

Question 1: *How have systems thinking approaches and tools been incorporated in activities to improve health equity? Were these approaches useful in achieving health equity goals? If so, what are the pathways by which these approaches helped to address the root causes of inequity?*

# Improving Early Screening, Identification and Management of TB during Pregnancy: Experience from Assam, India



Dr.Meena Chavan, Dr. Puja Ambule, Dr. Debduitta Parija, Ankita Mukherjee, Dr. Neeraj Agrawal

## Context

Given the context of high mortality rate in Assam and the high burden of TB, USAID-NISHTHA project implemented by Jhpiego is supporting the Government of Assam in integrating TB and maternal health services. The health equity problem being addressed is the suboptimal implementation of guidelines aimed at integrating tuberculosis (TB) and maternal health services to improve pregnancy and TB outcomes. The root causes of this equity problem can be attributed to various factors, including limited awareness and understanding of the guidelines among healthcare providers, inadequate capacity-building efforts, insufficient coordination between TB and maternal health services, and challenges in ensuring consistent screening and management of TB in pregnant women. A health systems approach was chosen to address this problem as it recognizes the need for comprehensive and integrated solutions that encompass various components of the health system. This approach focuses on strengthening the coordination, capacity, and resources within the health system to ensure effective implementation of the guidelines and improve health outcomes for pregnant women with TB. By adopting a health systems approach, the intervention aims to address the systemic barriers and challenges that hinder the optimal integration of TB and maternal health services. This approach allows for a holistic and coordinated response, involving multiple actors and leveraging available resources to achieve better health equity and outcomes for pregnant women in Assam

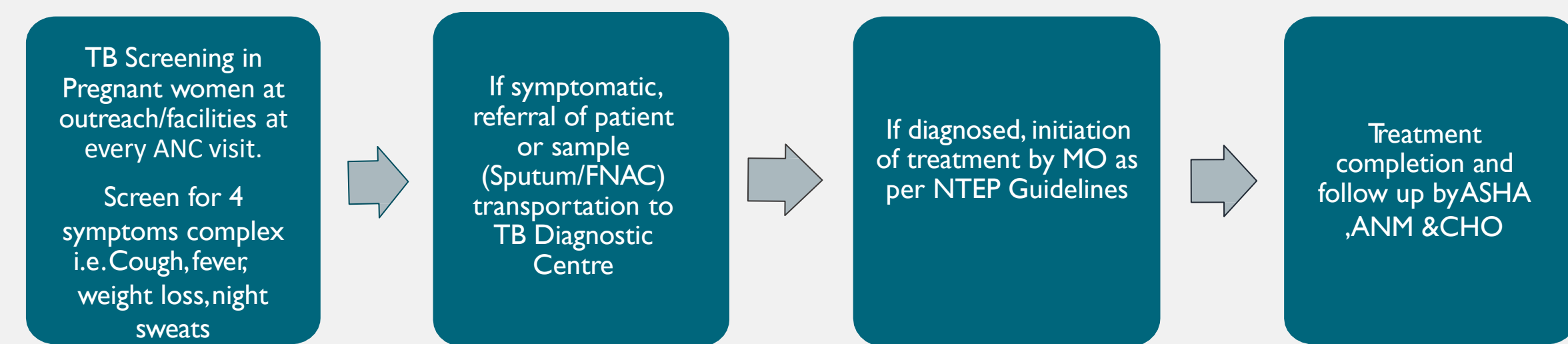
- India contributes 20.6% of global burden of all active TB among pregnant women
- Annually 20,000- 40,000 pregnant women are likely to suffer from active TB in India
- Presence of TB in pregnancy results in unfavorable outcomes
- Two Fold-Preterm birth  
Two Fold Low birthweight  
Two Fold Intrauterine growth restriction  
Six Fold Perinatal death

## Activity Description

To address the health system challenge of implementing the "Collaborative Framework for Management of TB Among Pregnant Women," the approach focuses on the following key strategies to improve health equity:

