FINAL REPORT

Assessing Impact of LIFT-TB Project to Fast-track Access to BPaL-based Regimens

March 2026

IQVIA

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Abbreviations

AAC	Access Advisory Committee
aDSM	Active Drug Safety Monitoring
BPaL	Bedaquiline, Pretomanid, and Linezolid
BPaLM	Bedaquiline, Pretomanid, and Linezolid Moxifloxacin
COVID	Corona Virus Disease
CSO	Civil Society Organization
DALYs	Disability-Adjusted Life Years
DR-TB	Drug-Resistant Tuberculosis
DST	Drug Susceptibility Testing
EECA	Eastern Europe/Central Asia
EMR	Electronic Medical Records
FTTC	Fast Track the Cure
GDEF	Global Disease Eradication Fund
GDF	Global Drug Facility
HIV	Human Immuno-Deficiency Virus
ID	Indonesia
INGO	International Non-Governmental Organization
ITRC	International TB Research Centre
KG	Kyrgyzstan
KNCV	Koninklijke Nederlandse Centrale Vereniging (TB Foundation)
KOICA	Korea International Cooperation Agency
LIFT-TB	Leveraging Innovation for Faster Treatment of Tuberculosis
MAF-TB	Multisectoral Accountability Framework for TB
MDR-TB	Multi-Drug-Resistant Tuberculosis
M&E	Monitoring and Evaluation
MM	Myanmar
MRS	Medical Record System
NGO	Non-Governmental Organization
NTP	National Tuberculosis Program
OECD-DAC	Organisation for Economic Co-operation and Development - Development Assistance Committee
OR	Operational Research
PeerLINC	Peer-to-Peer Learning for Innovative Cures
PGK	Pyi Gyi Khin
PH	Philippines

PLHIV	People Living with HIV
RPRI	Respiratory Programmatic Implementation and Research Institute
RR-TB	Rifampicin-Resistant Tuberculosis
SCDI	Center for Supporting Community Development Initiatives
SDG	Sustainable Development Goal
SEA	Southeast Asia
SOP	Standard Operating Procedures
TA	Technical Assistance
TB	Tuberculosis
TDF	Tropical Disease Foundation
TOT	Training of Trainers
TPT	TB Preventive Treatment
UA	Ukraine
UZ	Uzbekistan
UHC	Universal Health Coverage
UN	United Nations
UN-HLM	UN High-Level Meeting
USAID	United States Agency for International Development
VN	Vietnam
WHO	World Health Organization
XDR-TB	Extensively Drug-Resistant Tuberculosis
YKI	Yasa Karsa Insani – Indonesia

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Executive Summary

Project Overview

Set in the backdrop of poor treatment success rates of DR-TB at that time, the Leveraging Innovation for Faster Treatment of Tuberculosis (LIFT-TB) project was aimed to save lives and livelihoods focusing on seven high TB/DR-TB burden countries. LIFT-TB was launched in late 2020, just five months after the first WHO guidelines recommending use of the new, short, all-oral DR-TB treatment under operations research conditions were announced. LIFT-TB started with operational research (OR) in the Philippines, Myanmar, Indonesia, Vietnam, Uzbekistan, Kyrgyzstan, and Ukraine. This was followed by support for programmatic implementation of the new treatments. LIFT-TB was co-funded by the Korea International Cooperation Agency (KOICA) and TB Alliance (TBA), and the new treatment it helped introduce rapidly is the BPaL regimen (bedaquiline, pretomanid, and linezolid) for treating highly drug-resistant TB. BPaL was introduced to shorten the long, arduous and ineffective treatments which were in use until 2020. Key components of the project included national evidence generation and policy formulation, coordinated technical assistance, strengthening of laboratory capacity (through training, equipment and quality materials), and support to National TB Programs (NTPs) for implementing and scaling up the novel regimen. This multi-partner effort sought to save lives by broadening access to better, faster TB cures in alignment with national and global TB strategies

Impact Assessment Objectives and Methodology

This impact assessment report was commissioned to evaluate LIFT-TB's performance and outcomes across key criteria (relevance, effectiveness, efficiency, impact, sustainability, coherence, connectedness, and equity). Its objectives were to determine how well the project met its goals of improving the completion of drug-resistant TB treatment and strengthening health systems in the target countries. The assessment employed a mixed-methods approach: quantitative analysis of project data (including patient enrollment and treatment outcomes) and qualitative insights from stakeholders. Data sources included LIFT-TB's OR results, national TB program records, and interviews with national and global key informants such as NTP managers, principal investigators in all seven countries. By triangulating these inputs, the evaluators examined both the measurable outcomes (e.g. treatment success rates, diagnostics improvement) and contextual factors influencing implementation. This rigorous methodology ensured a comprehensive review of LIFT-TB's achievements and lessons for future TB initiatives.

Key Assessment findings

Overall, the evaluation found that LIFT-TB was highly successful and met its core objectives. The project demonstrated strong relevance to country needs and WHO guidance, and it achieved outstanding treatment outcomes alongside significant capacity building. Beyond the project core objectives, further uptake was stimulated beyond the seven countries through intentional experience sharing facilitated by TB Alliance.

Relevance

The LIFT-TB project demonstrated strong relevance at global, national, and local levels. It aligned closely with WHO's End TB Strategy, UN-HLM commitments, and SDG 3.3 by enabling the adoption of six-month BPaL/M regimens and strengthening the systems required for their safe use. Through OR and real-world data generation, the project informed WHO guidance and accelerated national guideline updates across all seven countries. Stakeholders emphasized that LIFT-TB arrived at the right moment, meeting urgent national needs for shorter, more tolerable DR-TB treatments, even in crisis settings like Ukraine and Myanmar. Its investments in laboratory capacity, clinical training, and pharmacovigilance provided the operational foundation for routine programmatic use. The project also responded to patient needs by replacing long, toxic regimens with shorter, all-oral options and by engaging survivor networks to improve treatment literacy and equity. Importantly, standardized protocols, training materials, and tools became

institutionalized within national systems, ensuring continued relevance and sustainability beyond the project period.

Effectiveness

The LIFT-TB project was highly effective, with most indicators fully achieved or exceeded across all seven countries. Clinical outcomes were outstanding, with BPaL/BPaLM average overall success rate across countries ~91% (86-90% in Central Asia and 95-98% in Southeast Asia), far surpassing older MDR-TB regimens and driving strong patient acceptance and adherence.

The project rapidly translated OR into policy action, enabling swift national guideline updates and accelerated rollout of the six-month regimen. The regulatory achievements across the LIFT-TB countries demonstrated a highly effective and well-coordinated effort that directly accelerated access to BPaL/BPaLM regimens. By mid-2023, regulators in six of the seven countries had approved pretomanid, with Vietnam obtaining access through special permission/waiver until the time of writing this report, reflecting strong progress. Timely regulatory approvals were supportive of swift incorporation of the regimens into national policy after completion of ORs.

Strengthened laboratory capacity, clinical training, and drug-safety monitoring systems supported safe, high-quality implementation. Cross-country learning, community engagement, and strong national ownership further amplified effectiveness, reinforcing confidence in the regimen and enabling broader, faster scale-up.

Efficiency

The LIFT-TB project was widely recognized by responders in this assessment as highly efficient, with strong coordination, clear role division, and effective partner communication enabling smooth implementation across seven countries. The project adapted quickly to major disruptions including COVID-19, political instability, and conflict, by shifting to virtual trainings, adjusting timelines, and reallocating resources to prevent delays. Efficient use of financial and human resources was evident as the project leveraged existing national supply chains, pharmacovigilance systems, and data platforms, avoiding parallel structures. Use of standardized protocols and applying shared training and learning models further reduced duplication and accelerated rollout. Stakeholders frequently noted that LIFT-TB delivered high impact with modest resources, demonstrating strong value for money under challenging conditions.

Impact

The LIFT-TB project generated significant, multi-level impact across clinical outcomes, national policy, health systems, communities, and the global TB landscape. Clinically, countries reported treatment success rates close to an average of 91% (varying between countries – 86-90% in Central Asia and 95-98% in Southeast Asia) alongside reduced mortality, and markedly improved patient experience due to elimination of injectables and the transition to a short, all-oral regimen. On the regulatory and program implementation front, all countries met or exceeded targets for regulatory submissions, pretomanid approval(except Vietnam which has smooth access through waivers), training coverage, activation of treatment sites, and the transition from OR to full programmatic rollout, supported by national and, in several countries, sub-national capacity-building in clinical care, data management, and laboratory systems. Nationally, all seven countries moved rapidly to adopt BPaL/M into official treatment guidelines, often ahead of schedule, driven by strong local evidence on safety, tolerability, feasibility, and readiness for scale up.

The project also strengthened core health system components like enhancing laboratory capacity (including pretomanid DST), upgrading aDSM platforms, improving clinical decision-making, updating training curricula, and resolving supply chain bottlenecks. Beyond project countries, LIFT-TB influenced global uptake of six-month DR-TB regimens through OR evidence, advocacy platforms, and more recently digital tools like Upskill TB, reinforcing the global momentum. At the community level, meaningful engagement of TB survivor networks in selected countries like Indonesia, Philippines and Vietnam reduced treatment

stigma, improved treatment literacy, and increased demand for the new regimen. Overall, LIFT-TB delivered high, sustained impact from the patient bedside to global policy forums.

Sustainability

LIFT-TB's sustainability outlook is strong with all seven countries having formally adopted BPaL/M into national guidelines, strengthened laboratory and aDSM systems, and institutionalized training and tools, creating durable capacity for ongoing regimen delivery. Survivor networks further reinforce continuity through community led monitoring and advocacy. While countries have begun integrating BPaL/M into procurement plans, domestic financing gaps and recent disruptions in donor funding are key risks for sustaining quality TB care, though the value for money of BPaL/M will make the regimen even more relevant in the current funding environment.

Coherence

The project was viewed as highly coherent, maintaining a unified, evidence-based strategy across diverse settings. TB Alliance's coordination, coupled with alignment to WHO guidelines and harmonized technical approaches across partners, ensured consistent implementation and avoided fragmentation despite external pressures in challenging contexts like Ukraine (amid a full-scale war) and Myanmar (political instability).

Connectedness

LIFT-TB demonstrated strong connectedness by linking global, national, and community-level actors; facilitating cross-country learning through platforms like Upskill TB and PeerLINC; and integrating TB survivor networks into formal program processes. Built-in transition planning ensured that systems developed during OR seamlessly carried into national scale-up, preventing post-project gaps. Learnings from the project were smoothly disseminated to other countries widening impact

Gender and equity

LIFT-TB strongly upheld the principle of "no one left behind," deliberately focusing on high-burden or under-prioritized countries such as Kyrgyzstan and Uzbekistan to ensure equitable access to the new DR-TB regimens. Equity in enrollment was generally strong. Some specific examples shared by country representatives include: Kyrgyzstan and Uzbekistan enrolled all clinically eligible patients regardless of socioeconomic status, geography, or vulnerability. Ukraine, despite security limitations, included vulnerable groups such as PLHIV and low-income individuals where feasible. The project continued despite challenges due to political upheaval in Myanmar through close coordination and support provided to the local project team. Post-OR during programmatic implementation, Vietnam expanded BPaL to all 63 provinces and used survivor networks to monitor inclusive enrollment, while Myanmar extended implementation across both urban hospitals and more remote settings.

Looking ahead, countries are embedding equity into BPaL/M rollout through decentralization and community-based approaches such as Uzbekistan's plans to partner with regional clinics and Kyrgyzstan's exploration of outreach to prisons and remote communities to close remaining access gaps in difficult-to-reach or high-risk areas. However, outreach to prisons remained a limitation for the project, as this approach (while explored by Kyrgyzstan) was not adopted by other countries in their rollout plans, leaving an unaddressed access gap.

Recommended Next Steps

1. **Strengthen implementation support:** Post LIFT-TB, TB Alliance should institutionalize a structured implementation playbook for its future products and expand the use of local technical assistance to ensure fast, context-driven rollout. This would involve TB Alliance contributing technical materials and coordination, NTPs integrating these approaches into national procedures, and donors continuing to resource country-level support. Embedding mentorship at district level may also help sustain gains beyond project cycles.

2. **Enhance knowledge sharing:** TB Alliance should maintain an open, ideally updated repository of tools and promote regular cross-country learning. TB Alliance may continue curating shared resources, which NTPs and partners can use and adapt them to local contexts. Regular cross-country exchanges, virtual and in-person, offer opportunities to sustain collaborative learning and spread effective practices that will inherently serve as a model for future global health investment.
3. **Advance decentralization and equity:** Decentralization of BPaL/M to district-level care should continue to be pursued by TB Alliance in collaboration with donors and countries who should consider including in a targeted manner, inclusion of neglected populations such as people in prisons and remote communities. TB Alliance should disseminate project findings to enable NTPs to position district-level service delivery as the backbone of DR-TB care, supported by donor investment in activation waves and implementing partners offering operational assistance.
4. **Strengthen supply chain and forecasting:** NTPs, TB Alliance, suppliers, and donors each play a role in supporting more predictable supply flows and mitigating disruptions. Last-mile delivery improvements, especially in remote or unstable settings, remain a potential area for further strengthening. Countries should adopt multi-channel procurement options and implement rolling forecasts with buffer-stock plans.
5. **Ensure diagnostics and DST readiness:** Diagnostic capacity must grow alongside regimen expansion. A unified DST roadmap, developed with support from TB Alliance and operationalized by national laboratories, with oversight from SRLs, can help ensure timely eligibility assessment and safety monitoring. Early investments supported by donors and implemented by NTPs may help avoid delays.
6. **Accelerate policy and regulatory alignment:** For future products, guideline updates, EDL inclusion, and procurement approvals should be streamlined. NTPs, regulatory authorities, and TB Alliance can play complementary roles. At the same time, stronger coordination between TB, HIV, NCD, and primary care units may contribute to more integrated patient pathways.
7. **Strengthen financing and sustainability:** Countries should adopt multi-year domestic financing plans supported by health economics analyses. Ministries of Health and Finance may explore such approaches, while donors can assist by aligning grant structures. Health economics and forecasting tools developed by TB Alliance and used by NTPs, can inform planning for future procurement and funding requests. TB Alliance should make this tool available to countries early on for future products.
8. **Integrate data systems:** National EMRs should incorporate standard BPaL/M indicators, supported by early data-sharing agreements. NTPs, national IT units, and TB Alliance can collaborate on standards and dashboard development, while implementing partners may support data-quality processes.
9. **Maintain aDSM and safety monitoring:** As programmatic rollout advances, sustaining pharmacovigilance including aDSM registries and safety signal reviews remains important. Building on lessons from the LIFT-TB evaluation, TB Alliance can continue to play a facilitating role by supporting harmonized aDSM approaches, sharing tools and guidance, and enabling cross-country learning on safety monitoring, while NTPs, reference labs, and regulatory authorities all have a part to play in ensuring robust, coordinated safety oversight.
10. **Build workforce capacity and conduct evaluations:** Annual updates to training curricula and periodic independent evaluations are important to maintain quality, consistency and safety of BPaL/M service delivery. The evaluations can guide future improvements in training content, service delivery models, safety monitoring, and program scale-up strategies. TB Alliance, training institutions, NTPs, and donors can each contribute to sustaining workforce capacity and generating evidence to inform continuous improvement..
11. **Wider community engagement:** Community involvement remains central to treatment success. We recommend TB Alliance include community engagement in a larger number of countries to the extent possible for future products and projects.

