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## ABSTRACT BOOK

# WORLD CONFERENCE ON LUNG HEALTH 2025 OF THE INTERNATIONAL UNION AGAINST TUBERCULOSIS AND LUNG DISEASE (THE UNION)

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studies exploring the cost-effectiveness of such strategies, particularly when combined with pre-test and post-test tuberculosis counselling.

**Design/Methods:** This analysis used results from a pragmatic, multicentre, open-label, individual randomised controlled trial conducted between October 2018 and March 2020 in South Africa. Trial results on treatment initiation, treatment completion and on-treatment mortality informed a compartmental model of TB transmission in South Africa where a CCT intervention with pre-test and post-test tuberculosis counselling is offered to all notified adults affected by drug sensitive TB between 2025 and 2050. Epidemiological modelling results were combined with cost data to determine the cost-effectiveness of the intervention from the provider perspective. We estimated the incremental cost-effectiveness ratio (ICER) per disability-adjusted life year (DALYS) averted by comparing our intervention with the standard of care.

**Results:** Universally applying the CCT intervention would lead to a decrease of 11% TB incidence and 17% TB mortality by 2050 in South Africa, compared to standard of care. The incremental cost of the intervention was estimated at $80.4 USD per patient, leading to a total increase of 7% in TB budget (i.e. ~20 million USD per year) between 2025 and 2050. The intervention was cost effective at ICER of $148.7 per DALY averted compared to a cost-effectiveness threshold (CET) of $3,015-3,314 USD.

**Conclusions:** CCT interventions with pre-test and post-test counselling appear to be cost-effective in South Africa, leading to a long-term reduction in TB incidence and mortality, and a potential reduction in the risk of catastrophic costs to households.

## OA21-306-20 Policy gaps in social protection for people affected by TB: Evidence from high-burden municipalities in Rio de Janeiro, Brazil

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**Background:** Tuberculosis (TB) remains a major public health concern in Brazil, particularly in socioeconomically vulnerable populations. Although social protection is a key pillar of the End TB Strategy, mechanisms to ensure financial support and food security for people affected by TB remain fragmented. In Brazil, despite national social assistance programs, local-level implementation is inconsistent. This study examines the presence and scope of normative frameworks related to social protection in high-burden TB municipalities in Rio de Janeiro.

**Design/Methods:** A documentary review was conducted in ten municipalities in Rio de Janeiro state with the highest TB burden. Official websites and public records were systematically screened for laws, decrees, and regulations published since 2020 that address social protection. Documents were categorized by level (municipal or federal), type of benefit (e.g., food support, transport, cash transfer), and explicit inclusion of TB-affected individuals. Data were analyzed descriptively to identify patterns, limitations, and gaps.

**Results:** A total of 79 normative acts were identified across the selected municipalities. Most documents addressed broad social programs such as food security or poverty reduction. However, none explicitly mentioned individuals undergoing TB treatment as a target group. Only two municipalities offered structured food support linked to health services, but eligibility and implementation criteria were often unclear. The absence of tailored provisions and intersectoral coordination indicates a disconnect between TB care and social protection strategies, particularly in high-burden urban areas.

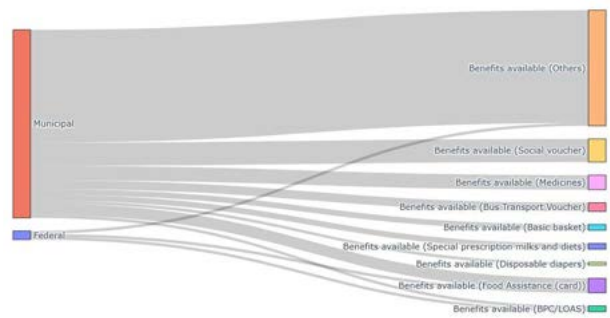


*Figure 1 – Flow between normative level and types of social benefits.*

**Conclusions:** Findings reveal critical gaps in the normative landscape of social protection for people affected by TB in Rio de Janeiro. The lack of explicit policies and integration between health and social sectors may hinder treatment adherence and equity. Strengthening local governance and institutionalizing targeted social support are urgent to align municipal policies with global TB control strategies and protect vulnerable populations from avoidable hardship.