- Bi-directional screening and referral: The activity ensures that pregnant women receive both TB and antenatal care (ANC) services. This involves conducting screening for TB during ANC visits and establishing a referral pathway between the TB program and the Maternal Health program.
- Interdepartmental collaboration: Collaboration is facilitated between the Maternal Health and State TB cell divisions to strengthen coordination and cooperation. This ensures the seamless implementation of the collaborative framework and enhances the delivery of integrated services to pregnant women.
- Capacity building: Community Health Officers (CHOs) and government officials receive capacity-building programs on the collaborative framework. These trainings enhance their knowledge and skills in implementing the framework and provide them with the necessary tools to effectively screen, diagnose, and manage TB among pregnant women.
- Reporting and monitoring mechanisms: Reporting mechanisms are established on the TB Management Information System (MIS) known as NIKSHAY and the Reproductive and Child Health (RCH) system. This enables the tracking of TB cases among pregnant women and the monitoring of their treatment and outcomes.
- Community awareness and information, education, and communication (IEC): Targeted community awareness campaigns and IEC activities are implemented to raise awareness about TB in pregnancy. These activities aim to increase knowledge among pregnant women, their families, and the community about the importance of TB screening, prevention, and treatment during pregnancy.
- Leveraging facility-based and community-based platforms: Various platforms, including healthcare facilities and community settings, are utilized to facilitate TB screening and referral. This ensures that pregnant women have multiple access points for screening and can receive appropriate care and support.

By implementing these strategies, the activity aims to improve health equity by ensuring that all pregnant women have access to comprehensive TB and ANC services. The focus is on addressing the barriers that contribute to disparities in accessing and receiving timely and appropriate care. Through enhanced collaboration, capacity building, monitoring, community engagement, and leveraging existing platforms, the goal is to achieve equitable health outcomes for pregnant women in relation to TB management.



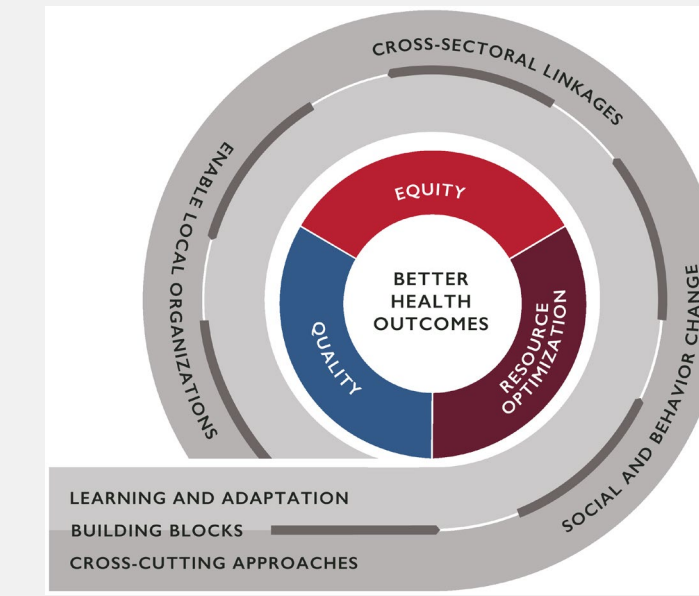
(Service delivery pathway for TB in Pregnant Women)

## Activity Impact

This activity effectively improved health equity by targeting various components of the health system and addressing the root causes of inequity. Key actions taken to achieve this include:

- Comprehensive screening and referral:** The implementation of the "Collaborative Framework for management of TB Among Pregnant Women" ensured that pregnant women receive both tuberculosis (TB) and antenatal care (ANC) services. This approach aimed to bridge the gap in accessing comprehensive care, ensuring that all pregnant women, regardless of their background or socio-economic status, have equal opportunities for early detection, diagnosis, and treatment of TB.
- Interdepartmental collaboration:** By fostering collaboration between the Maternal Health and State TB cell divisions, the activity promoted cross-sectoral coordination. This collaborative approach addressed fragmented services and facilitated an integrated and equitable delivery of care for pregnant women with TB.
- Capacity building:** The activity focused on enhancing the skills and knowledge of Community Health Officers (CHOs) and government officials through targeted capacity-building initiatives. This capacity building strengthened the health workforce and empowered them to provide equitable and quality care to pregnant women with TB.
- Improved reporting and monitoring:** The establishment of reporting mechanisms on the TB Management Information System (NIKSHAY) and the Reproductive and Child Health (RCH) system facilitated better tracking and monitoring of TB cases among pregnant women. This data-driven approach helped identify service delivery gaps and supported evidence-based decision-making to implement targeted interventions, thereby addressing inequities in access to appropriate care.
- Community awareness and information, education, and communication (IEC):** The activity conducted community awareness campaigns and implemented IEC activities to address the lack of knowledge and awareness about TB in pregnancy. By actively engaging with communities and providing accurate information, the activity aimed to reduce disparities in health-seeking behaviors and ensure equitable access to information and preventive measures.

Through these targeted actions on various health system components and addressing the underlying causes of inequity, this approach effectively improved health equity. It aimed to establish a more inclusive and responsive health system, ensuring equal access and quality of TB and ANC services for all pregnant women, irrespective of their social or economic circumstances.