The LIFT-TB model has demonstrated how transformative and catalytic funding can drive system level change. These recommended next steps to TB Alliance, donors and LIFT-TB participating countries are

meant to serve as a cheat sheet to help maximize returns on the investment in and progress made by LIFT-TB. They also serve as a guide for future products and access projects introduced by TB Alliance, donors and the wider TB community to ensure rapid, sustainable, and equitable impact across TB programs globally.

CONTEXT & PROJECT DESCRIPTION

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1. CONTEXT AND PROJECT DESCRIPTION

1.1 Background – TB status

Tuberculosis (TB) remains one of the world's biggest public health challenges, with drug-resistant TB (DR-TB) posing one of the most significant barriers to ending the TB epidemic. The WHO Global TB Report 2025 estimates that 390,000 people developed MDR/RR-TB in 2024, causing around 150,000 deaths. Yet only two in five patients receive treatment due to outdated treatments that were expensive, toxic, and lengthy. DR-TB requires second-line drug regimens that are significantly more expensive than those used for drug-susceptible TB. As reported by WHO (2023), the earlier DR-TB regimens costed ≥US $1,000 per person, were more complex, and used to cause more adverse events than the first-line treatments[1].

MDR-TB has been reported in every high TB burden country, demonstrating how entrenched drug resistance has become globally, particularly in low- and middle-income countries. WHO data shows that about 30 high-burden countries account for 87% of global DR-TB and TB cases, with just eight countries contributing 67% of all DR-TB and TB cases: India, Indonesia, Philippines, China, Pakistan, Nigeria, Democratic Republic of Congo, and Bangladesh[2].

Rank	Country	Share (%)
1	India	25.0%
2	Indonesia	10.0%
3	Philippines	6.8%
4	China	6.5%
5	Pakistan	6.3%
6	Nigeria	4.8%
7	DR Congo	3.9%
8	Bangladesh	3.6%

Despite measurable progress in diagnosis and treatment innovation, high-burden countries face significant challenges in detection, treatment access, and drug resistance management. Among the seven LIFT-TB countries, the Southeast Asian countries – Indonesia (382 per 100,000) and Philippines (625 per 100,000) [3], continue to bear the highest incidence of DR-TB and TB cases. Myanmar also, with a very high TB incidence (475 per 100,000, categorized by WHO as "highly endemic"), was among the major contributors to the post-2020 rise in TB/DR-TB cases worldwide.

In Central Asia, TB incidence rates have been on the rise posing a complex challenge due to high levels of drug resistance. As of 2023, Kyrgyzstan and Ukraine each reported TB incidence rates of approximately 112 per 100,000 population[4,5], while Uzbekistan also carried a substantial burden (57 per 100,000[6]). Collectively, Central Asian countries report more than 34,000 TB cases annually, including over 8,000 cases of multidrug-resistant or rifampicin-resistant TB (MDR/RR-TB)[7].

1.1.1 DR-TB treatment access and coverage

DR-TB remains significantly harder to find, treat, and cure due to major gaps in diagnosis and treatment access. Diagnosing DR-TB requires specialized laboratory tests including molecular assays and drug-susceptibility testing, that are not readily accessible in many countries, contributing to slow and incomplete detection. These limitations mean that diagnosis can take weeks to months, leaving many people untreated during the most infectious phase[8].

However, once diagnosed, DR-TB is also more difficult to cure. The historical WHO-recommended treatment regimens for MDR-TB/RR-TB was lengthy, complex, and highly toxic, often requiring 9-20 months of therapy using combinations of five to seven second-line drugs, many of which included painful and toxic injectable agents such as kanamycin or amikacin[9,10].These earlier regimens carried a heavy pill

[1] https://www.who.int/teams/global-programme-on-tuberculosis-and-lung-health/tb-reports/global-tuberculosis-report-2023/tb-diagnosis---treatment/drug-resistant-tb-treatment
[2] https://cdn.who.int/media/docs/default-source/global-tuberculosis-report-2025/global-tb-report-2025_factsheet.pdf
[3] https://reliefweb.int/report/world/act-now-end-tb-south-east-asia-region-2024
[4] https://data.who.int/countries/417
[5] https://data.who.int/countries/804
[6] https://data.who.int/countries/860
[7] https://afew.org/tb-free-central-asia-five-countries-unite-to-end-tuberculosis-by-2030
[8] https://www.cdc.gov/global-hiv-tb/media/pdfs/2025/03/2025_DGHT_DR-TB_Factsheet.pdf
[9] https://www.currytbcenter.ucsf.edu/sites/default/files/2022-12/SG3_2022_Chapter4_Treatment.pdf
[10] https://www.who.int/teams/global-programme-on-tuberculosis-and-lung-health/tb-reports/global-tuberculosis-report-2024/tb-diagnosis-and-

burden, with patients taking over 14,000 pills throughout the course of treatment[11], a factor that contributed significantly to treatment fatigue and poor adherence. The drugs used were not only numerous but also associated with severe side effects including permanent hearing loss, kidney injury, gastrointestinal intolerance, and neurotoxicity, resulting in substantial treatment discontinuation, which often undermined adherence and contribute to treatment failure. Success rates remained modest, with MDR-TB cure rates[12] typically around 52–60% and XDR-TB cure rates[13] around 43%. As a result, only about 165,000 patients (or 42% of the estimated 390,000 DR-TB cases) were started on treatment for rifampicin-resistant or multidrug-resistant TB (MDR/RR-TB) in 2024[14]. This persistent treatment gap reflects deeper access and detection barriers for DR-TB patients.

Another critical aspect of access is the affordability and financial burden of TB care. Nearly 47% of TB-affected households globally incur catastrophic health costs (exceeding a large share of annual income), a figure that soars to about 82% among families dealing with drug-resistant TB[15]. Reducing these costs can greatly improve treatment uptake and adherence. Moving forward, improving treatment coverage will require not only new medical tools but also patient-centric support (such as social protection, nutritional support, and enablers) to ensure that no one is left behind due to inability to pay or difficulty accessing care.

1.1.2 New treatment regimens for DR-TB

Major breakthroughs were made in DR-TB therapy in recent years, shifting from long, toxic, injectable-based regimens to shorter, safer, all-oral combinations. Between 2018 and 2024, the World Health Organization (WHO) transformed global DR-TB treatment policy by endorsing shorter, safer, and fully oral regimens. In 2019, WHO updated its MDR/RR-TB treatment guidelines to support the transition to 9-12-month shorter treatment regimens (STRs), including the option (under operations research (OR) conditions) of replacing injectable second-line agents (SLIs) with bedaquiline (Bdq) to reduce toxicity and improve outcomes. In 2020, WHO further expanded the use of innovative regimens by allowing the BPaL regimen (bedaquiline, pretomanid, and linezolid) to be implemented under OR conditions for patients with highly drug-resistant forms of TB. In late 2022, building on strong evidence from clinical trials and experience from ORs, WHO formally endorsed 6-month all-oral regimens comprising pretomanid, bedaquiline, and linezolid, with or without moxifloxacin, known as BPaL and BPaLM, marking a major shift away from longer regimens and injectables. In 2025, WHO expanded these options further by introducing additional shorter regimens, including a 6-month BDLLfxC combination- bedaquiline, delamanid, linezolid, and either levofloxacin or clofazimine, and several new 9-month all-oral regimens (such as BLMZ, BLLfxCZ, and BDLLfxZ) specifically designed for patients without fluoroquinolone resistance who are not eligible for BPaL/M, reflecting an increasingly individualized and evidence-driven approach to DR-TB management. WHO's 2025 consolidated guidelines[16] and CDC's 2025 clinical guidance[17] recommended several 6-9-month oral regimens, supported by strong clinical trial evidence. The shorter DR-TB regimen ensures that every patient, regardless of geography, can access faster, safer, and more effective treatment, so as to recover quickly and return to their families and communities.

1.1.3 Key actors in TB/DR-TB services provision and their collaborative roles

Effective DR-TB and TB service delivery relies on a coordinated ecosystem of actors spanning national government, health systems, communities, and international organizations. The following are the primary actors involved in TB/DR-TB service provision:

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treatment/2-4-drug-resistant-tb-treatment

[11] https://www.who.int/teams/global-programme-on-tuberculosis-and-lung-health/tb-reports/global-tuberculosis-report-2024/tb-diagnosis-and-treatment/2-4-drug-resistant-tb-treatment

[12] https://www.thelancet.com/journals/laninf/article/PIIS1473-3099(09)70041-6/abstract

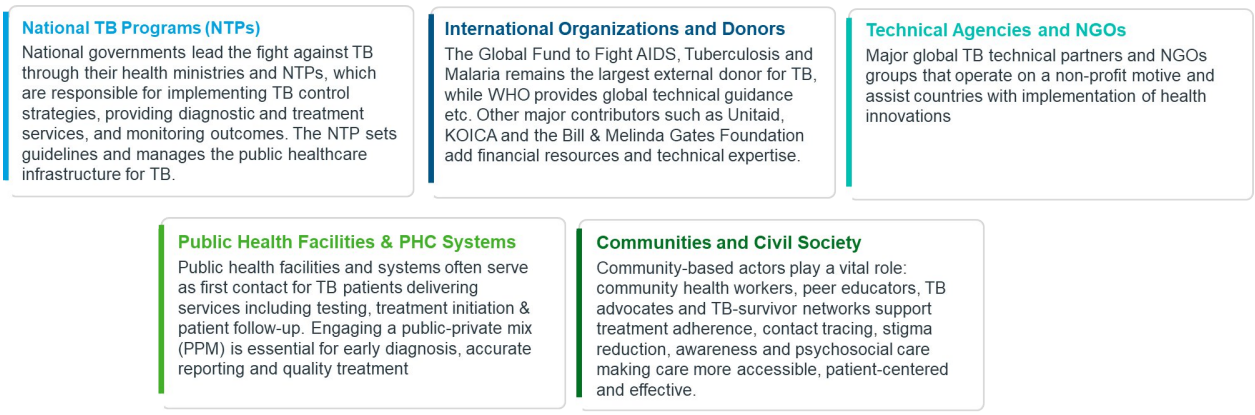
[13] https://www.emjreviews.com/microbiology-infectious-diseases/news/europe-faces-uphill-battle-against-extensively-drug-resistant-tuberculosis/

[14] https://cdn.who.int/media/docs/default-source/global-tuberculosis-report 2025/globaltbreport2025_slideset_forweb.pdf

[15] https://cdn.who.int/media/docs/default-source/global-tuberculosis-report-2025/globaltbreport2025_slideset_forweb.pdf

[16] https://www.who.int/publications/i/item/9789240107243

[17] https://www.cdc.gov/tb/hcp/clinical-guidance/index.html



The multiple actors – global, national, and health system levels – operate as an interconnected ecosystem that collectively drives progress against TB and DR-TB. The three actors/players align through continuous feedback loops, data reporting, financing flows, and periodic guideline updates. Global bodies refine policies based on country experiences, national programs adjust strategies accordingly, and health systems implement changes, creating a cohesive, mutually reinforcing TB/DR-TB response.

The LIFT TB project acted as a catalyst to strengthen alignment across all three levels. By translating global WHO guidance on shorter DR-TB regimens into practical tools, evidence, and country-level support, the LIFT-TB project helped national programs adapt policies more rapidly and health systems implement them effectively, which in turn accelerates access to shorter, safer, and more patient-centered DR-TB treatment.

1.2 The LIFT-TB Project

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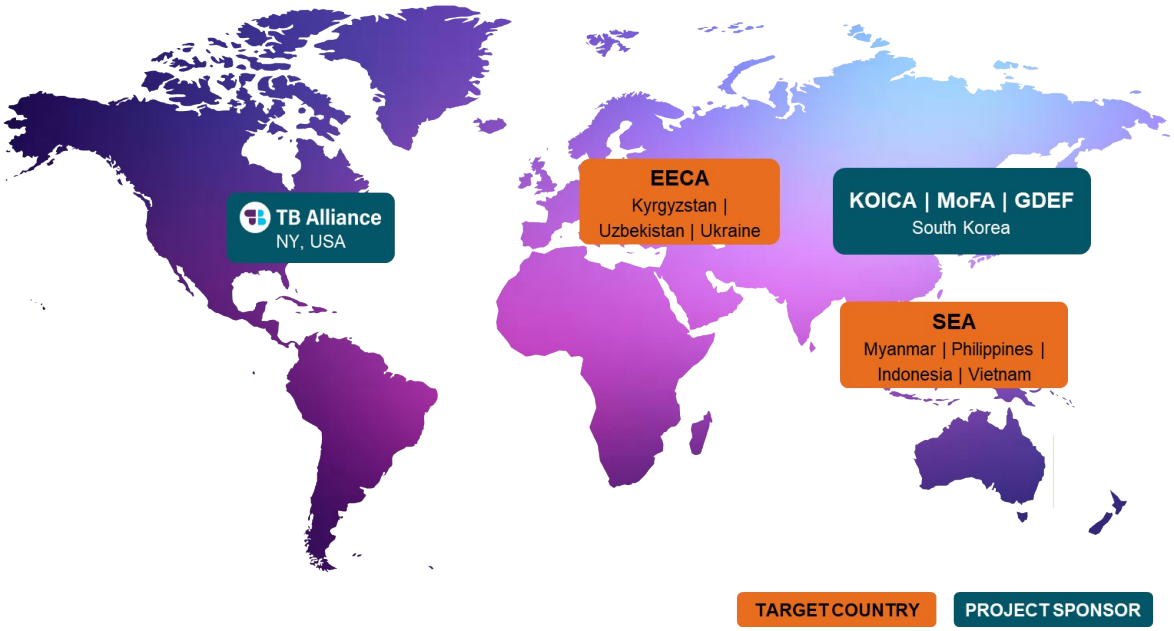
1.2.1 Project description

The LIFT-TB project was launched in 2020 to accelerate the adoption, rollout and programmatic scale-up of innovative, shorter treatment regimens, specifically BPaL and BPaLM, for drug-resistant tuberculosis (DR-TB). The primary goal of the project was to improve patient health outcomes while reducing the burden on health systems. It was intended to save lives and livelihoods of TB patients, their families and communities by broad adoption and scale up of improved TB treatment these regimens and reducing the health systems and epidemiological burden of highly drug-resistant tuberculosis specifically, XDR-, pre-XDR- and MDR-TB.