**Design/Methods:** This qualitative descriptive study used semi-structured in-depth interviews with 16 TB Champions in India. Data were analyzed using thematic analysis and framed along the five domains of the Consolidated Framework for Implementation Research (CFIR) which helped elicit barriers and facilitators in the implementation of NPY and NMY as viewed by these key community actors.
**Results:** Key Insights from the TB champions
NPY: Champions appreciated NPY's financial aid but reported frequent delays and inconsistencies in the disbursement of funds, decreasing its impact.
NMY: NMY enabled community support but it was also affected by irregular and unequal assistance due to the voluntary nature of donors.
Outer setting: Stigma, socio-economic barriers, and limited awareness among patients hindered the use of the scheme.
Inner setting: In health care system settings, poor coordination across the gaps and lack of support from staff acted as barriers toward effective implementation.
The role of TB Champions: Champions have played the greatest role in lobbying for patients but have been burned out, inadequately trained, and never formally acknowledged or compensated.
Implementation Process: Challenges included the limited usability of the Nikshay portal and poor monitoring and feedback systems. There socio-geographic challenges further hinders the uptake of the scheme by the rural population.
**Conclusions:** The study unravels fundamental gaps of implementation in NPY and NMY which inhibit effective nutritional support. Real-time fund tracking, standard support packages, training and stipends for TB Champions, community-based enrollment, and structured partnerships creating a stronger person-centered TB care are recommended.

## EP41-1097-20 TB and social protection: Coverage and execution of the Food Assistance Programme in the State of Rio de Janeiro, Brazil

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**Background:** Tuberculosis (TB) is a socially determined disease, with treatment adherence strongly influenced by socioeconomic conditions. To mitigate these effects, the state of Rio de Janeiro implemented the Food Assistance Program for individuals undergoing treatment for drug-susceptible TB (PAATB). This study aimed to analyze the coverage and magnitude of PAATB implementation by municipality, in order to identify critical areas for strengthening social support actions.
**Design/Methods:** This descriptive study used 2024 data from the Food Assistance Support System (SISAA-RJ). All municipalities with granted benefits were analyzed. Coverage was calculated as the proportion of active benefits relative to those granted, and classified as high (≥80%), moderate (60–79%), or low (<60%). Municipalities were ranked by the volume of benefits granted to highlight those with the greatest programmatic impact.

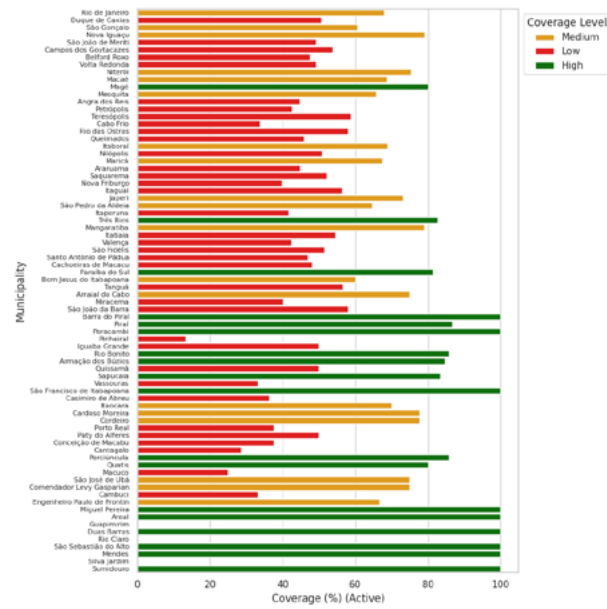


*Figure 1 - Benefit Coverage and Volume by Municipality – PAATB, Rio de Janeiro, 2024.*

**Results:** More than 10,000 benefits were granted across the state. The highest volumes were concentrated in the municipalities of Rio de Janeiro, Duque de Caxias, and São Gonçalo. Despite the high number of concessions, these areas showed only moderate or low coverage. The figure illustrates that municipalities with the greatest TB burden also face significant challenges in sustaining benefit provision, which may compromise treatment adherence and overall effectiveness.
**Conclusions:** The analysis revealed mismatches between the scale of program execution and the quality of support continuity. Identifying municipalities with low coverage and high programmatic impact is crucial to reorient intersectoral strategies and ensure continuity of patient-centered TB care.