## Evidence

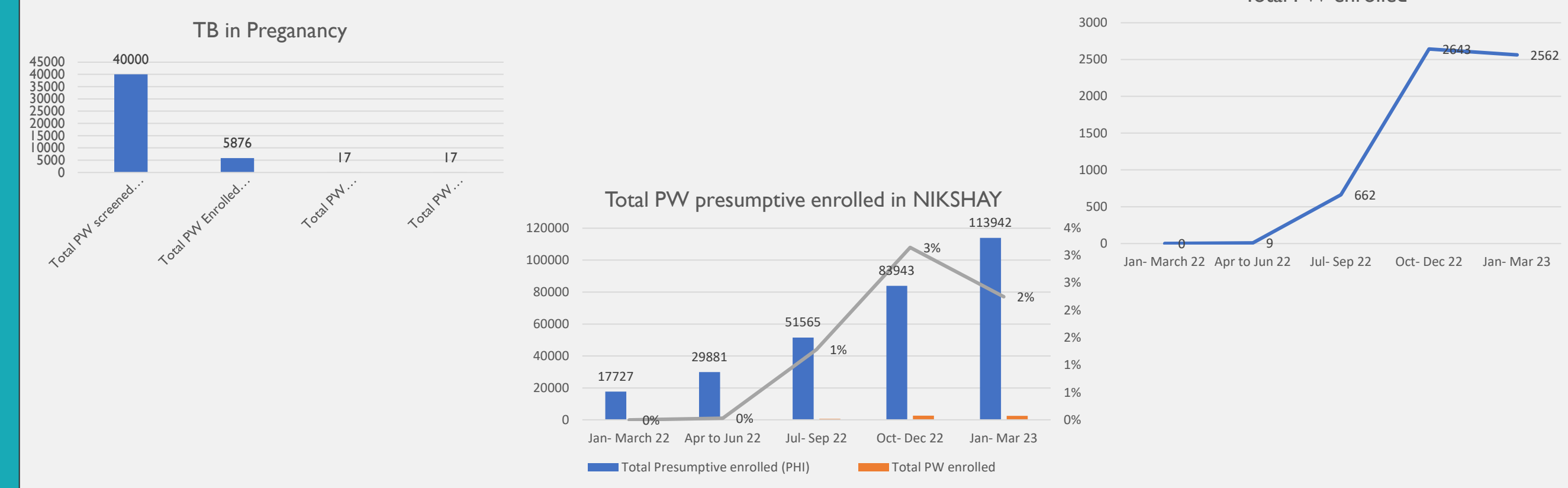
Over the course of the implementation, significant evidence has been gathered to demonstrate the impact of the activity on health equity and intermediate outcomes. Key evidence includes:

**Training and Capacity Building:** More than 1000 Community Health Officers (CHOs) and district/block officials from both Maternal and TB cells were trained. This indicates a substantial investment in strengthening the human resources component of the health system, promoting equitable access to quality care.

**Screening for TB:** Between 2022 and 2023, approximately 40,000 pregnant women were screened for TB during their ANC check-ups. This demonstrates the successful integration of TB screening into routine maternal health services, ensuring that pregnant women have equitable access to TB screening services.

**Identification and Diagnosis:** Among the screened pregnant women, 5,862 were identified as presumptive cases of TB. This indicates the proactive identification of potential TB cases, enabling early detection and timely management. Furthermore, 17 pregnant women were diagnosed with active pulmonary and extra-pulmonary TB, indicating the effectiveness of the screening and diagnostic processes.

**Treatment and Care:** Of the diagnosed cases, five pregnant women have successfully completed their TB treatment. This showcases the accessibility and availability of treatment services tailored to the unique needs of pregnant women. Additionally, 12 pregnant women are currently availing care, demonstrating ongoing efforts to provide comprehensive care throughout their treatment journey.



## Facilitators

The successful implementation of the activity can be attributed to the following factors within the health system, context, and external partner support:

**State Willingness and Ownership:** The state demonstrated a strong commitment and ownership towards the management of TB in pregnant women. This willingness was crucial in driving the implementation of the activity, ensuring that it received adequate support and resources from the state health authorities.

**Interdepartmental Coordination:** Effective coordination was established between the maternal health division and the State TB Cell. This collaboration allowed for the seamless integration of TB management into maternal health services, ensuring a comprehensive approach to address the health needs of pregnant women with TB.

**Ayushman Bharat Health & Wellness Centres:** The existing platform of Ayushman Bharat Health & Wellness Centres provided a well-established infrastructure with dedicated resources, such as Community Health Officers (CHOs). Leveraging these centers enabled the integration of TB screening and management into routine antenatal care, making services easily accessible to pregnant women.