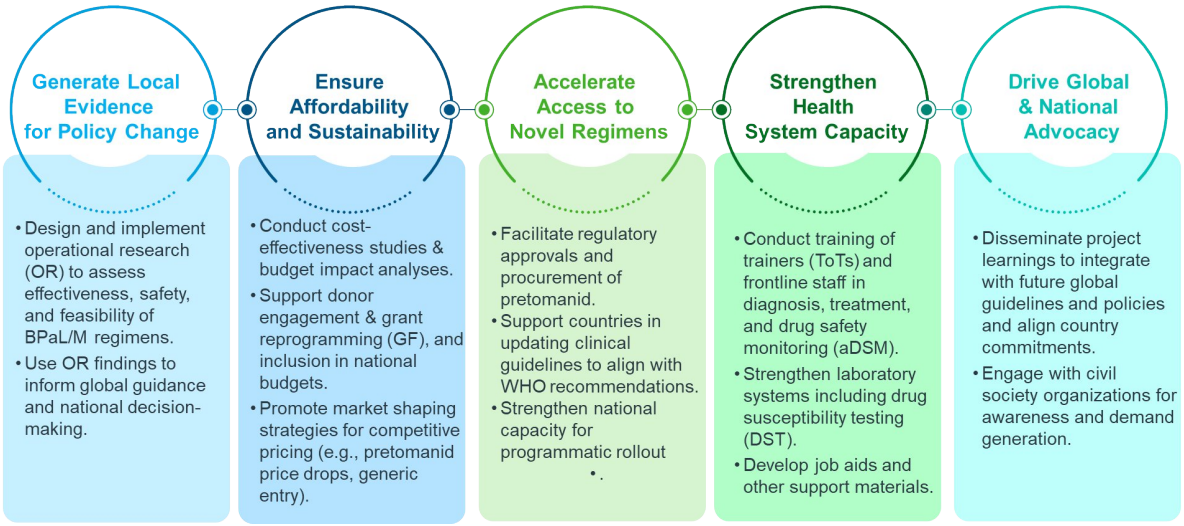
The LIFT-TB project was supported through the Global Disease Eradication Fund (GDEF), which was operated and managed by the Ministry of Foreign Affairs of South Korea and later operated by Korea International Cooperation Agency (KOICA) and TB Alliance (TBA). Lead implementing partners are TB Alliance and the International Tuberculosis Research Center (ITRC), located in Korea. There are several technical partners at global and national level including KNCV Tuberculosis Foundation, KNCV Vietnam, RPRI Indonesia, YKI Indonesia, TDF Philippines, PGK Myanmar, PATH/OATH Ukraine, etc.. The initiative operates in seven countries across Southeast and Central Asia and Eastern Europe namely Indonesia, Myanmar, the Philippines, Vietnam, Kyrgyzstan, Ukraine, and Uzbekistan. The countries were selected based on a combination of strategic and operational considerations. Priority was given to those with a high burden of multidrug-resistant tuberculosis (MDR-TB), ensuring the relevance of interventions to address pressing health challenges. Selection also reflected diversity in health system contexts to capture a range of governance, financing, and service delivery models. Countries that demonstrated willingness for early implementation, including participation in OR, were favored to accelerate learning and evidence generation. Additionally, countries were targeted in a manner to facilitate developing scalable models that can be adapted and replicated across similar settings in the region.

Figure 1: Countries and Sponsors of LIFT-TB



LIFT-TB Objectives: By combining OR, capacity building, technical assistance for national guideline development, regulatory and normative advocacy, and experience sharing, LIFT-TB aimed to transform DR-TB care through rapid evidence-based implementation and sustainable scale-up of these shorter, all-oral regimens. The major objectives of the project were:

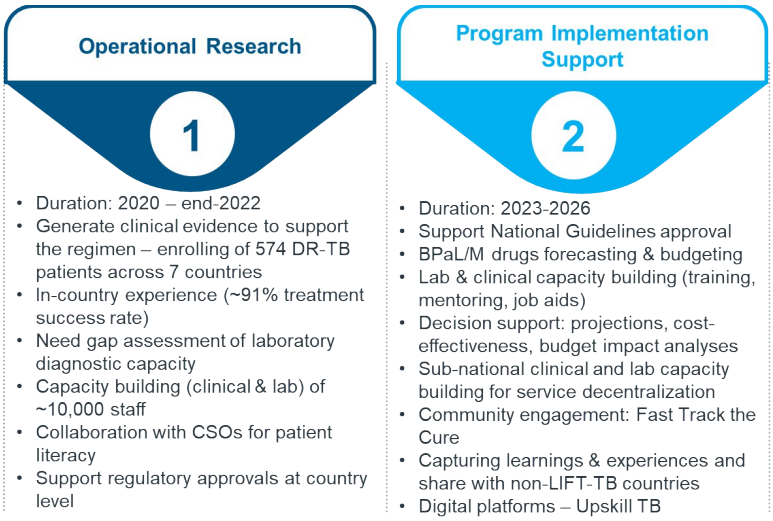
Figure 2: LIFT-TB Project Objectives



1.2.2 Project implementation phases and timelines

Figure 3: Implementation phases of the LIFT-TB Project

The LIFT-TB Project was implemented in two phases. The first phase was the OR phase conducted in the participating countries extending from Oct-2020 to Dec-2022. The second phase from Jan-2023 to March-2026 extended support for programmatic implementation and broader access in the seven countries. The major activities under the project's two phases are as specified in Fig 3.



1.2.3 Project intervention and outcomes – Country contexts

1.2.3.1 Core components

The LIFT-TB project centered on certain core components that includes generating real-world evidence through OR, integrating BPaL/BPaLM regimens into national policies, and strengthening health systems through capacity building and laboratory upgrades. It also prioritized community engagement and knowledge sharing and advocacy, including transforming its success to practicality through Upskill TB digital platform[18] and Fast Track the Cure (FTTC) initiatives, to ensure patient-centered care and sustain scale-up beyond the project period. These combined efforts enabled countries to adopt WHO-recommended regimens effectively and sustainably.

- **Operational research:** A key LIFT-TB intervention was generating real-world evidence to support the adoption of WHO-recommended six-month, all-oral regimens (BPaL/BPaLM) for drug-resistant TB. Unlike traditional clinical trials, this OR focused on practical implementation questions such as safety, generating real world evidence on efficacy, and integration into diverse health systems. By addressing country-specific policy gaps, the project provided ministries of health with timely data to guide decision-making and accelerate national guideline updates.
- **Policy and guidelines integration:** LIFT-TB worked closely with National TB Programs (NTPs) to integrate BPaL/BPaLM regimens into official treatment guidelines and essential drug lists. This was a critical milestone that transformed these regimens from pilot interventions into standard of care. This formal adoption ensured alignment with WHO norms and global best practices, providing countries with the regulatory and policy frameworks needed for scale-up. The policy change support included conducting health economics analyses through TB Alliance's SLASH-TB tool and real-world costing studies. In parallel, LIFT-TB supported regulatory approvals for pretomanid and by 2023, the drug had been approved by six regulatory authorities of the LIFT-TB countries with Vietnam having an access through special permission/waiver as at the time of this report.
- **Forecasting:** The LIFT-TB project focused on providing incremental capacity support to countries as they scale up DR-TB regimens, including strengthening forecasting, supply transition planning, and drug procurement. These efforts also involved working with commercial partners to ensure affordable pricing strategies, supported by cost-of-goods analyses and forecasting that inform procurement decisions and negotiation strategies.
- **Capacity building:** Recognizing the need for robust clinical and laboratory systems in countries, LIFT-TB invested heavily in capacity building. Over 10,000 clinicians, nurses, and laboratory

[18] Upskill TB digital platform (www.upskilltb.org) has been created with partners in Indonesia under LIFT-TB launched in the later half of year 2025.

professionals were trained in drug susceptibility testing (DST), adverse event monitoring (aDSM), and regimen-specific protocols. Trainings covered over 260 trainers for laboratory staff and a total of 87 national-level on-site trainings and 17 on-site trainings were conducted for clinical management and laboratory staff respectively. These efforts strengthened diagnostic networks, improved clinical decision-making, and built confidence among healthcare providers to safely implement innovative treatments.

- **System strengthening:** Beyond training, LIFT-TB upgraded laboratory infrastructure to enable pretomanid DST, enhanced pharmacovigilance workflows, and improved drug management systems. It also supported electronic data platforms for monitoring treatment outcomes and safety. These systemic improvements created a durable foundation for scaling up BPaL/M regimens and enhanced overall DR-TB program resilience. The LIFT-TB project also provided mentoring, monitoring, and support for decentralization to strengthen broader access to TB services across countries.
- **Decentralized care:** LIFT-TB fostered decentralized DR-TB care by capacitating facilities at sub-national level e.g., in districts and sub-districts, to safely deliver BPaL/BPaLM, aiming to reduce reliance on central hospitals in line with WHO's decentralized care model. It strengthened these peripheral sites with sub-national level capacity building for rapid diagnostics and task-shifting of clinical teams and introducing community support structures in selected countries – Indonesia, Philippines, Vietnam and Ukraine. Overall, the OR evidence accelerated national adoption of decentralized service delivery for DR-TB.
- **Community engagement:** LIFT-TB prioritized patient-centered care by engaging survivor networks and civil society organizations in selected countries- Indonesia, Philippines and Vietnam for accountability. These groups played a vital role in strengthening patient-centered approaches for reducing treatment stigma, supporting treatment literacy, and advocating for equitable access by leveraging treatment literacy initiatives and campaigns like FTTC and #6MonthsMax.
- **Knowledge sharing:** To facilitate implementation and stewardship, LIFT-TB developed standardized protocols, SOPs, job aids, and training modules that were institutionalized within national programs. The project builds on its success by transforming its OR outputs such as SOPs, training modules, and lessons learned into practical resources for scale-up and sustainability in other countries. Similarly, the Upskill TB digital platform (an expert-led online learning platform, developed by TB Alliance and the Indonesia Ministry of Health, will connect TB physicians worldwide with each other, especially experts from LIFT-TB participating countries, enable self-learning about using BPaLM/BPaLM. Finally, Fast Track the Cure (FTTC, a global advocacy and implementation initiative led by TB Alliance, facilitates knowledge sharing among communities for supporting community-led monitoring, advocacy and demand creation for improved DR-TB treatments.
- **Cost-effectiveness modeling:** To support countries in generating customized cost-effectiveness evidence for DR-TB regimen adoption, the LIFT-TB project introduced SLASH-TB (Savings from Leveraging & Adopting Shorter & Highly Effective TB Treatments) - a cost-effectiveness modelling tool developed by TB Alliance and the Swiss Tropical and Public Health Institute. SLASH-TB enables countries to estimate annual cost savings when switching all eligible DR-TB patients from standard longer regimens to BPaL/M, assess the cost-effectiveness of such a transition, and model five-year real-world cost trajectories across different regimen-use scenarios. The tool also conducts budget impact and health impact analyses, capturing total savings for both health systems and affected households, including patients, families, and caregivers and DALYs averted. By providing rigorous economic evidence, SLASH-TB strengthened national decision-making in project countries where it was required, supports Global Fund grant applications and internal budgeting, and helps countries articulate the financial and public health value of adopting shorter, highly effective DR-TB regimens.

1.2.3.2 Project outcomes

The LIFT-TB project had targeted two major outcomes in the seven target countries. The first outcome had three outputs and the second had two outputs which are as shown below.

Figure 4: Targeted Outcomes of the LIFT-TB project

Outcome 1. Increase in treatment completion rates for drug resistant-TB in population in target countries	**Outcome 2. Broadening availability and sustainability of improved drug resistant-TB regimens in target countries**
Output 1.1 Innovative treatments for drug resistant-TB are able to be implemented in target countries with updated local policies for adoption of new and/or enhanced treatments (via OR and programmatically) **Output 1.2** Enhanced management capacity of new and/or enhanced treatments for drug resistant-TB in the target countries through needs assessments and trainings **Output 1.3** Target countries implement innovative treatment for drug resistant-TB with strengthened lab, drug safety, and procurement systems	**Output 2.1** Broadening availability of improved drug resistant-TB regimens in target countries by supporting pretomanid approvals and supply **Output 2.2** Secured sustainability of pretomanid based regimens for DR-TB in target countries by reprogramming existing grants and integration into national budgets and markets, as needed

Key Achievements of the LIFT-TB project

- **Successful completion of OR:** Enrolled 576 DR-TB patients (Nov 2020 – Mar 2023) for OR with adverse events managed successfully.
- **High treatment success rates:** ~86–98% across targeted countries (~91% overall) among DR-TB patients enrolled
- **Rapid uptake:** Local programmatic implementation starting as early as <2 months after WHO's endorsement in December 2022.
- **Sustainable scale-up:** Partnered with national TB programs to embed forecasted use and procurement of BPaL regimens into policy and practice in all 7 countries.
- **Local leadership:** All seven project target countries are now early adopters and champions of these regimens.

1.2.3.4 Country-level implementation and achievements

The LIFT-TB project enabled successful OR of the BPaL regimen across seven countries, achieving high success rate of 91% overall by strengthening decentralized MDR-TB care models. OR under LIFT-TB enrolled a total of 576 patients, with country-specific OR success rates ranging from 86% to 98%. Kyrgyzstan recorded the lowest success rate (86%), while Philippines achieved the highest (98%). A distinct regional pattern was visible with the Central Asian countries - Kyrgyzstan, Uzbekistan, and Ukraine, recording success rates in 86%–90% range, whereas Southeast Asian counterparts (Indonesia, Myanmar, Philippines, Vietnam) achieved higher success rates between 95% and 98%. This demonstrates strong overall treatment performance, with particularly high outcomes in Southeast Asian countries and slightly lower outcomes among Central Asian countries due to patient, pathogen and system level factors.

The project worked closely with NTPs to ensure alignment with WHO-endorsed guidelines, and policy changes were completed in all participating countries through early 2023 to early 2024, enabling national adoption and several countries integrating TB services into primary health care. All seven countries successfully transitioned from OR to programmatic enrollment. The LIFT-TB project advanced rapidly, with five out of the seven countries initiating implementation even prior to formal guideline approval, indicating strong national momentum. Budget updates to include pretomanid were completed, and orders for medicine supplies placed soon after, enabling drug availability in 2023 or early 2024 across the project countries. Training and job aids were rolled out between 2023 and early 2024, facilitating timely readiness of healthcare workers and systems.

Indonesia, Philippines, Ukraine, and Vietnam were supported for sub-national capacity building, extending coverage to strengthen decentralized care for DR-TB. Civil society support played an important role in

Indonesia, Philippines, and Vietnam, strengthening community engagement and patient support mechanisms. Country-wise implementation highlights and achievements are summarized in table 1

Table 1: Country-wise implementation and achievements under the LIFT-TB project

Country	OR Protocol Approved	Patients Enrolled on OR	OR Success Rate	WHO Guidelines Update	Local Clinical Guidelines Update	Budget Updated to Include Pa	Supply Order Placed	Job Aids Available	Drug Available	Trainings	CSO Support	Programmatic Enrollment	Sub- national Capacity Building
Indonesia	✓	87	95.3%	✓	*Q1 2024	Q2 2023	Q1 2023	Q1 2024	Q1 2024	Q3 2023	2022-24	*Q2 2023	Q3 2023
Kyrgyzstan	✓	50	86.0%	✓	*Q3 2023	Q2 2023	Q2 2023	Q3 2023	Q2 2023	Q2 2023		*Q2 2023	
Myanmar	✓	100	95.0%	✓	*Q3 2023	Q2 2023	Q2 2023	Q3 2023	Q2 2023	Q3 2023		*Q3 2023	
Philippines	✓	103	98.0%	✓	Q4 2023	Q2 2023	Q2 2023	Q1 2024	Q2 2023	Q4 2023	2021-24	Q4 2023	Q3 2024
Ukraine	✓	153	89.6%	✓	*Q1 2023	Q1 2023	Q1 2023	Q2 2023	Q2 2023	Q2 2023		*Q2 2023	Q3 2024
Uzbekistan	✓	43	87.5%	✓	*Q3 2023	Q2 2023	Q3 2023	Q1 2024	Q1 2024	Q4 2023		*Q2 2024	
Vietnam	✓	40	95.0%	✓	Q1 2024	Q2 2023	Q2 2023	Q2 2024	Q1 2024	Q1 2024	2023-24	Q2 2024	Q2 2025

Note: * - implementation started prior to formal approval of guidelines

1.2.4 Project Resources (Finance)

The LIFT-TB project was funded jointly by KOICA and TB Alliance.

