physical Distance, Dressing up)

- Takes Notes (After or during the session)
- Showed Empathy
- Ensured the patient about confidentiality
- Encourage the patients (Using words like Hmmmm..., Aaacha)
- Reflecting Summary (Give brief after listening to the client concern)
- Knowledge (about techniques, handling, etc)

Back quality check in the field:

Basic details:

- District: Ranchi, East Singhbhum
- Name of the Care Coordinator……..
- Name of the Assessor/monitor……..
- Date of Assessment/monitoring……
- Client Name…….
- Client's mobile number……

Counseling/Psycho-social intervention Session:

In this section, we will rate the session after the end of the session, which is related to the perception of therapeutic relationship/ rapport building, patients' understanding about the particular counseling session/topic, goals, approaches and techniques, and benefits.

(We can rate any of the sessions out of 4 sessions, we can also rate one or more sessions for one client).

Number of the session:

- Session 1
- Session 2
- Session 3
- Session 4

Rate 1 to 5 Scale (1=below 20%, 2=40%, 3=60%, 4=80%, 5=100%)

- Did you listen and understand the sessions well
    a. *{Rate 1 to 5 Scale (1=below 20%, 2=40%, 3=60%, 4=80%, 5=100%)}*
- Did you feel respected during the sessions?
    a. (1=Yes, 2=did a little, 3=No)

- Did the Care coordinator work on and talked regarding your concern?
    a. *{Rate 1 to 5 Scale (1=below 20%, 2=40%, 3=60%, 4=80%, 5=100%)}*
- Was the care coordinator's counseling approach and technique a good fit for you?
    a. *{Rate 1 to 5 Scale (1=below 20%, 2=40%, 3=60%, 4=80%, 5=100%)}*
- Was there anything missing in today's session?
    a. (1=No, 2= yes)
- How much of today's session was beneficial for you?
    a. *{Rate 1 to 5 Scale (1=below 20%, 2=40%, 3=60%, 4=80%, 5=100%)}*

Annexure 6 Case studies

Case studies from Gujarat

Case-1 (Pulmonary Tuberculosis and Mental Health)

Ravishbhai Vasava, a 55-year-old male residing in Umarpada village, was diagnosed with TB in May 2022. He lives with his four family members and works as a laborer while also engaging in farming. A staff member from World Health Partners (WHP) had a meeting with Mr. Vasava to discuss his prognosis and provide information about TB. The six-month course of treatment was explained in detail.

Following the TB diagnosis, Mr. Vasava encountered numerous physical and mental challenges. He experienced severe joint pain and weakness, compelling him to discontinue his work. Unfortunately, he also faced stigma, as he was advised not to work with his colleagues to prevent the spread of the illness. This not only affected his social life but also resulted in a significant financial strain. Mr. Vasava began feeling anxious and guilty, believing he was responsible for his family's unhappiness. Consequently, he became very cautious about his illness and refrained from discussing it with anyone. Upon mental health screening, he was identified to be dealing with anxiety, depression, and fear. His constant worry revolved around the fear of being stigmatized and its potential impact on his family. Additionally, he struggled with sleeping issues and felt lonely most of the time.

WHP intervened by providing mental health support. The team maintained regular contact with Mr. Vasava, conducting four home visits and offering weekly counseling sessions. During the last visit, a positive transformation was noted. Mr. Vasava appeared delighted, expressed hope for recovery, and no longer felt lonely or worried. He re-engaged in farming to earn a livelihood. The WHP team encouraged him to continue treatment, maintain a healthy diet, and assured him of their availability for support at any time.

Case-2 (Pulmonary Tuberculosis, Mental Health, and Substance use)

Sajannath Madari (30-year male) was diagnosed with TB in May 2022. He was suffering from extreme coughing, loss of weight, diarrhea, and sometimes vomiting for a couple of months before being diagnosed with TB. He stays with his family, feeling lonely as his wife left him four years ago because of a financial crisis and alcohol addiction.

After being diagnosed with TB, he faced many physical health challenges. He was depressed, started consuming Ganja(marijuana), and attempted suicide by self-cutting the wrist. His

family was unhappy and irritated by his addiction. The family faced a financial crisis as no one was earning a livelihood.

It was observed that screening the patient was difficult but with motivation and support care coordinator screened him. On screening for mental health, the patient was identified to have depression and anxiety. He was worried about his illness and family. The patient also added that he couldn't sleep properly and remained lonely most of the time.

He was provided MH intervention. He was contacted Four times through home visits and provided weekly counseling by the WHP team. During the last visit, the patient looked delighted. The patient seemed hopeful about recovery.

Case studies from Jharkhand

Case-1 (Pulmonary Tuberculosis and Mental Health)

Mrs. Kiran Singh, a 50-year-old female, received a diagnosis of TB that initially shocked and frightened her about what the future might hold. The WHP team visited Mrs. Kiran's home to assess her for any mental health challenges she might be facing. During the assessment, she reported experiencing symptoms of depression and anxiety, including a low mood, a lack of interest in her household chores, constant worry about her weight decline, and tension regarding why she contracted TB.

Upon identifying these mental health challenges, the care coordinator provided psychosocial counseling tailored to address the specific triggers reported by the patient. Mrs. Kiran's main triggers included feelings of isolation, a lack of someone to talk to, appetite and sleep disturbances, ongoing weight loss, and concerns about her family members contracting TB. Despite receiving support from her family after being diagnosed with TB, she still felt alone. Mrs. Kiran used to spend her time on social media.

Following the counseling sessions, a significant improvement in Mrs. Kiran's mental health was reported. She successfully overcame the mental health challenges, resumed her daily routine, and consistently took her TB medication. The intervention not only addressed her psychological concerns but also contributed to her overall well-being during the TB treatment process.

Case-2 (Pulmonary Tuberculosis and Substance Use)

A patient named Baburam Sharma, a 45-year-old male, was identified in the East Singhbhum district at the Directly Observed Treatment Centre (DTC). During a medication distribution session, he was observed shouting at the lady distributing medicine to TB patients. When it was his turn to receive medicine, he continued to express frustration, questioning the efficacy of the treatment and wondering why he was not recovering despite his friend's improvement.

In response to this behavior, the Thematic Lead (TL) and care coordinator present at the scene intervened. The TL invited Baburam to sit down and engage in a conversation to understand the underlying reasons for his distress. Baburam, upon sitting comfortably, disclosed that he continued to consume alcohol and tobacco. The TL provided brief psychosocial counseling, emphasizing the potential health complications associated with continued substance use. Additionally, the patient was given the contact information for a tobacco quitline to seek further assistance over the telephone.

Upon follow-up by the care coordinator, it was reported that Baburam had ceased the consumption of substances after receiving counseling. He is maintaining well, indicating a positive outcome from the intervention. This case demonstrates the importance of addressing psychosocial aspects, including substance use, in the comprehensive care of TB patients.