## EP41-1098-20 Impact of livelihood support on the treatment of drug-resistant TB: An excerpt from rural India

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**Background and challenges to implementation:** Drug Resistant-Tuberculosis remains a social disease closely tied to poverty. Financial hardships, job insecurity and healthcare costs contribute to poor treatment outcomes. Integrating interventions that enable PwDRTB to bolster their livelihood status and enhance their treatment compliance are needed.
**Intervention or response:** To restore the lost livelihood due to the diagnosis of DR-TB, a livelihood initiative was implemented among PwDRTB and their family members in 3 rural districts of Bihar, under TB Reach Wave 9 project.
Monetary support in range of $33 to $105 was provided to set up mini-shops, vegetable shops, sewing machines and accessories, and other prospects. Amongst PwDRTB initiating their treatment between 2022 and 2024, livelihood support was provided to 101 PwDRTB or their family members.
Results were compared between the ones receiving the support and the ones who didn't receive it within the same geography and similar socio-economic conditions.
**Results/Impact:** An increase of 6% in the median income of family earned from the first month (Median $11.69, IQR $11.69) to the sixth month (Median $12.49, IQR $11.01) after providing livelihood support was evident. 89% of PwDRTB successfully completed their treatment among the outcomes declared.
Contrasting treatment success (72%) was evident in those not provided with livelihood support ($p<0.05$, OR 0.322 95% CI 0.145-0.716).

| | Livelihood support provided (n=90) | | Livelihood support not provided (n=93) | |
|---|---|---|---|---|
| | Males (n=29) | Females (n=61) | Males (n=71) | Females (n=22) |
| Successfully treated | 24 (83%) | 56 (92%) | 50 (70%) | 17 (77%) |
| Unsuccessful outcome | 5 (17%) | 5 (8%) | 21 (30%) | 5 (23%) |

*Table. Treatment outcomes of Livelihood support provided v/s Livelihood support not provided.*

**Conclusions:** Our findings suggest that the sustainable person-centered care of livelihood support improved PwDRTB's family income. It positively impacts treatment outcomes with 89% of the PwDRTB provided with livelihood support successfully completing the treatment and a lower probability of an unsuccessful outcome.

## EP41-1099-20 Leveraging community treatment supporters (CTS) to improve TB treatment outcomes: Evidence from Papua New Guinea's urban TB response

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**Background and challenges to implementation:** Papua New Guinea (PNG) has one of the highest tuberculosis (TB) burdens in the Western Pacific, with an estimated 44,000 cases in 2022 and an incidence rate of 432 per 100,000 population (WHO Global TB Report 2023). The National TB Strategic Plan aims to reduce this to 350 per 100,000 by 2026. Achieving this requires improved treatment outcomes, yet the national treatment success rate averages only 74% (range: 42–94%) due to persistent challenges in accessibility, affordability, and availability of services.
**Intervention or response:** World Vision implements the Global Fund TB grant across 12 of PNG's 21 provinces. To strengthen the TB care cascade, Community Treatment Supporters (CTS) were introduced. These trained and incentivized volunteers—often former TB patients—support active case finding, contact tracing, patient referrals, and directly observed treatment (DOTS).