1.2.5 Project stakeholders

The LIFT-TB project operated through a collaborative network of diverse partners and stakeholders, each playing a critical role in its success. At the forefront are National TB Programs (NTPs), which lead implementation efforts and ensure policy alignment at the country level. Complementing these efforts, Ministries of Health provide governance, allocate resources, and integrate TB interventions within broader national health systems.

In addition, civil society organizations (CSOs), NGOs, and INGOs deliver community-based interventions, patient support, and advocacy to enhance access and equity. Public hospitals played a pivotal role in conducting OR and building capacity, ensuring evidence-based decision-making. Finally, community representatives and patient literacy and advocacy networks ensure that the program remains patient-centered by providing feedback and fostering trust between health systems and affected populations. The overall stakeholders of the LIFT-TB project are listed in Table 3.

Table 2: Key stakeholders for the LIFT-TB project and their roles in the project

Stakeholder Group	Entity	Primary Role in LIFT-TB
Donor	KOICA	Financing & oversight
Lead Implementor	TB Alliance	Financing, overall strategy & oversight; Partner management; monitoring; Direct engagement with CSOs & patient advocacy groups
Government bodies	• Government – National TB Program (NTP) • Ministries of Health • Provincial/District health authorities	• Lead implementer & technical authority • Policy, financing & governance • Decentralized service delivery
Lead Technical Partner - Global	ITRC	• TA for diagnostics, lab & training; BPaL/M scale-up; sharing project learnings
Technical Partner - Global	KNCV	• OR lead including OR protocol, guidance, data capturing tools, analysis. • Initial implementation: roll out

Stakeholder Group	Entity	Primary Role in LIFT-TB
		planning and policy development
Technical partners – National	CSOs/NGOs/	• OR: protocol approval, management and facilitation at sites, data capturing. • Supporting initial implementation and roll-out. • Community-based care & adherence
Public Hospitals	Government hospitals	Conducting OR

Global and National Technical Partners at Country Level

At the country level, there were national partners and technical assistance partners for the LIFT-TB project. The national partners, primarily the National TB Programs (NTPs) and relevant government agencies, played a central role in implementing the LIFT-TB project. They were responsible for leading the rollout of interventions, including piloting innovative regimens such as BPaL and integrating these into existing TB services for programmatic use. National partners ensured that policies and guidelines were updated based on global guidelines and evidence generated through OR and global trials. They also managed resource allocation, coordinate with donors, and oversee monitoring and evaluation to track treatment outcomes and maintain data quality.

Additionally, lead global partner – ITRC – facilitated technical assistance for diagnostics, lab systems and training by working closely with health facilities, laboratories, community organizations, and patient networks to ensure that care delivery remains patient-centered and accessible.

Other global (KNCV) and in-country partners including NGOs, and CSOs offered technical guidance on clinical protocols, designing and analyzing OR, and sharing global best practices. They also focused on capacity building by training healthcare workers, conducting advocacy and community engagement, working with civil society and patient groups to promote awareness, reduce stigma, and ensure that interventions are inclusive and sustainable.

Table 3: Global and national technical assistance partners of the LIFT-TB project

Country	National (TA) Partners	Global (TA) Partners
Myanmar	PGK (Pyi Gyi Khin)	ITRC (Diagnostics + TA), KNCV*
Philippines	Tropical Disease Foundation (TDF), De La Salle Medical Health and Health Sciences Institute, TB People Philippines	ITRC (Diagnostics + TA), KNCV*, HERO S Africa
Indonesia	RPRI (Yayasan Riset dan Pelatihan Respirasi Indonesia), Stop TB Partnership Indonesia, YKI-Indonesia	KNCV*
Vietnam	SCDI Vietnam, KNCV Vietnam	KNCV*
Ukraine	OATH/PATH, Direct MOU with the NTP	KNCV*
Uzbekistan	NTP	KNCV*
Kyrgyzstan	NTP, KNCV KG	KNCV*

Note: * indicates TA partners only for Phase 1, that is, for ORs

IMPACT ASSESSMENT PURPOSE, OBJECTIVES, SCOPE & DESIGN

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2. IMPACT ASSESSMENT PURPOSE, OBJECTIVES, SCOPE & DESIGN

2.1 Purpose of the Assessment

The purpose of this impact assessment is to provide a comprehensive and independent evaluation of the LIFT-TB project's achievements and to distill lessons that can guide stakeholders' strategic decisions going forward. After nearly five years of implementation, spanning both the OR phase and the subsequent scale-up phase, the project has generated substantial evidence, insights, and measurable outcomes. While many of these results have been documented during implementation, TB Alliance sought a systematic and objective review to determine the extent of LIFT-TB's impact and to identify the key factors that enabled or constrained progress.

Undertaking the assessment at this stage allows consolidation of learnings while the project's effects is recent, and to integrate insights into ongoing planning processes including future DR-TB innovation initiatives and potential policy updates. Overall, the assessment serves both accountability and learning functions: it verifies whether LIFT-TB achieved its intended outcomes and provides actionable recommendations to inform donor decision-making, strengthen national TB program strategies, and support global partners in scaling up novel TB treatment regimens.

2.2 Objectives of the Assessment

The assessment sought to measure performance against the project's intended outcomes and to extract lessons that can inform future programming. Specifically, the objectives were to:

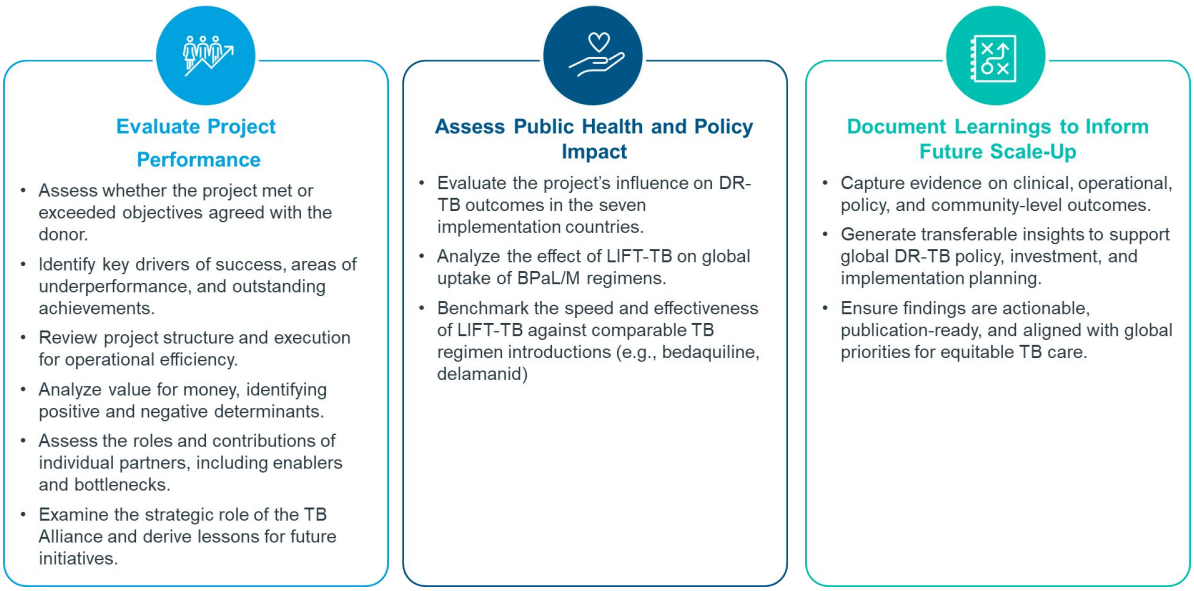

Figure 5: Objectives of the impact assessment

2.3 Assessment Coverage

Geographic Coverage

The LIFT-TB project was implemented across seven countries spanning two regions - Southeast Asia and Eastern Europe/Central Asia. The assessment, therefore, encompassed activities and outcomes in Indonesia, Myanmar, the Philippines, Vietnam, Kyrgyzstan, Ukraine, and Uzbekistan, reflecting the project's diverse operational contexts and varying levels of DR-TB burden.

Stakeholder Coverage

The assessment consulted a purposively selected group of 37 stakeholders who played key roles in shaping, implementing, or influencing the LIFT-TB project. These included:

- National TB Program Managers
- KOICA donor representative
- OR Principal Investigators
- TB Alliance AAC members (independent experts supporting TB Alliance's access strategy)
- Technical partners - national and global
- Stop TB Partnership representatives
- WHO and other technical partners (e.g., KNCV, YKI)
- Community and patient advocacy networks

2.4 Assessment Criteria

The OECD-DAC evaluation criteria were applied, complemented by the equity dimension, to systematically examine performance across five domains: Relevance, Effectiveness, Efficiency, Sustainability, Impact, and Equity. These criteria provided a structured lens to assess design, implementation, results, and the project's broader contribution.

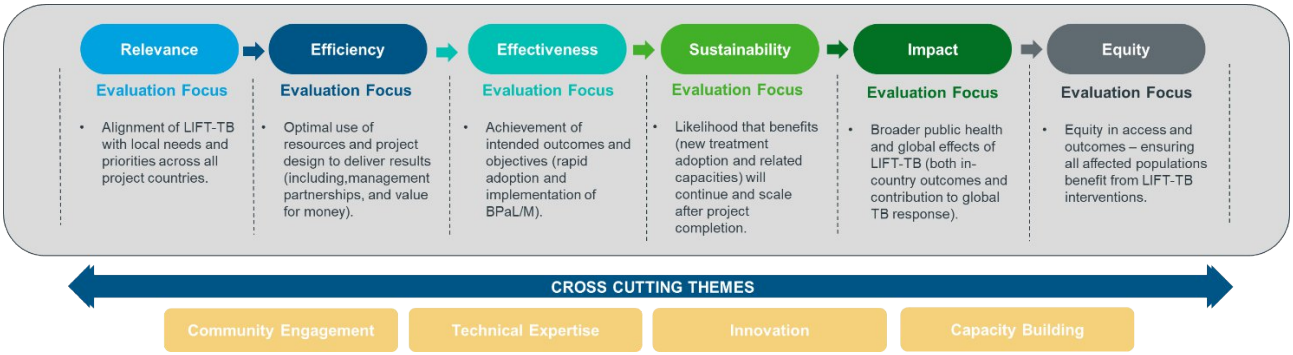

Figure 6: Criteria for impact assessment

2.5 Assessment Design

The impact assessment was designed as a mixed-method, multi-country evaluation combining qualitative insights, structured document review, and analytical triangulation to generate a comprehensive understanding of LIFT-TB's performance and influence. The approach combined three key elements: stakeholder interviews, document review, and structured analysis aligned with the REESI+E evaluation framework. Together, these provided a balanced understanding of what the project achieved, how it was implemented, and what contributed to or limited success.

A targeted set of stakeholders was identified in collaboration with TB Alliance to ensure the assessment captured perspectives from across the ecosystem. This included National TB Program managers, OR Principal Investigators, implementing partners, WHO and other technical agencies, KOICA, AAC members, and community representatives. In total, 37 stakeholders across the seven LIFT-TB countries and global partners were interviewed.

Data collection centered on semi-structured interviews using tailored guides that combined open-ended questions with quantitative rating scales. These tools were developed based on a detailed review of LIFT-TB documentation including OR protocols and results, policy updates, training materials, and implementation reports which helped ensure that interviews were focused, relevant, and grounded in the project's operational realities.

All interviews followed consistent procedures for consent, documentation, and data management. Notes and recordings (where agreed) were captured to support accurate analysis.

For analysis, interview responses were thematically coded and mapped to the REESI+E domains: relevance, effectiveness, efficiency, sustainability, impact, and equity. Findings from interviews were then triangulated with information from the document review and project data, allowing the team to validate patterns, identify discrepancies, and highlight country-specific nuances. Cross-country comparison was used to understand similarities in implementation experiences as well as unique contextual challenges.

Throughout the assessment, regular touchpoints with TB Alliance helped to confirm emerging insights, refine lines of inquiry, and ensure that the evaluation remained aligned with the intent of the project and the needs of decision-makers.

2.6 Assessment Limitations

The assessment relied primarily on qualitative interviews, which provided valuable insights but depended on stakeholder recall and subjective interpretation. While the team triangulated findings with project documents and available data, not all quantitative indicators were consistently documented across countries, limiting the extent of cross-country comparison. In addition, interviews were conducted near the end of the project, allowing for strong reflections on implementation but offering only a partial view of longer-term sustainability outcomes.

Key limitations included:

- Reliance on qualitative, self-reported information
- Inconsistent availability of quantitative data across countries
- Challenges in scheduling with some stakeholders
- Potential recall bias in retrospective reflections.

.

KEY FINDINGS AND ANALYSIS

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3. KEY FINDINGS AND ANALYSIS

3.1 Relevance

3.1.1 Relevance to national and global TB policies and strategies

Global relevance:

Alignment with WHO and UN SDGs: From vision to implementation
Anchoring in the End TB Strategy (2030 goals): The WHO's End TB Strategy sets ambitious targets of 80% reduction in TB incidence and 90% reduction in TB deaths by 2030[19]. LIFT-TB project was anchored in the End TB Strategy and advanced these targets by accelerating the introduction and programmatic use of innovative, shorter, all-oral regimens (BPaL/BPaLM), which have demonstrated high cure potential and improved tolerability compared to legacy 18–24-month MDR-TB treatments. By moving countries from prolonged, toxic regimens to streamlined six-month options, LIFT-TB directly operationalizes the Strategy's core thrust: shorten treatment, improve outcomes, reduce suffering, and enable scale.

Driving SDG 3.3 ("end the TB epidemic"): Sustainable Development Goal (SDG) Target 3.3 calls for ending the TB epidemic[20]. The LIFT-TB project contributes by ensuring the scale-up of simplified, six-month drug-resistant TB (DR-TB) regimens, a practical bridge from global consensus to country adoption. The alignment was functional through the project's design, evidence generation, and policy engagement collectively accelerated the inclusion of the regimen in national guidelines, procurement plans, and clinical training, translating SDG commitments into service-delivery reality.

The above global targets required regimen innovation plus system readiness. LIFT-TB has tied both together, by introducing BPaL/BPaLM while building the clinical, laboratory, and pharmacovigilance infrastructure to use them safely and equitably.

Global policy and accountability frameworks: Linking evidence to governance
The policy frameworks gain legitimacy only when translated into access. LIFT-TB demonstrated how global accountability is upheld through timely policy alignment, procurement facilitation, and inclusive implementation.

Reinforcing WHO's Multisectoral Accountability Framework (MAF-TB): The MAF-TB calls for accountability across government sectors, civil society, and technical partners[21,22]. LIFT-TB strengthens this framework by aligning high-level policy direction (WHO guidance, OR roadmap) with access pathways for new drugs, and by catalyzing transparency and joint oversight (e.g., protocol adaptation with ministries, safety monitoring, real-world data sharing). The more countries standardize BPaL/M adoption under policy-backed protocols, the stronger the accountability chain from global guidance to country action to patient-level impact.

Reflecting momentum from the UN High-Level Meeting on TB (Sept 2023): The 2023 UN-HLM underscored equitable access to innovative TB cures as a central pillar of global TB control[23]. LIFT-TB's explicit commitment to equity and access, especially in high-burden, under-prioritized settings, answers this call. By embedding community and survivor perspectives and targeting roll-out in countries that most need shorter regimens, LIFT-TB transforms HLM commitments into concrete, equitable deployment.