**Partnership with WHO:** The activity leveraged the expertise and support of global partners like the World Health Organization (WHO). Collaborating with WHO facilitated the rollout of the intervention, benefiting from their guidance, technical knowledge, and experience in implementing similar programs.

**User-Friendly Resources:** To facilitate the implementation process, user-friendly resources such as Standard Operating Procedures (SOPs), reporting formats, and job aids were developed. These resources provided clear guidelines and tools for healthcare providers, ensuring standardized practices and efficient data collection.

These factors, including state willingness, interdepartmental coordination, leveraging existing health centers, partnering with WHO, and developing user-friendly resources, collectively contributed to the success of the activity. They facilitated seamless collaboration, resource utilization, knowledge transfer, and streamlined implementation, ultimately improving the management of TB in pregnant women.

## Challenges

During the implementation of the activity, we encountered certain challenges that affected our ability to achieve health equity goals. Some of these challenges were expected, while others came as unforeseen obstacles. Here are the key challenges we faced:

**Interdepartmental Coordination:** Establishing effective coordination between two departments, namely the TB and Maternal Health departments, was a challenge. Collaborative efforts required aligning strategies, sharing information, and coordinating activities, which necessitated dedicated efforts to overcome organizational and communication barriers.

**Knowledge and Skills Gap:** Field-level staff lacked adequate knowledge and skills in implementing the collaborative framework for managing TB among pregnant women. This knowledge gap hindered the seamless integration of TB and maternal health services, leading to suboptimal implementation.

**Data Reporting and Monitoring:** The absence of a common reporting platform for TB and Maternal Health data posed challenges in tracking and monitoring the progress of the activity. The lack of a streamlined system hampered data integration and hindered the ability to make informed decisions.

**Stigma and Resistance:** Pregnant women exhibited stigma and resistance when it came to undergoing TB testing. Cultural and social factors contributed to the hesitancy and reluctance of pregnant women to access TB services, thereby impeding equitable access to screening and treatment.

To address these challenges, we responded by taking the following actions:

**Capacity Building:** We prioritized capacity building initiatives to enhance the knowledge and skills of field-level staff. Training programs, workshops, and skill-building sessions were conducted to equip the staff with the necessary competencies to implement the collaborative framework effectively.

**Establishing Reporting Mechanisms:** We worked towards establishing a common reporting platform for TB and Maternal Health data. This involved developing standardized reporting formats, ensuring data compatibility, and promoting data sharing and integration between the two departments.

**Awareness and Sensitization:** We undertook targeted awareness campaigns to address stigma and resistance among pregnant women. These campaigns aimed to educate communities about the importance of TB testing during pregnancy, debunk misconceptions, and promote acceptance of TB services.

**Continuous Engagement:** We engaged with relevant stakeholders, including policymakers, health officials, and community leaders, to foster support and commitment. Through regular meetings, consultations, and engagement platforms, we sought their input, addressed concerns, and built consensus to overcome resistance and facilitate collaboration.

While these actions were effective in mitigating the challenges, achieving health equity goals remained complex due to deeply entrenched structural and social factors. It highlighted the need for sustained efforts, policy reforms, and continuous capacity building to address the root causes of inequity and promote comprehensive health system strengthening.

## Lessons Learned

**Tailored Approach:** The collaborative framework has proven to be effective in ensuring early identification of TB among pregnant women, leading to improved pregnancy outcomes. By customizing interventions to address the specific needs of this population, organizations can achieve better health equity outcomes.

**Sustainable Screening:** The organization has recognized the importance of adopting a long-term sustainable approach to ensure that all pregnant women are routinely screened for TB during antenatal check-ups. Integrating TB screening into existing maternal health services can significantly contribute to early detection and timely intervention.

**Community Engagement:** Intensive community awareness campaigns have a multiplier effect in promoting the importance of TB screening during pregnancy. By actively involving the community, organizations can raise awareness, reduce stigma, and encourage more pregnant women to access TB screening services.

**Empowerment of Frontline Workers:** Strengthening the role of frontline workers, such as community health workers, in TB screening can double the yield. Empowering these workers through training and capacity building enables them to play a more significant role in identifying and referring pregnant women for TB screening.

**Addressing Barriers:** To achieve health equity goals, it is essential to address the barriers that prevent pregnant women from accessing quality TB care. This includes addressing stigma, improving service availability and accessibility, and ensuring comprehensive support throughout the care continuum.

**Streamlined Monitoring and Evaluation:** Enhancing reporting procedures and streamlining monitoring and evaluation mechanisms are crucial for measuring the impact of interventions and identifying areas for improvement. Robust data collection and analysis contribute to evidence-based decision-making and program refinement.