**Table 1.** Policies for TB management in prisons and barriers to their implementation, by WHO region (percent of respondents indicating each policy/barrier)

| WHO Region, N responses | Prison-specific policies included in national TB guidelines | Challenges to implementation of TB management guidelines in prisons (a) | | | All detainees screened for TB at entry into prison (b) | Screening tools used at entry: chest X-ray or molecular test in addition to clinical evaluation | GeneXpert used for initial TB diagnosis | Directly observed therapy (DOT) implemented (c) | Post-release follow-up of those on treatment: policy in place for referral to local health centre |
|---|---|---|---|---|---|---|---|---|---|
| | | Prison overcrowding | Lack of healthcare staff | Lack of healthcare infrastructure | | | | | |
| AFRO, N = 25 | 66.7 | 83.3 | 45.8 | 58.3 | 57.9 | 57.9 | 94.7 | 100.0 | 100.0 |
| AMRO, N = 17 | 50.0 | 37.5 | 56.2 | 37.5 | 53.8 | 83.3 | 69.2 | 86.7 | 73.3 |
| EMRO, N = 2 | 50.0 | 50.0 | 50.0 | 50.0 | 0.0 | 100.0 | 50.0 | 100.0 | 100.0 |
| EURO, N = 41 | 50.0 | 45.7 | 40.0 | 40.0 | 56.7 | 63.0 | 75.9 | 100.0 | 100.0 |
| SEARO, N = 10 | 66.7 | 75.0 | 62.5 | 50.0 | 60.0 | 60.0 | 100.0 | 66.7 | 60.0 |
| WPRO, N = 30 | 18.5 | 32.1 | 32.1 | 32.1 | 47.8 | 80.0 | 73.3 | 90.9 | 78.3 |

*Percent of respondents indicating each policy/barrier*
0.0 20.0 40.0 60.0 80.0 100.0

*TB=tuberculosis. WHO=World Health Organisation. WHO Regions: AFRO=Africa, AMRO=Americas, EMRO=Eastern Mediterranean, EURO=Europe, SEARO=Southeast Asia, WPRO=Western Pacific.*
*(a) Only the top 3 reported challenges are included in this table.*
*(b) Only those reporting that all detainees are screened (in all prisons) are included in this category –those reporting that detainees are screened in some but not all prisons are not counted here.*
*(c) Includes detainees receiving DOT either directly in prison cells or by reporting to DOT centres. Only those reporting DOT use in all prisons are counted here.*

**Conclusions:** This is the first global survey of current policies regarding tuberculosis screening, diagnosis, and treatment in prisons. Results suggest that, while many countries have prison-specific tuberculosis management guidelines, challenges in this setting hinder implementation. Furthermore, heterogeneity in responses across and within countries suggests variation in policy implementation.

## EP56-1237-21 Improving grants management through business central systems to fight TB, leprosy and lung diseases in Kenya

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**Background and challenges to implementation:** Kenya has long faced persistent challenges in community-based TB case finding. Donor-funded programs have played a key role in implementing various interventions, however, smooth implementation is hindered by weak grants management systems. Inefficient fund disbursement slows down implementation and affects the supply of essential commodities, tools, and implementation of various interventions.
**Intervention or response:** To enhance grants accountability and TB outcomes, Amref Health Africa, the Global Fund's non-state Principal Recipient deployed Microsoft Dynamics 365 Business Central ERP across 38 subrecipients in all 47 Kenyan counties. The system replaced manual sub-granting processes that caused disbursement delays, financial discrepancies, and limited oversight. It enabled real-time financial tracking, automated reporting, and performance monitoring. A phased rollout (2021–2023) included training, data migration, and testing. Monitoring was conducted via built-in dashboards and quarterly reports. Data on reporting accuracy, turnaround time, and absorption rates assessed system impact, supported by regular feedback sessions.
**Results/Impact:** All 38 subrecipients transitioned to digital grants management. Through the implementation of this system, financial cost eligibility rose from 50% (2021) to 76% (2023), Financial submission errors were reduced by 24%, quarterly cash disbursement delays dropped by 50% and fund absorption rose from 63% to 98% by year two. Improved grant performance led to timely procurement and enhanced TB implementation of TB interventions. Kenya saw a 25% rise in TB notifications (2021–2023) and national declines in TB mortality (37 to 27), TB/HIV mortality (24 to 14), and incidence (267 to 223 per 100,000, 2019–2023).
**Conclusions:** Digital solutions like Business Central can significantly enhance grants management, enabling timely disbursements, better reporting, and resource tracking which is critical for timely TB interventions. Sustained capacity building and scaling to other programs can accelerate progress toward ending TB and achieving universal health coverage.