[19] Department for HIV, Tuberculosis, Hepatitis and Sexually Transmitted Infections
[20] SDG Target 3.3 Communicable diseases
[21] MAF-TB progress and way forward
[22] WHO releases policy brief on priority setting in TB programme planning
[23] New global action pledge to end TB by 2030 | UN News

Campaigns, platforms and partnerships to strengthen TB innovation and access
Shorter regimens become meaningful public-health tools only when affordable, accessible, and supported by procurement and training systems. LIFT-TB advanced all the three, reinforcing global access architecture.

Amplifying global advocacy campaigns (#6MonthsMax, Fast Track the Cure): Global campaigns advocating for universal access to shorter regimens gain traction when backed by real-world programmatic roll-out. LIFT-TB provides exactly this evidence base and field-level action, giving momentum to campaigns like the #6MonthsMax and Fast Track the Cure, that normalize six-month DR-TB treatment as standard of care rather than an exception.

Operational partnerships- From innovation to affordability: Operational partnerships with country level government and supply-chain actors under the LIFT-TB ensured that clinical innovation translates into real-world access for patients. LIFT-TB helped strengthen the pathways needed to make newer DR-TB regimens accessible and affordable. These partnerships help ensure that innovations like BPaL/M move efficiently from evidence to country uptake.

Selection of the high burden LIFT-TB countries
The seven LIFT-TB countries were chosen because they represent some of the most consequential TB and DR-TB settings globally, combining very high disease burden with strategic importance for demonstrating rapid adoption of new DR-TB regimens. In Southeast Asia, Indonesia (382 per 100,000) and the Philippines (625 per 100,000) together contribute 6–10% of the world's TB burden, making them major global TB hotspots, while Myanmar, with an incidence of 475 per 100,000 is classified as "highly endemic," and has been a key driver of the post-2020 rise in TB and DR-TB cases. In Central Asia, Kyrgyzstan and Ukraine (each ~112 per 100,000) and Uzbekistan (57 per 100,000) face increasingly complex DR-TB epidemics, collectively reporting over 34,000 TB cases annually, including more than 8,000 MDR/RR-TB cases. Together, these seven countries encompass both high-incidence Asian settings and high-resistance Central Asian contexts, making them uniquely relevant for testing, scaling, and evaluating the transformative potential of new DR-TB treatment regimens under LIFT-TB.

Evidence for global guidance: Closing the loop from research to policy
LIFT-TB was intentionally aligned with the WHO End TB Strategy, WHO Operational Research Roadmap, UN HLM TB commitments, and SDG 3.3. Through multi-country implementation and data generation, the project:

- Provided real-world evidence on feasibility, safety and operational barriers, and supported cost-effectiveness assessments through SLASH-TB.
- Informed WHO guideline updates and accelerated the integration of BPaL/M into national policies across all seven implementation countries.
- Demonstrated how implementation studies can rapidly convert global guidance into national standards of care, a template that can be replicated for future TB innovations.

The regional stakeholders unswervingly reinforced this view. Members of the Advisory Committee (AAC) repeatedly highlighted during interactions that LIFT-TB was "designed with global priorities in mind". They noted the project's tight alignment with WHO's operational research roadmap and its explicit aim to fill country-level evidence gaps around regimen feasibility, safety, cost, and implementation barriers. Therefore, LIFT-TB was a model of evidence-to-policy translation, ensuring that regimen innovations were not siloed in clinical trials but embedded into health systems at scale.

National relevance:

Integration into National TB Programs (NTPs): Policy adoption and scale
Across all seven LIFT-TB implementation countries, stakeholders consistently emphasized that the project was highly relevant to both the clinical and policy landscape of drug-resistant TB (DR-TB).

> *"Strategically, the LIFT-TB project was fully aligned with Pillar 4 of Indonesia's National TB Control Program Strategy, which emphasizes research and innovation. The project served as an important vehicle for translating global recommendations into country-specific implementation pathways. It also provided essential operational evidence to guide the Ministry of Health in transitioning from research-based implementation to national programmatic adoption of BPaL/BPaLM regimens."*
>
> - National stakeholder, Indonesia

National TB Program (NTP) managers, clinicians, laboratory experts, and civil society groups consistently emphasized that LIFT-TB arrived at a critical policy moment when countries were ready to transition from 9-20-month MDR-TB regimens to 6-month, all-oral BPaL/BPaLM and were seeking robust evidence to support this shift. The strong evidence base generated by the project created enthusiasm among policymakers, making governments more proactive in accelerating national decision-making. This early confidence translated into rapid policy uptake and strong cooperation from NTPs in implementing BPaL/M at national scale.

> *"The shortening of treatment and the high success rates seen with BPaL made governments "very enthusiastic and proactive," which drove strong early cooperation from NTPs."*
>
> - Representative, ITRC

Further, national stakeholders (especially from Uzbekistan and Kyrgyzstan) also pointed out that LIFT-TB's OR addressed their own national policy questions about how to roll out BPaL/M, providing timely evidence that their ministries of health were seeking.

> *"LIFT-TB's operational research provided critical, timely evidence to answer the Ministry of Health's policy questions on how to effectively roll out the BPaL/M regimen."*
>
> - National Representative, Uzbekistan
>
> *"LIFT-TB addressed the specific implementation challenges by generating real-world data needed to guide national decisions on adopting and scaling the BPaL/M regimen."*
>
> - National Representative, Kyrgyzstan

Guideline updates: The LIFT-TB data directly informed national DR-TB guideline revisions, standardizing the adoption of six-month BPaL regimens in all seven countries, especially among the frontrunners-Kyrgyzstan, Ukraine, and Uzbekistan. This step was pivotal as guidelines shape procurement lists, training curricula, monitoring frameworks, and reimbursement, making the regimen shift durable and system-wide. National guideline adoption was the inflection point where innovation becomes standard practice and was a prerequisite for equitable access within and across countries.

Supporting guideline development through health economic assessment.

Programmatic rollout: All the seven participating countries have already scaled BPaL nationally, with others actively preparing for scale-up. This indicates that LIFT-TB did not stop at pilot sites; it enabled nationwide transition pathways, from clinical protocols to medicine distribution to facility-level supervision that were critical for sustained impact.

Capacity strengthening and systems integration: Making shorter regimens work
Shorter regimens reduce patient burden, but no treatment can function effectively without competent health systems. LIFT-TB's capacity building prevented gaps that could undermine outcomes, such as mis-selection, insufficient monitoring, or inconsistent adherence support. The project strengthened laboratory systems across the seven countries, training to over 10,000 clinical and laboratory professionals in drug-susceptibility testing (DST) and upgrading diagnostics that were essential for patient selection,

resistance monitoring, and safety surveillance under BPaL/M. Building the competence of the system supplemented the operational backbone for standardizing safety monitoring, adapting protocols, and establishing clear pharmacovigilance and AE management pathways. These investments address the how of regimen deployment, ensuring shorter treatment is not only available but, safe and reliable in routine care.

Data-driven priority setting: Evidence for planning, budgeting, and scale

In constrained health budget settings, evidence of value is decisive. LIFT-TB provided the analyses and operational proof points that unlock scale and sustain financing. Countries used LIFT-TB's real-world evidence to prioritize and plan, aligning with WHO's emphasis on data-driven TB strategies. Moreover, by documenting economic, clinical, and operational feasibility in country contexts, LIFT-TB along with other partners as the WHO and GF, enabled the respective Ministries to make resource allocation decisions with confidence (for example, revising budget lines for pretomanid, updating procurement plans, and integrating regimen monitoring into national M&E frameworks).

Relevance across diverse contexts: From conflict to reform

Context-sensitive design, recognizing conflict, political change, and system variability, ensured LIFT-TB stayed relevant and actionable, rather than offering one-size-fits-all solutions. .

- In Ukraine (amid full-scale war) and Myanmar (political instability), adoption momentum continued because LIFT-TB's regimens addressed urgent needs by way of shorter treatment, fewer side effects and improved adherence. Additionally, the project design was resilient to disruption through pragmatic protocols and strong NTP cooperation. Ukrainian stakeholders highlighted how LIFT-TB helped sustain progress on TB reform even amid the disruption of conflict.

- In Kyrgyzstan and Uzbekistan, both with high MDR-TB burden settings, LIFT-TB's OR answered specific policy questions about feasibility, safety, and roll-out barriers, directly informing the respective Ministry of Health decisions.

> *"The project matched our programmatic readiness coming on the heels of bedaquiline scale-up and filled key data gaps needed to justify broader adoption of BPaL/M."*
>
> - National stakeholder, Uzbekistan
>
> *"The OR protocol was designed to carefully consider local needs and evidence gaps, including prioritizing outpatient treatment while initially accommodating the preferences of colleagues by starting in an inpatient setting. The research question and design were successful in generating evidence that was practically usable by the national TB program for clinical, diagnostic, and operational decision-making."*
>
> - National stakeholder, Kyrgyzstan

- In Indonesia and Myanmar, the timing of the project dovetailed with national plans to transition to shorter regimens. The protocols were localized, training materials translated to national languages, and implementation aligned with existing TB strategic plans.

> *"The operational research protocol considered local evidence gaps, and its timing was appropriate, coinciding with national readiness to adopt BPaLM regimens. Tools and guidelines (BPaL operational handbook, implementation guideline, and adapted recording/reporting tools) were developed and disseminated to all states and regions, reflecting strong contextual tailoring."*
>
> - National stakeholder, Myanmar
>
> *"The OR was not repeating clinical trials. Instead it focused on how new regimens (BPaL/BPaLM) could be practically implemented in Indonesia, ensuring acceptability among clinicians and patients. The timing was considered perfect, addressing urgent needs for shorter, more tolerable TB regimens."*
>
> - National stakeholder, Indonesia

LIFT-TB project was thus, both globally aligned and nationally transformative. It operationalizes WHO and UN priorities by delivering shorter, all-oral DR-TB cures and building the systems to use them well. Its focus

on evidence generation, country ownership, access pathways, and equity turn high-level commitments into daily practice, advancing the path to ending TB while improving the lives of patients today.

3.1.2 Relevance to stakeholders' needs and priorities

LIFT-TB directly addressed the priorities of national TB programs and global partners by providing real-world evidence on the feasibility, safety, and cost-effectiveness of shorter, all-oral regimens for drug-resistant TB. Stakeholders sought practical solutions to reduce treatment burden and improve patient outcomes, and LIFT-TB delivered OR and implementation support tailored to these needs. This alignment ensured strong engagement from governments, donors, and technical agencies throughout the project. The project also supported global advocacy goals (#6MonthsMax, Fast Track the Cure). Apart of these, LIFT-TB project also implemented huge patient literacy component, specifically in the Philippines with TB People PH and in Indonesia with Stop TB Partnership ID.

3.1.3 Relevance to local contexts

LIFT-TB adapted its protocols, training materials, and implementation strategies to fit local health systems, languages, and regulatory environments. The project demonstrated flexibility by maintaining progress during crisis situations through remote training, patient relocation, and virtual coordination. Leveraging existing infrastructure like national supply chains ensured efficiency and sustainability within country contexts.

3.1.4 Relevance to beneficiary needs

For patients, LIFT-TB delivered a transformative improvement in treatment experience replacing long, painful, injectable regimens with shorter oral, and less toxic options. This shift restored dignity, improved adherence, and enabled faster recovery and return to normal life. Survivor networks and civil society organizations played a key role in ensuring equitable access, reducing treatment stigma, and supporting patient navigation and treatment literacy.

> *"The project's relevance was heightened by its community-centered model, which recognized TB survivor networks as critical partners rather than just implementers. This approach ensured that patient perspectives were embedded from the start, making the intervention more attuned to on-the-ground realities."*
>
> - Regional representative, Stop TB Partnership

3.1.5 Relevance of activities and outputs in meeting project goals and objectives

The LIFT-TB activities such as OR, capacity building, and experience-sharing in conferences and Upskill TB Digital Platform and also through external mediums like the PeerLINC (Knowledge Hub initiated by TB Alliance for accelerating all the WHO-recommended six-month, all-oral regimens for DR-TB) were highly relevant to achieving its objectives of accelerating access to innovative DR-TB regimens. Outputs like standardized protocols, SOPs, and training modules became institutionalized within national programs, ensuring sustainability beyond the project period. These efforts collectively enabled rapid scale-up and informed global policy, fulfilling LIFT-TB's core mission.

Relevance – Key Takeaways

- **Global alignment:** Advanced WHO End TB Strategy, UN HLM commitments, and SDG 3.3 by enabling country-level adoption of six-month DR-TB regimens.
- **Evidence-to-policy impact:** Real-world data informed WHO guidelines and drove rapid national policy updates.
- **System strengthening:** Built lab capacity, clinical training, and safety monitoring for safe, scalable implementation.
- **Equitable access:** Secured affordability and availability of shorter regimens through global partnerships and advocacy.
- **Contextual adaptation:** Customized protocols for local systems and sustained progress during crises (COVID-19, conflict).
- **Patient-centered transformation:** Replaced long, toxic injectable regimens with shorter, oral options improving adherence and quality of life.

3.2 Effectiveness

3.2.1 Project target vs achievement of result indicators

The outcome-wise assessment of target indicators shows that most project targets were fully achieved, with several exceeding expectations, particularly in capacity-building initiatives, reflecting the project's strong success. However, a few indicators were only partially met due to implementation challenges and delays caused by ongoing conflicts. The status of achievements under the two project outcomes is summarized in Tables 4 and 5 below.

Table 4: Target versus achievement of Outcome 1 indicators of the LIFT-TB project

Outcome/Output	Indicator	Targets	Achievement status	Partial	Achieved	Over-achieved
Outcome 1: Increase in treatment completion rates for DR-TB in population in target countries (including XDR*-, pre XDR- and MDR-TB patients)		15% increase (54% treatment completion in XDR*) [Baseline- 39% for XDR]	• **Treatment success/completion rate ~91% among DR-TB patients enrolled in OR**			
Output 1.1- Innovative treatments for drug resistant-TB are able to be implemented in target countries with updated local policies for adoption of new and/or enhanced treatments (via OR and programmatically)	1.1.1 Target countries supported for rapid policy adoption through sensitization of key opinion leaders (KOLs) across national, regional and global networks 1.1.1a Dissemination of WHO guidance 1.1.1b Support to develop treatment guidelines for new/enhanced treatments 1.1.1c Target countries supported in development of protocols for operational research (OR) 1.1.2 Value proposition studies on new/enhanced regimens 1.1.3 Target countries supported in preparation for national scale-up new/enhanced regimens 1.1.3a Dissemination of updated WHO guidance 1.1.3b Target countries supported in development of national treatment guidelines including programmatic use of new/enhanced regimens 1.1.4 Target countries have implemented new/enhanced regimens in programmatic settings	• Dissemination of WHO guidance in 7 countries • Develop treatment guidelines for new/enhanced treatments in 7 countries • Development of protocols for OR in 7 countries • 3 value proposition studies • Dissemination of updated WHO guidance from year 4 in 7 countries • Development of national treatment guidelines including programmatic use of new/enhanced regimens supported in 7 countries • New/enhanced regimens implemented in programmatic settings in 7 countries	• Dissemination of WHO guidance in 7 countries • Develop treatment guidelines for new/enhanced treatments in 7 countries • Development of protocols for OR in 7 countries • 3 value proposition studies • Dissemination of updated WHO guidance from year 4 in 7 countries • Development of national treatment guidelines including programmatic use of new/enhanced regimens supported in 7 countries • New/enhanced regimens implemented in programmatic settings in 7 countries			
Output 1.2- Enhanced management capacity of new and/or enhanced treatments for drug resistant-TB in the target countries through needs assessments and trainings	1.2.1 Situation analysis or need assessment for DR-TB treatment in project countries where needed 1.2.2 Need assessment for laboratory diagnostic capacity for DR-TB in project countries where needed 1.2.2a Need assessment for laboratory diagnostic capacity for DR-TB in project countries where needed (Phase 1) 1.2.2b Need assessment for laboratory diagnostic capacity for DR-TB in project countries where needed (Phase 2) 1.2.3 Development of training materials 1.2.3a Development and adaptation of training materials for clinical management 1.2.3b Development and adaptation of training materials for laboratory diagnosis 1.2.4 Trained trainers for clinical management 1.2.5 Trained trainers for TB laboratory staff 1.2.6 National level on-site training for clinical management 1.2.7 National level on-site training for laboratory staff 1.2.8 Development of job aids and communication materials 1.2.8a Job aids for clinical management developed 1.2.8b Job aids for laboratory diagnosis developed 1.2.8c Communication materials developed	• Need assessment for DR-TB treatment in 7 countries • Need assessment for lab diagnostic capacity for DR-TB in 7 countries • Development and adaptation of training materials for clinical management & lab diagnostics in 6 countries • 1350 trained trainers for clinical management • 230 trained trainers for TB lab staff • 12 national level trainings for clinical management • 14 national level trainings for lab staff • Job aids for clinical management & lab diagnostics developed in 7 countries • Communication material developed in 7 countries	• Need assessment for DR-TB treatment in 7 countries • Need assessment for lab diagnostic capacity for DR-TB in 6 countries except Ukraine in Phase1 & in all 7 countries in Phase 2 • Development and adaptation of training materials for clinical management & lab diagnostics in 6 countries • 9540 trained trainers for clinical management • 266 trained trainers for TB lab staff • 87 national level on-site trainings for clinical management • 17 national level on-site trainings for lab staff • Job aids for clinical management & lab diagnostics developed in 7 countries • Communication material developed in 7 countries			
Output 1.3- Target countries implement innovative treatment for drug resistant-TB with strengthened lab, drug safety, and procurement systems	1.3.1 Target countries supported with laboratory strengthening to diagnosis and determine regimen eligibility 1.3.2 Drug safety monitoring (DSM) systems for new/enhanced regimens developed where needed 1.3.2a Development of a system to facilitate aDSM for new/enhanced regimens 1.3.2b Target countries supported for use of aDSM system 1.3.3 Patient representatives engaged for advocacy and sensitization campaigns to raise awareness of new/enhanced treatments in select countries 1.3.4 Select countries supported to procure new treatments	• Laboratory strengthening to diagnosis and determine regimen eligibility supported in 7 countries • Development of a system to facilitate aDSM for new/enhanced regimens in 3 countries • Use of aDSM system supported in 7 countries • Patient representatives engaged for advocacy and sensitization campaigns to raise awareness of new/enhanced treatments in 3 countries • Supported to procure new treatments in 5 countries	• Laboratory strengthening to diagnosis and determine regimen eligibility supported in 7 countries • Development of a system to facilitate aDSM for new/enhanced regimens in 3 countries • Use of aDSM system supported in 7 countries • Patient representatives engaged for advocacy and sensitization campaigns to raise awareness of new/enhanced treatments in 3 countries • Supported to procure new treatments in 5 countries			

Table 5: Target versus achievement of Outcome 2 indicators of the LIFT-TB project

Outcome/Output	Indicator	Targets	Achievement status	Partial	Achieved	Over-achieved
Outcome 2: Broadening availability and sustainability of improved drug resistant-TB regimens in target countries						
Output 2.1- Broadening availability of improved drug resistant-TB regimens in target countries by supporting pretomanid approvals and supply	2.1.1 Target countries where new regulatory filings have been submitted or waivers obtained 2.1.2 Target countries supported in priority review procedure of new regulatory filings 2.1.3 Target countries supported for procurement and importation of supplies 2.1.3a Target countries supported for procurement and importation of supplies for OR 2.1.3b Target countries supported for procurement and importation of supplies for programmatic use 2.1.4 Target countries where Pretomanid has been delivered through Global Drug Facility (GDF) or from local distributors/manufacturers through registration or waiver 2.1.4a Pretomanid delivered for OR 2.1.4b Pretomanid delivered for programmatic use	• New regulatory filings have been submitted or waivers obtained in 7 countries • Support priority review procedure of new regulatory filings in 4 countries • Support procurement and importation of supplies for OR in 7 countries • Support for procurement and importation of supplies for programmatic use in 7 countries • Pretomanid delivered for OR in 7 countries • Pretomanid delivered for programmatic use in 7 countries	• New regulatory filings have been submitted or waivers obtained in 7 countries • Support priority review procedure of new regulatory filings in 4 countries ((UA, PH, KG, MM) • Support procurement and importation of supplies for OR in 7 countries • Support for procurement and importation of supplies for programmatic use completed in all 7 countries • Pretomanid delivered for OR in 7 countries • Pretomanid delivered for programmatic use in 7 countries			
Output 2.2- Secured sustainability of pretomanid based regimens for DR-TB in target countries by reprogramming existing grants and integration into national budgets and markets, as needed	2.2.1 Technical support given to rework national budgets for OR and sustainable programmatic funding 2.2.1a Technical support given to rework national budgets for OR 2.2.1b Technical support given to rework national budgets for sustainable programmatic funding 2.2.2 Cost of good & volume analysis for commercial price negotiations to drive affordable pricing & market entry 2.2.3 Set up system for project monitoring, and continuous project monitoring 2.2.4 Experience sharing for wider and sustainable adoption	• Technical support given to rework national budgets for OR in 7 countries • Technical support given to rework national budgets for sustainable programmatic funding in 7 countries • Cost of good & volume analysis for commercial price negotiations to drive affordable pricing & market entry in 7 countries • Set up system for project monitoring, and continuous project monitoring in 7 countries • Experience sharing for wider and sustainable adoption to 5 new countries	• Technical support given to rework national budgets for OR in 7 countries • Technical support given to rework national budgets for sustainable programmatic funding in 7 countries • Cost of good & volume analysis for commercial price negotiations to drive affordable pricing & market entry in 7 countries • Set up system for project monitoring, and continuous project monitoring in 7 countries (100% system developed) • Experience sharing for wider and sustainable adoption to 5 new countries - Completed in 5 countries-			

3.2.2 Effects of the interventions

The LIFT-TB project has been remarkably effective in achieving its intended outcomes across the seven implementation countries.

Clinical effects: The clearest measure of success was the treatment outcomes observed under the new regimen. Clinicians and NTP officials across countries consistently reported success rates exceeding 90%, mirroring or exceeding clinical trial benchmarks. Interim data from five countries showed that 94.5% of participants were disease-free six months after completing BPaL, a dramatic improvement over the 50–70% cure rates typical of the older 18–24 month regimens. In Indonesia, an early cohort of 86 patients achieved a 97.6% success rate, which gave officials confidence to fast-track national adoption. The high efficacy combined with manageable side effects, especially after adjusting linezolid dosing from 1200mg to 600mg as needed, convinced clinicians and policymakers that the regimen works not only in clinical trials, but in real world practice.

"The country was extremely excited to see how much of an impact these new, shorter regimens for drug-resistant TB have had in Ukraine. They have proven effective, easier for people to take and for physicians to administer, and the cure rates improved, even during this time of war in Ukraine."
- National stakeholder, Ukraine.

"The success of LIFT-TB program is the outcome – a 97.6% success rate. This is something to be proud of."
– National stakeholder, Indonesia.

"In the Philippines, the BPaL regimen has exceeded all expectations. With access to new technologies like BPaL, we can see a day in the near future where we will no longer be a country with a high-burden of drug-resistant TB cases"
– National stakeholder, Philippines

Patient effects: Frontline clinicians across settings emphasized that patients found the 6-month all-oral treatment much more tolerable, with far fewer severe adverse events and significantly higher adherence. This was echoed in interviews from the Philippines, where one patient advocate described how the reduced toxicity and lack of injections made the new regimen "a life-changer" for those previously debilitated by long-term side effects. In countries like Kyrgyzstan, Uzbekistan, and Ukraine, stakeholders observed similar patient reactions, many described rapid clinical improvement, renewed optimism, and a greater willingness to complete treatment. These testimonials further emphasized that the shorter regimen not only cured more patients, but also restored dignity and hope.

"This novel regimen was a solution for me. I really want to get well fast, so BPaL is better for me."
– Patient enrolled in OR, Philippines

"I tried everything before I was given BPaL as part of the research program. I had given up all hope that any treatment would work – I needed a solution. This novel regimen was like a breath of fresh air after all the struggles. Now, I'm back to normal. Now, I'm a TB survivor."
– DR-TB Survivor under BPaL regimen, Philippines

"There has been an improvement in treatment uptake, with the use of short-term regimens increasing from 20-30% to over 50% after the project and plans to further increase this to 70%."
- National stakeholder, Uzbekistan

"Initially, the most common regimen used was the 24-month LTR, but with the introduction of BPaL/M, treatment duration was cut by 75% to just six months. The pill burden also dropped drastically- previously it was over 20 tablets a day, now just 7 tablets. So, both the treatment duration and pill count decreased significantly, and side effects were also much less frequent."
– National stakeholder, Indonesia.

Policy effects: Beyond patient outcomes, the project was highly effective in translating OR evidence into policy and national action. A core goal of LIFT-TB was to generate timely, credible, and locally grounded evidence that could directly inform the country's decisions. This was realized across all countries. Myanmar's NTP used results from an initial pilot in Yangon to secure expert committee endorsement and rolled out BPaLM nationwide by early 2024. Indonesia accelerated its rollout even ahead of schedule, by initiating broader implementation by mid-2023 (instead of the national launch timeline in January 2024) due to strong clinical feedback. In the Philippines and Vietnam, similarly, LIFT-TB findings were shared with health authorities, enabling timely incorporation of BPaL/M into national DR-TB guidelines.

"This project clearly influenced policy change, system strengthening, and treatment outcomes. And since the data was coming from local, Indonesian patients/OR, it made advocacy with policymakers much easier and more persuasive."

- National stakeholder, Indonesia

"Successful rollout requires early and continuous advocacy, combined with flexibility in implementation—especially in countries experiencing frequent political shifts as in Myanmar. These ensure project activities remain aligned with evolving national contexts and stakeholder priorities."

- National stakeholder, Myanmar

In Kyrgyzstan, Uzbekistan, and Ukraine, policy uptake was equally swift. Stakeholders noted that early results generated strong internal momentum. Structured learning events such as investigator meetings, Ministry briefings, and national workshops, helped translate clinical data into formal policy decisions. Uzbek and Kyrgyz clinicians emphasized how seeing treatment success at their own sites turned skeptical providers into vocal advocates. Several countries began treating all eligible patients with BPaL/M even before the study ended, signaling rapid transition from OR to routine care.

"Once we saw patients improving with the new regimen, no one wanted to go back to old regimens."

- National stakeholder, Ukraine

"LIFT-TB's influence is evident in the increased confidence of both doctors and the national program in the BPaL/M regimen's effectiveness. This confidence, along with data generated, informed adjustments to the Global Fund application, leading to requests for increased patient numbers, improved drug forecasting, enhanced logistics, and greater investment in laboratory research."

- National stakeholder, Kyrgyzstan

This policy traction was further enabled by proactive dissemination strategies. LIFT-TB teams didn't wait for final publications; they presented interim findings at national technical meetings, shared data directly with guideline committees, and fed results into WHO discussions.

Regional and global stakeholders reinforced these findings of strong effectiveness. In particular, several sub-components were cited by them as especially effective:

Rapid policy uptake: AAC stakeholders stressed that LIFT-TB produced exactly the evidence needed for swift policy action. The timing and relevance of the OR allowed both national guideline committees and the WHO to move faster in endorsing the 6-month regimen. One AAC member called this "one of the most strategically effective aspects of the project," noting that evidence from LIFT-TB directly informed the WHO guidelines revision. Another member noted that despite some competing global debates over alternative MDR-TB regimens and various political pressures, LIFT-TB "pushed the best regimen forward," ensuring that countries adopted the most effective treatment rather than inferior or partial solutions.

Cross-country learning as a force multiplier: Cross-country learning emerged as an important force multiplier during LIFT-TB, strengthening implementation efficiency and accelerating problem-solving across participating countries. During the post-OR phase of LIFT-TB, experience sharing was facilitated through structured and informal channels, including regional and global conferences and country data presentations. The Upskill TB digital platform, developed with partners in Indonesia under LIFT-TB and

launched in Q4 2025, further supported this exchange by providing access to training resources and practical implementation insights derived from early BPaL/BPaLM experience. Building on the experience-sharing practices and implementation lessons generated through LIFT-TB, these insights have informed subsequent cross-country learning efforts, including platforms such as PeerLINC – a peer-to-peer Knowledge Hub operating from Manila, to support wider BPaLM rollout beyond the original project settings. Such peer-to-peer exchange greatly shortened the learning curve and prevented individual programs from having to reinvent solutions, thereby amplifying the project's overall effectiveness.

Technical effectiveness – Laboratory strengthening: The project strengthened diagnostic and monitoring capacity for DR-TB under the new regimen by enabling national reference labs to establish phenotypic drug susceptibility testing (DST) for new drugs like pretomanid. This allowed early detection of resistance and treatment issues, improving program quality. In parallel, LIFT-TB strengthened clinical capacity through standardized treatment protocols, clinician training, and active drug safety monitoring (aDSM), enabling safe regimen initiation, monitoring, and management of adverse events. Through new protocols, training, and quality assurance systems, LIFT-TB built sustainable clinical and lab capacity to manage and safely scale the regimen beyond the research phase.

Community engagement strengthened effectiveness: The engagement of TB survivor networks and community-based organizations proved to be a key factor driving programmatic success. The Stop TB Partnership-Indonesia noted that involving TB survivors from the outset increased patient trust and treatment literacy in the communities. In countries like the Philippines, for example, survivor advocates became de facto "treatment champions," helping educate patients about the new regimen and supporting adherence. Similar involvement was seen in other countries (several Kyrgyzstan's and Ukraine's patient support groups were engaged through partner NGOs), and this community buy-in translated to better patient retention and outcomes. By reducing distrust and belief around the novel treatment and emphasizing patient-centered care, community engagement bolstered the effectiveness of LIFT-TB's rollout.

Local ownership of data and implementation: LIFT-TB was implemented in partnership with national teams. Since the results came from each country's own patients, under real program conditions, trust in the data was high. Clinicians became champions, program managers became advocates, and ministries saw clear justification for policy update. In short, ownership drove uptake and was built into the project's DNA.

Effectiveness – Key Takeaways

- **Achievement of targets:** Most project indicators were fully met, with some overachieved, especially in capacity building, despite partial gaps due to conflicts and implementation delays.
- **Exceptional clinical success:** Overall success rates exceeded 90% (~91%).
- **Patient-centered effect:** Shorter, all-oral regimen improved tolerability, reduced side effects, and boosted adherence.
- **Rapid policy uptake:** Operational research enabled swift guideline updates and accelerated national adoption across countries.
- **Strong enablers:** Cross-country learning, local evidence and ownership, lab strengthening, and community engagement drove program effectiveness.