## EP56-1238-21 Inequities in the production of TB-related social protection policies across municipalities in Rio de Janeiro, Brazil (2014–2024)

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**Background:** Normative regulation is a critical step for implementing social protection measures. In high TB burden settings, the absence of formal policies may hinder access to comprehensive care.
This study assessed the municipal-level distribution of normative documents related to TB and social protection in the state of Rio de Janeiro from 2014 to 2024.
**Design/Methods:** We analyzed 79 records corresponding to 75 normative documents collected from official municipal sources. Documents were grouped by municipality and year of publication. Descriptive analysis was performed, supported by a grouped bar chart to visualize the frequency and distribution of documents over time.

**Results:** The analysis revealed marked disparities in normative activity across municipalities. Cities such as Magé and Belford Roxo showed relatively high production of social protection regulations. Conversely, other municipalities with high TB burden—such as São João de Meriti and Duque de Caxias—did not publish any related normative acts during the study period.
These findings point to significant inequities in institutional engagement and capacity for policy development in critical areas (Figure 1).

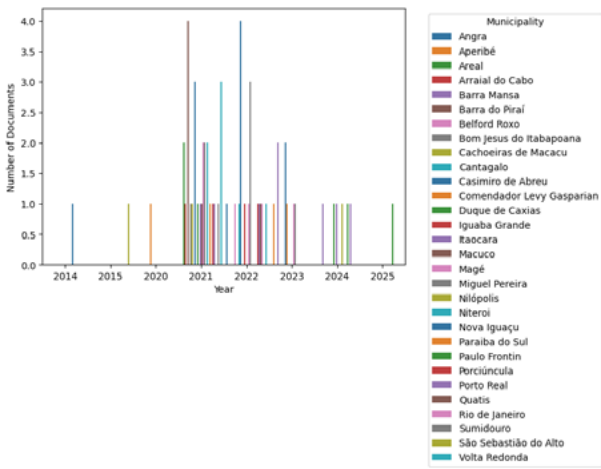


*Figure 1 - Distribution of Social Policy Documents by Municipality and Year.*

**Conclusions:** The unequal distribution of social protection policy production reveals structural differences in institutional capacity and political will across municipalities. These disparities may undermine TB care continuity, especially in vulnerable regions. To address this, regionalized technical support and federative coordination strategies should be prioritized to reduce normative gaps and promote equitable policy action. Strengthening local governance capacity is essential to ensure all high-burden municipalities are equipped to implement and sustain TB-related social protection measures.

## EP56-1239-21 Institutionalising nutritional support for people with TB into the local self-governance annual plans in Kerala, India: A policy reform initiative