3.3 Efficiency

Efficiency was another strong feature embedded in the LIFT-TB project, as reported by participants in all countries. Respondents consistently described the project as well-coordinated, resource-conscious, and agile in its operations. Even when faced with serious external challenges, the project largely stayed on

track by quickly adjusting its plans and mobilizing partners. This adaptive management prevented major delays and kept the research and rollout on schedule.

3.3.1 Efficiency in project management

Coordination and partnership management
Stakeholders repeatedly lauded TB Alliance for its outstanding coordination of the multi-partner initiative, ensuring smooth collaboration among WHO, NTPs, partners, and other key actors. Clear role division, tailored strategies, and frequent communication prevented duplication and enabled efficient implementation across seven diverse country contexts.

> *"TB Alliance's close collaboration with WHO, NTPs, and major donors exemplified "excellent partnership stewardship."*
>
> - Representative, AAC
>
> *"The "collaboration was excellent across all implementing countries," especially given the complexity of running operational research concurrently in seven different national contexts."*
>
> - Representative, Regional Advisor
>
> *"Each actor worked within a "common but differentiated" framework, meaning strategies were tailored to local conditions while still aligning with the project's overall game plan.*
>
> - Representative, Stop TB
>
> *"This clear division of roles and frequent communication prevented duplication of effort and ensured efficient use of each partner's strengths."*
>
> - Representative, KNCV

Operational responsiveness
The project adapted rapidly to unforeseen obstacles, demonstrating agile project management. For example, when the COVID-19 pandemic hit, training workshops and clinical mentorship were swiftly shifted to online formats to avoid losing momentum. Countries reallocated resources or adjusted timelines when drug procurement delays occurred, ensuring treatment sites had drugs when patients needed them. Regular technical working group meetings and partner coordination calls (often virtual) allowed teams to identify and troubleshoot issues in real time. Even with sudden disruptions due to war or political instabilities (e.g. some implementation areas became inaccessible and some patients had to relocate), the project team continued patient follow-up in safer areas and adjusted procedures as needed. These responsive measures minimized downtime and kept the implementation efficient under challenging conditions.

3.3.2 Efficiency in financial and human resources use

Resource Use

Although most country-level stakeholders were not directly involved in managing the overall budget, many noted that the outcomes achieved were impressive given the modest resources. Several AAC members remarked that LIFT-TB delivered a high impact relative to its cost, implying very efficient use of funds. A key driver of this efficiency was the strategic integration of LIFT-TB into existing national infrastructures:

- *Pharmacovigilance (aDSM):* In addition to creating parallel systems, LIFT-TB strengthened existing national aDSM platforms.
- *Data systems:* Many sites leveraged national electronic TB registers (e.g., OpenMRS), adding OR-specific modules only where required.

Human resource use was also optimized. Rather than hiring large parallel teams, the project embedded a small number of research assistants and focal points within NTPs or hospitals. These staff supported data collection, patient follow-up, and aDSM while building local capacity leading to an efficient and sustainable

implementation model. Training cascades (training of trainers followed by provincial rollouts) spread knowledge quickly without repeatedly deploying central experts.

Laboratory and OR efficiency
ITRC experts identified early drug procurement delays as the main bottleneck in some countries, but they emphasized that other aspects of the OR were handled efficiently through centralized support. Standardized training-of-trainers (TOT) sessions, common data management tools, and harmonized diagnostic and monitoring protocols created strong efficiencies across the participating countries. Rather than each country developing their own approach in isolation, the project provided a template that could be locally adapted, saving time and promoting consistency. For instance, once one country's ethics approval or protocol adaptation was accomplished, those lessons were shared and sped up the process in the next country. Overall, LIFT-TB demonstrated high efficiency through its strong coordination, adaptive planning, and by smartly leveraging existing systems and networks.

Stakeholders in all seven countries described LIFT-TB as a highly efficient initiative, with one NTP manager summarizing it as "5 out of 5" for its ability to deliver results quickly, with limited waste, and despite extraordinary constraints.

Efficiency – Key Takeaways

- **Outstanding coordination:** TB Alliance ensured smooth collaboration among WHO, NTPs, technical partners, and others through clear role division and frequent communication, preventing duplication and maximizing impact.
- **Agile operational response:** The project adapted quickly to challenges like COVID-19 and conflict disruptions, shifting to virtual training and adjusting procedures to maintain continuity.
- **Smart resource utilization:** High impact was achieved with modest resources by leveraging existing national systems for supply chains, pharmacovigilance, and data management, and embedding staff within NTPs.
- **Standardization for speed:** Harmonized protocols, centralized training-of-trainers, and shared experiences accelerated implementation and reduced inefficiencies across countries.
- **Cost-effectiveness:** Stakeholders noted that LIFT-TB delivered strong outcomes relative to its budget, demonstrating efficient financial and human resource use.

3.4 Impact

The project's impact has been multi-dimensional, encompassing clinical outcomes, policy changes, health system strengthening, and social effects. Across all countries, there were evidence that LIFT-TB made a substantial positive impact, from the level of individual patients up to global policy influence.

3.4.1 Project impacts based on outputs

Clinical and patient-level impact
Patient outcomes under the new regimen have been excellent. Success rates above 90% have been reported in early cohorts, and countries have seen reduced mortality among DR-TB patients who received BPaL. Clinicians universally described the regimen's effect on patients as transformational. Many patients experienced a far better treatment journey compared to older regimens, due to the elimination of painful injectables and the much shorter treatment duration. This improved experience, fewer side effects, shorter time on treatment, and quicker return to normal life was frequently highlighted by healthcare providers and patient advocates.

Policy impact
The LIFT-TB project supported development of protocols for OR, development of national treatment guidelines including programmatic use of new/enhanced regimens and in development and adaptation of

training materials for clinical management and laboratory diagnosis in all seven countries. Additionally, the project supported target countries for submission of new regulatory filings or obtaining waivers and supported the priority review procedure in four countries. All participating countries have formally adopted BPaL/BPaLM into their national treatment guidelines as a result of the evidence and confidence gained through LIFT-TB. Policy endorsement came remarkably fast compared to that for other drugs. For example, in countries like Indonesia, Kyrgyzstan, Myanmar, Ukraine and Uzbekistan, the post-OR implementation started prior to the formal approval of local clinical guidelines.

National decision-makers emphasized that LIFT-TB provided actionable evidence on regimen safety and tolerability, management of linezolid-related side effects, feasibility of integration into routine systems, patient adherence patterns and cost and programmatic impacts. This enabled ministries of health to confidently approve nationwide rollout ahead of schedule. In Myanmar, national DR-TB treatment guidelines enabling programmatic use of the BPaL regimen were updated by the end of October 2023, informed by interim LIFT-TB OR results. In Indonesia, the limited programmatic implementation of BPaL/M started ahead of the formal approval of the national clinical guidelines. The early country experience coming from the LIFT-TB OR combined with advocacy of the LIFT-TB partners resulted in signing a special Order by the Minister of Health of Indonesia speeding up the implementation to 6 months ahead of the schedule. Ukraine started implementation ahead of the formal approval of national guidelines in February 2023.

Global advisors described LIFT-TB as a “cornerstone” for strengthening of BPaL implementation. The project’s high-quality OR conducted under real-world program conditions filled critical evidence gaps and catalyzed global momentum toward shorter DR-TB regimens. LIFT-TB thus played a pivotal role in shifting the global DR-TB treatment paradigm.

Health System Strengthening

Beyond the regimen itself, LIFT-TB left lasting improvements in health system capacity. Supporting the health system strengthening activities, LIFT-TB conducted the need assessments for DR-TB treatment as well as laboratory capacity and in all project countries. It had TOT for clinical management and also conducted sub-national capacity building for TB laboratory staff and for clinical management in four countries. LIFT-TB also contributed to developing job aids and communication materials.

The project supported procurement and importation of supplies for OR and programmatic use in all seven countries. Furthermore, the project supported laboratory strengthening to diagnosis and determined regimen eligibility in all seven countries. Three of the seven countries were supported with development of a system to facilitate aDSM for new/enhanced regimens and all the target countries were supported for use of aDSM systems. Following this, laboratories in the project countries introduced new DST methods for novel drugs like pretomanid and improved their overall diagnostic capabilities for DR-TB. Other system-level improvements included:

- strengthened aDSM platforms with better AE reporting and monitoring
- development and sharing training materials
- updated national training curricula and SOPs
- enhanced clinical decision-making and data use skills by equipping clinicians to interpret and apply routine safety, laboratory, and operational data to guide patient care and programme improvements
- upgraded electronic TB registries in countries such as Kyrgyzstan
- supply chain functioning by enabling timely resolution of procurement and logistics bottlenecks for novel DR-TB medicines, contributing to uninterrupted implementation under programmatic conditions. Technical assistance provided for national guidelines updates
- inclusion of BPaL/M to country’s sustainable procurement

Clinicians and program managers across countries described how participation in implementation research sharpened their analytical skills, improved supervision practices, and fostered more robust data-driven decision making.

Global influence

The impact of LIFT-TB has extended beyond the seven countries directly involved. The knowledge sharing and capacity building platforms like the UpSkill TB Digital Paltform, the global advocacy campaigns like the FTTC and #6MonthsMax, the SLASH-TB health economics platform which has also been used in countries outside the project, global forecasts for BPaL/M that have supported supplier readiness and market shaping efforts, the publications/presentations arising from the OR and the LIFT-TB funded trainings and experience sharing in other countries created a mechanism for dozens of other NTPs to learn from these early implementers. Neighboring countries and others in the TB community have been watching the LIFT-TB results closely. In Uzbekistan, stakeholders noted that LIFT-TB attracted interest from senior government officials who had previously paid limited attention to DR-TB issues elevating TB as a national policy priority. Similar spillover advocacy effects were reported in Kyrgyzstan and the Philippines. Thus, LIFT-TB not only changed practices in the project countries but also influenced global momentum, acting as a catalyst for wider adoption of the 6-month regimen.

Community-Level Impact

The project engaged patient representatives for advocacy and sensitization campaigns to raise awareness of new/enhanced treatments in three of the seven countries. The project also elevated the role of TB survivors in reducing stigma.

> *"LIFT-TB deliberately put TB survivor networks at the center of implementation in many countries. These survivors brought the patient voice into training sessions, helped design patient education materials, and often served as treatment supporters. Their involvement has improved treatment literacy in communities and created greater demand for the new regimen (patients actively asking providers about the 6-month therapy)."*
>
> - Representative, Stop TB

Moreover, having survivors visibly champion the new treatment helped reduce stigma, both by showing that MDR-TB is curable and by emphasizing a patient's dignity and rights in the treatment process. Several countries (the Philippines and Indonesia, in particular) now have stronger survivor-led organizations as a result of the project, which is a lasting social impact that can continue to drive TB awareness and patient-centered care. Overall, LIFT-TB's impact is considered high, extending from the bedside (patient outcomes and experience) all the way to global policy tables.

3.4.2 Project alignment with equity agenda

The principle of "no one left behind" was a guiding theme in LIFT-TB's implementation, and the interviews indicate that equity was actively considered throughout. It emerged clearly that LIFT-TB strategically targeted high-burden, under-prioritized countries (like Kyrgyzstan and Uzbekistan) to ensure that the newest DR-TB regimens reached populations with the greatest need and impact.

> *"LIFT-TB initiative was strategically focused on high-burden, often under-prioritized settings, a deliberate choice that increased the project's value. LIFT-TB prioritized countries where DR-TB innovations would have the greatest impact, not just well-resourced environments. This included countries like Kyrgyzstan and Uzbekistan, which have significant MDR-TB burdens but often receive less global attention. By targeting such settings, the project ensured that the newest regimen reached populations that needed it most urgently.*
>
> - Representative, AAC

However, though the project generally did not create new inequities, it did inherit and reveal the existing ones while executing the OR due to its limitation for site selections required in the respective countries for ethical approval. LIFT-TB OR sites were chosen by the NTPs mostly in DR-TB treatment centers (often urban or provincial hospitals), which meant remote and vulnerable patients faced the usual challenges of access. All countries nonetheless strived to mitigate these barriers by providing patient support (transport stipends, housing, etc.) and by coordinating with community organizations. In programmatic implementation, equity was reflected by broad coverage- for example, Vietnam expanded BPaL to all 11 of its MDR-TB centers. National programs in several countries tried to incorporate equity into their planning:

for instance, Vietnam coordinated with its TB survivor network to monitor whether any groups were being left out of enrollment.

In Kyrgyzstan and Uzbekistan, the OR sites were chosen by the TB program and the OR prioritized equal access based on clinical indication, any person meeting the medical criteria and consenting was offered BPaL. Uzbek interviewees confirmed that there were no additional exclusion criteria applied. Similarly, Kyrgyz stakeholders affirmed that access did not vary whether patients were poor, rural, or otherwise marginalized. Ukrainian interviewees noted one exception due to security and logistical constraints, the penitentiary system and areas under occupation were not included in LIFT-TB but emphasized that within accessible populations the program still sought to include vulnerable groups including PLHIV and low income groups. These observations align with the project's intent to prioritize "no one left behind". Besides the noted exceptions, there were no observed disparities in access to the new regimen based on gender, location, or risk group. However, formal equity data (e.g. disaggregation by sex, age, socioeconomic status) were not systematically tracked during the OR in any country, making it difficult to detect more subtle gaps.

"Equity was addressed under the program by enrolling all patients with appropriate indications, regardless of gender, rural populations, or high-risk group status."

- National representative, Uzbekistan

"The program ensured equal access to the BPaL regimen for all patients with appropriate indications, regardless of their vulnerability or marginalization. It was implemented inclusively across regions, genders, and social groups based on clinical indications."

- National representative, Kyrgyzstan

"The penitentiary system and occupied territories were excluded from the program, and the significant migration because of the war impacted the general numbers of affected people. Despite this, the OR in Ukraine prioritized equity by including vulnerable populations (e.g., PLHIV, rural or low-income groups) as participants without any restrictions."

- National representative, Ukraine

Looking ahead, all LIFT-TB countries are integrating equity into their BPaL/M roll-out plans highlighting the decentralization of care approach supported by LIFT-TB through sub-national capacity building and community campaigns (in selected countries through FTTC and #6MonthsMax). For example, Uzbekistan is discussing partnerships with regional clinics to decentralize treatment, and Kyrgyzstan's NTP is exploring guidelines for outreach to prisons and remote communities once conditions allow. This will help address the remaining gaps such as ensuring patients in distant areas or high-risk settings (e.g. prisons, conflict zones) can access care.

Impact – Key Takeaways

- **Outstanding clinical outcomes:** Success rates consistently exceeded 90%, with reduced mortality and a far better treatment experience due to shorter, all-oral regimens.
- **Rapid policy adoption:** All seven countries formally integrated BPaL/BPaLM into national guidelines, driven by locally generated evidence and confidence in feasibility and safety.
- **Health system strengthening:** Significant improvements in lab capacity (DST for new drugs), aDSM platforms, training curricula, electronic registries, and supply chain processes.
- **Global influence:** LIFT-TB served as a cornerstone for WHO guidance and catalyzed global momentum toward shorter DR-TB regimens through PeerLINC and knowledge sharing.
- **Community and equity impact:** Survivor networks reduced treatment stigma and improved adherence, while equity-focused strategies in OR ensured broad access, targeting high-burden and vulnerable populations.