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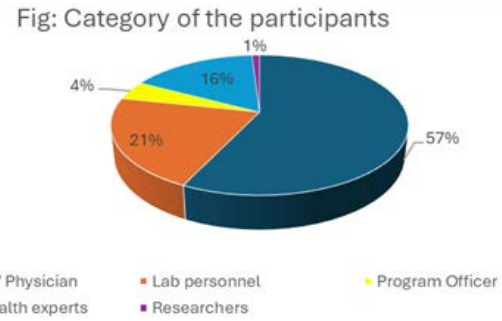
**Background and challenges to implementation:** In 2023, Kerala, India, reported 21,309 tuberculosis (TB) cases. The state has a strong local governance structure comprising 941 Grama Panchayats (GPs) and 93 Urban Local Bodies (ULBs) which has supported TB elimination efforts since 2012, including nutritional support for Persons with TB (PwTB). However, audit concerns and the lack of clear policy guidelines led many local bodies to withdraw their support. Further challenges arose from the inconsistent participation of *Nikshay Mitras (*voluntary donors encouraged to provide nutritional support to PwTB) affecting the goals of the Pradhan Mantri TB Mukt Bharat Abhiyaan.
In response, the State TB Cell engaged policymakers for sustainable, policy-backed nutritional support mechanism.
**Intervention or response:** To address this policy gaps related to TB nutrition support in GPs and ULBs, the State TB Cell under the Directorate of Health Services conducted a series of policy deliberations, stakeholder dialogues, analytical reviews, and expert consultations. This has explored various mechanisms, and policy instruments for integrating TB nutrition support into Local Self Governance.
**Results/Impact:** These discussions generated strong momentum and brought attention to challenges in financial audits and compliance. On March 6, 2025, the Local Self Government Department issued an official directive (G.O. (Rt) No. 623/2025/LSGD) with new policy guidelines to all GPs and ULBs to include nutritional support for TB patients in their annual plans. The directive provides permissive sanction for GPs and ULBs to supply monthly nutritional food kits worth INR ₹1,500 to consented TB patients for up to 21 months. The policy enables implementation through multiple funding sources, including Development Grants, Own Funds, Fifteenth Finance Commission Grants while emphasizing monitoring, awareness, systematic evaluation and sustainability.

integrated algorithm, implementation strategies, interactive case-scenario-based discussions. A mixed methods design was used to assess the impact. Quantitative data were collected through pre- and post-training assessments, while qualitative data from semi-structured interviews (conducted three months post-training) explored implementation enablers and barriers. Descriptive statistics and thematic analysis were applied.
**Results:** A total of 525 master trainer were trained with post-training knowledge increasing by 65%.


These trainers along with program officers enabled cascade trainings in 20 out of 26 states/UTs, leading to BPaLM initiation. Qualitative findings highlighted improved interdisciplinary coordination, enhanced clinical confidence, and effective translation of guidance into practice.
Direct engagement with experts and case-based discussions were cited as key enablers. Identified challenges included variable readiness across states, logistic challenges and the need for ongoing mentoring.
**Background and challenges to implementation:** India has 26% of the global Multi-Drug/ Rifampicin Resistant Tuberculosis (MDR/RR-TB), posing significant challenges in favourable treatment outcomes. India declared policy to roll out countrywide implementation of BPaLM regimen for management of DRTB cases. This study evaluates the impact of a nationwide, rapid capacity-building initiative designed to accelerate the state wise scale-up of the BPaLM regimen, as a game-changer - across India's complex health system.
**Intervention or response:** A national and series of regional workshops were conducted over 1.5-month, targeting a multidisciplinary audience including clinicians, laboratory personnel, supply chain managers, public health technocrats, and administrators. The workshops had well-planned agenda focusing global and country evidence, focusing on guideline dissemination, complex diagnostic challenges, integrated algorithm, implementation strategies, interactive case-scenario-based discussions. A mixed methods design was used to assess the impact. Quantitative data were collected through pre- and post-training assessments, while qualitative data from semi-structured interviews (conducted three months post-training) explored implementation enablers and barriers. Descriptive statistics and thematic analysis were applied.
**Results/Impact:** A total of 525 master trainer were trained with post-training knowledge increasing by 65%.

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**Conclusions:** This nationwide initiative, featuring direct interaction with guideline developers and fostering multidisciplinary collaboration across laboratory, supply chain, and public-private sectors, effectively drove BPaLM implementation in India, highlighting the critical role of targeted training and expert engagement in rapid DR-TB scale-up.

## EP56-1244-21 Social protection and TB: Policy production before, during, and after the COVID-19 pandemic in Rio de Janeiro, Brazil

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**Background:** The COVID-19 pandemic disrupted health and social systems globally, prompting emergency responses and policy adaptations. However, its specific impact on the formulation of TB-related social protection policies remains under-investigated. This study examines the annual trend in municipal normative document production concerning social protection and tuberculosis in the state of Rio de Janeiro, Brazil, from 2014 to 2024.

**Design/Methods:** A documentary analysis was conducted using 75 normative documents with valid publication dates, identified from municipal databases. Documents were classified by year and organized into a time series to visualize trends across three periods: pre-pandemic (2014–2019), pandemic (2020–2022), and post-pandemic (2023–2024). The analysis focused on changes in volume and timing of social protection policies referencing TB or related vulnerabilities.
**Results:** There was a significant increase in normative document production during the pandemic period, with a peak in 2021. This suggests that emergency contexts can catalyze intersectoral policy action. The years 2014 to 2018 showed consistently low levels of normative activity, indicating limited policy engagement in TB-related social protection during stable periods. In contrast, a notable decline in new policies occurred in 2023 and 2024, signaling a potential risk of discontinuity in social support actions related to TB.

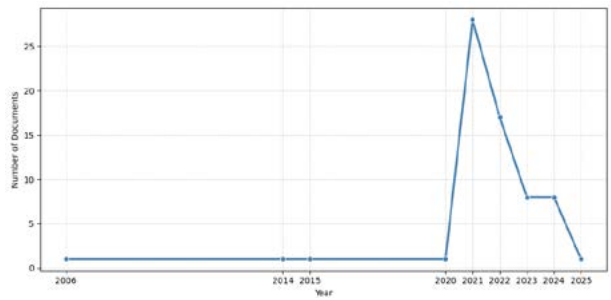


*Figure 1 - Total Number of TB-Related Social Policy Documents Published per Year (2014–2024).*

**Conclusions:** The COVID-19 pandemic functioned as a policy accelerator, driving the rapid creation of social protection norms. However, the post-pandemic decline underscores the fragility of emergency-driven initiatives and the lack of institutionalization of long-term policies. Strengthening the integration of social protection into TB control strategies requires the transition from reactive to permanent, structured policy responses. Ensuring continuity beyond crises is critical to address social determinants and reduce TB vulnerability sustainably.

## EP57 Rapid diagnostic and resistance testing

### EP57-1245-21 Validating proficiency testing panels for Xpert® MTB/XDR assay using CDC's DTS technology for EQA PT program

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**Background:** Following WHO's 2021 endorsement, the Xpert® MTB/XDR assay has been widely adopted for detecting drug-resistant tuberculosis (DR-TB). The assay is a reflex test to detect resistance to fluoroquinolones (FLQ), isoniazid (INH), ethionamide (ETH) and second-line injectables (SLI).
However, unlike other molecular tests, currently no External Quality Assurance (EQA) Proficiency Testing (PT) program exists for this assay.
Indian Council of Medical Research-National Institute for Research in Tuberculosis (ICMR-NIRT), Chennai, India with support from FIND, validated PT panels using CDC's Dried Tube Specimen (DTS) technology to address this gap.
**Design/Methods:** Seven well characterized *M.tb* isolates were selected, sub-cultured and chemically inactivated in July' 24. For selection, before inactivation, *M.tb* quantification was done by checking Growth Units (GU) in liquid culture (LC) and by testing on Xpert® MTB/Rif.
Non-viability was confirmed by sub-culturing isolates in LC for 84 days in Oct'2024. Inactivated stocks were stored at $4^0$C.
Validation criteria for *M.tb* detection includes:
a. Quantification within medium to low range,
b. Standard deviation within 3 and;
c. Coefficient of variation within 10 for Probe A Ct values on Xpert® MTB/Rif assay as quantification results are not available on MTB/XDR assay.
For drug resistance, detection of resistance to FQs, IHN, SLID and ETO, on Xpert® MTB/XDR assay against known results, was considered as validation criteria.
Since, diluted stock gave "very low" results on MTB/Rif assay, validation of panels was done using direct stock for five aliquots of each strain on both assays in Oct'24.
**Results:** Test results on five aliquots of seven strains confirmed that the isolates met the validation criteria for detection of *M.tb* and drug resistance profiles (Figure 1).
**Conclusions:** PT panels for Xpert® MTB/XDR assay can be successfully prepared using CDC's DTS technology, enabling the introduction of EQA programs to ensure testing quality.