3.5 Sustainability

Stakeholder feedback indicates a mixed but overall improving outlook for sustainability of LIFT-TB's gains. Overall, there are many encouraging signs that the benefits and practices introduced by the project will endure, but there are also risks and dependencies that need management. Notably, all stakeholders agreed that sustainability has been built into the project's design to a significant degree, yet external factors (especially funding) could influence the long-term trajectory.

3.5.1 National government ownership to sustain project outcomes

Formal policy adoption across all countries: BPaL/BPaLM has now been integrated into national treatment guidelines in all seven countries. This was a critical institutional shift since the regimen is no longer a pilot but part of official standard care. NTPs described this as a "key turning point", as formal adoption provides a government mandate, and often a budgetary obligation, to continue using the regimen.

Strengthening of laboratory and pharmacovigilance systems: The project's investments in laboratory capacity and aDSM have been widely recognized as durable gains in all seven countries. Countries such as Kyrgyzstan and Ukraine reported that new DST capabilities for pretomanid, upgraded lab equipment, and improved monitoring protocols (for adverse events, patient safety and clinical response during treatment, DST outputs and lab performance and drug management and pharmacovigilance) were institutionalized and are now routine practice. All the seven countries have integrated new drug management procedures and aDSM workflows introduced by LIFT-TB into its national systems. These improvements not only support ongoing BPaL/M use but also enhance the broader DR-TB program.

Legacy tools, training, and systems: LIFT-TB deliberately produced OR outputs (guidelines, SOPs, job aids, monitoring tools) that were designed for smooth transition into routine national use. Over 10,000 trained clinical and lab personnel in the seven countries, refreshed aDSM systems, enhanced diagnostic networks, and strengthened data systems remain in place providing a strong foundation for sustained quality of care, reliable aDSM monitoring, efficient diagnosis, and robust data use. Together, they create a resilient national DR-TB response that can maintain high-quality service delivery, scale up innovations, and adapt effectively to future program needs, allowing national programs to continue and expand BPaLM implementation.

> *"Countries independently chose to continue BPaLM based on evidence generated in their own settings – indicating sustainability driven by national conviction, not external pressure."*
>
> - Representative, AAC

> *"Steps have been taken to ensure the sustainability of BPaL/M delivery, including integration into national programs, budget lines, and procurement processes. Pretomanid is included in budget procurement. Training has been institutionalized within national systems through postgraduate training for physicians and programs for medical students. Already trained human resources and diagnostics remain in use, supporting the ongoing implementation of the BPaL/M regimen."*
>
> - National stakeholder, Uzbekistan

> *"Mechanisms were in place to ensure the continuation or integration of research-generated systems (e.g., pharmacovigilance, data systems) into routine practice."*
>
> - National stakeholder, Kyrgyzstan

3.5.2 Community ownership in sustaining project outcomes

Stop TB and community stakeholders noted that sustainability is strongest in settings where survivor networks and civil society were actively involved. These groups provided patient support, advocated for government funding, and held programs accountable for maintaining the new standard of care. Interviews

from the Philippines, Kyrgyzstan, and Ukraine highlighted how survivor engagement promotes continuity that outlasts project cycles.

3.5.3 Financial sustainability

Many NTP managers across the seven countries expressed a strong intention to continue scaling up BPaLM nationwide, citing the regimen's clear clinical benefits and improved patient experience. Governments in all seven countries have begun incorporating BPaL/M into drug procurement plans and forecasting cycles. At present, all seven countries procure the drug through GDF, while some are still negotiating pretomanid pricing and therefore, local pricing is not a factor delaying implementation. Countries allocate domestic budgets for laboratory monitoring and supply chain support. Together, these actions reflect increasing ownership and commitment to sustaining the regimen.

LIFT-TB partners had collaborated and continue to engage with national TB programs to advocate and incorporate BPaL/M regimens into annual health budgets for progressively absorbing medications, diagnostics (including DST), and monitoring into domestic health funding cycles. The initiative's evidence-based findings (on regimen success, safety, and efficiency) supply national stakeholders with justification for budget allocation and continuation of scale-up efforts.

While the project accelerated adoption and demonstrated cost-effectiveness, sustainable financing remains a challenge as the donor support tapers. Most countries have not yet fully transitioned the costs of BPaL/M into domestic budgets. Gaps in local funding for procuring the new drugs, maintaining diagnostic supplies, and financing the necessary human resources (like additional nurses or treatment support personnel) remain a concern. Insufficient budget allocation may influence the smoothness and quickness of the treatment expansion.

Reductions in international TB funding (e.g. potential decreases in Global Fund and USAID support) could limit resources available for drugs, diagnostics, and support personnel in the coming years. Many of the LIFT-TB countries, such as Kyrgyzstan and Uzbekistan, still rely heavily on donor funding for their DR-TB programs, so any cutbacks could directly impact their ability to continue BPaLM scale-up.

3.5.4 Other sustainability risks

Dependence on external technical assistance: Some lower-capacity health systems still depend on the international partners for certain technical functions introduced by LIFT-TB. Stakeholders expressed concern that without continued mentorship or periodic external support, some functions might weaken over time in countries with limited human resource capacity. The project developed the digital training platform-Upskill TB to sustain knowledge without requiring to be continuously dependent on external technical assistance for training. Regular use and institutionalization of such platforms will be important for long-term sustainability.

Infrastructure and decentralization challenges: In a few settings, weak health infrastructure at the periphery could impede sustainable scale-up. Myanmar, for instance, faces a very difficult environment with limited central control and weakened health services in many areas, raising questions about how well BPaLM can be expanded nationwide. Parts of Indonesia and other large countries also have variability in capacity between well-equipped centers and remote districts. These disparities mean additional investment and effort will be needed to ensure the new regimen reaches all eligible patients and that monitoring systems work everywhere.

> *"Sustainability will likely differ by country, largely depending on each nation's laboratory capacity, drug procurement systems, and workforce stability. In some countries, virtually all the building blocks for sustained BPaLM use are in place. For example, Ukraine's NTP expressed very high confidence that they will continue using BPaLM in the coming years, even amidst the ongoing conflict. In others, if key supports fall away, progress could stall."*
>
> - Representative, ITRC

Taken together, the sustainability outlook for LIFT-TB is promising, but conditional. Countries have adopted BPaLM into policy, institutionalized key systems, trained personnel, and began shifting financing to domestic sources which remain clear signs of strong ownership. However, sustained success will depend on several factors including stable funding, continued technical support (even if lighter touch), strengthened decentralization, resilient procurement and supply chains and ongoing advocacy by civil society and survivor groups. As multiple stakeholders emphasized, LIFT-TB laid the foundation for long-term impact and that "Countries chose to continue BPaLM because it works – not because the project told them to." Importantly, the project played a catalytic role in promoting sustainability by embedding new tools, systems, and skills directly within national structures ensuring that countries could maintain and expand BPaLM implementation long after external support tapers.

Sustainability – Key Takeaways

- **Government ownership:** All seven countries have formally adopted BPaL/BPaLM into national guidelines, creating a mandate and budgetary obligation for continued use.
- **Durable system gains:** Strengthened labs, DST for pretomanid, pharmacovigilance systems, and institutionalized SOPs and training ensure long-term capacity for regimen delivery.
- **Community engagement:** Survivor networks and civil society advocacy promote accountability and continuity beyond donor-funded cycles.
- **Financial transition:** Countries are starting to integrate BPaL/M into procurement plans and health budgets, but reliance on donor funding and gaps in domestic financing remain major risks.
- **Sustainability challenges:** Dependence on external technical support and infrastructure disparities in fragile or decentralized health systems (e.g., Myanmar, remote areas) could hinder nationwide scale-up.

3.6 Coherence

LIFT-TB was widely regarded (by all stakeholders) as a highly coherent initiative, maintaining a unified strategic direction across multiple countries and partners through strong coordination by TB Alliance and alignment with WHO guidelines. Its evidence-based approach, consistent messaging, and inclusive engagement of technical agencies and civil society ensured synergy and clarity, even amid external pressures and diverse contexts.

Stakeholders at both country and regional levels perceived LIFT-TB as a highly coherent initiative, characterized by strong strategic alignment among all partners involved. The project's design and implementation were marked by a clear, unified direction that was maintained despite the complexity of multiple countries and organizations. TB Alliance's role as the coordinating backbone was repeatedly praised for keeping everyone on the same page. With TB Alliance orchestrating the effort, there was consistency in objectives and messaging across different countries. WHO's involvement from the start ensured that activities aligned with global norms and scientific guidelines, which in turn reinforced consistency in technical approach across sites. Technical agencies like ITRC and KNCV, alongside national TB reference labs (NTRLs) and NTPs, collaborated on laboratory and clinical procedures, ensuring that the clinical implementation of BPaL/M and associated monitoring had a common framework everywhere. In sum, LIFT-TB's partnership model and clear strategic focus ensured a high degree of coherence, which was critical in achieving its outcomes.

"Even when there was external "noise" from some other organizations promoting alternative MDR-TB regimens or different approaches, LIFT-TB maintained a steady focus on what the evidence showed to be the most effective regimen. The project did not fragment or get pulled in conflicting directions; instead, it stuck to an evidence-based plan and brought partners along in that singular vision. This coherence in strategy and execution meant that the project was directionally unified and synergistic, even across very diverse country contexts. Each stakeholder knew their role and how it contributed to the overall goal, reducing conflict or redundancy."

- Representative, AAC

Coherence – Key Takeaways

- **Unified strategy & coordination:** LIFT-TB maintained a clear, evidence-based direction across diverse countries, with TB Alliance as the coordinating backbone ensuring consistency in objectives and messaging.
- **Global & inclusive alignment:** WHO ensured adherence to global norms, while technical agencies harmonized clinical and lab procedures under a common framework.
- **Resilient & synergistic execution:** Despite external pressures and varied contexts, the project stayed focused on proven regimens, avoided fragmentation, and fostered strong collaboration among all partners.

3.7 Connectedness

"Connectedness" across sectors, partners, and phases of the rollout emerged as a strong theme in all interviews. LIFT-TB not only promoted alignment (coherence) internally, but also actively linked various components of TB control that are often siloed, thereby strengthening the overall response.

3.7.1 Connectedness with other agencies

The project brought together a broad network of agencies and organizations in a coordinated effort. TB Alliance, NTPs, KNCV, ITRC, and local civil society organizations all collaborated consistently throughout LIFT-TB's implementation. The stakeholders appreciated and applauded the role of TB Alliance in orchestrating this coordination.

"TB Alliance communicated frequently, transparently, and strategically with all its stakeholders, creating a shared sense of purpose across organizations that do not always work hand-in-hand. This multi-agency connectedness meant, for example, that global policy makers were looped into country-level findings in real time, and funders were aware of on-the-ground needs and successes. It created a virtuous cycle where each partner's involvement reinforced the others', rather than running on parallel tracks."

- Representative, AAC

3.7.2 Connectedness with other countries

LIFT-TB served as a key evidence source for cross-country collaborative spaces such as SLASH-TB, forecasting, the Upskill TB Digital Platform and the FTTC, providing data, SOPs, training materials, adverse event monitoring practices, and implementation insights that enabled real-time sharing of various practices and supply chain solutions. The project created a community of practice among NTPs, allowing countries to adopt successful experience-sharing sessions like Vietnam's patient education brochure and troubleshoot challenges such as Uzbekistan's import delays. Additionally, external platforms like PeerLINC extended LIFT-TB's impact beyond the seven project countries, as other NTPs observing these exchanges gained insights for future rollouts, thus ensuring no country worked in isolation.

3.7.3 Connectedness with communities

A key aspect of LIFT-TB's approach was connecting the NTPs with community and patient networks. Global stakeholders emphasized how the project recognized the value of linking TB survivor groups into formal NTP activities.

Furthermore, community-based organizations were coordinating with clinics to support treatment supervision and defaulter tracing for patients on BPaL. By breaking down the traditional barrier between "community" and "program," LIFT-TB ensured a more people-centered rollout and created a support network extending from hospitals to villages. This connection was crucial for generating demand and maintaining adherence, as community advocates continue to encourage patients and fight stigma at the grassroots level.

> *"Linking TB survivor groups to the formal NTP activities was not merely a contractual relationship for service delivery, but rather an integration of community voices into the program. In practical, this connectedness meant that patient feedback loops were established, survivors and patient advocates had channels to communicate challenges or successes back to program managers."*
>
> - Representative, Stop TB

3.7.4 Connectedness of transition strategies

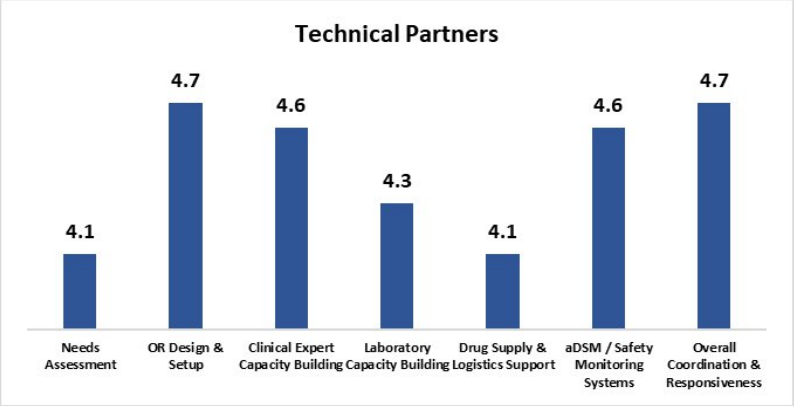
Finally, LIFT-TB was lauded for how it connected the research phase of the project to the eventual scale-up phase (the transition into routine program). Transition strategies were built early, rather than treated as an afterthought. Policy updates, training cascades, and laboratory capacity development were all initiated during the OR itself, so that by the time research concluded, those elements were already part of the national program framework. In Kyrgyzstan and Indonesia, for example, the same task force that oversaw the study continued as the committee guiding national scale-up. Stakeholders described how data systems and pharmacovigilance processes piloted during LIFT-TB were handed over to the NTP by design, rather than remaining in a silo. This kind of connectedness between pilot and program meant there was no abrupt gap or loss of momentum at project's end, countries could move straight into expanding BPaL access using the infrastructure and knowledge LIFT-TB left in place.

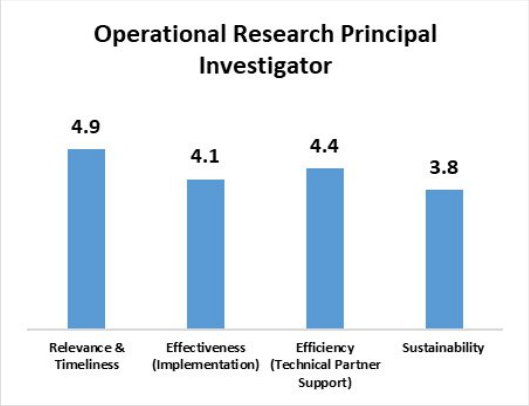
Overall, this high degree of connectedness strengthened alignment and accelerated scale-up. By connecting agencies, countries, communities, and phases of work, LIFT-TB created an ecosystem where innovations in DR-TB treatment could take root quickly and be sustained. The synergy achieved through these linkages was frequently cited as a model for how introduction of new health interventions should be managed, ensuring that all relevant players and stages of implementation were in communication and working toward the same goal.

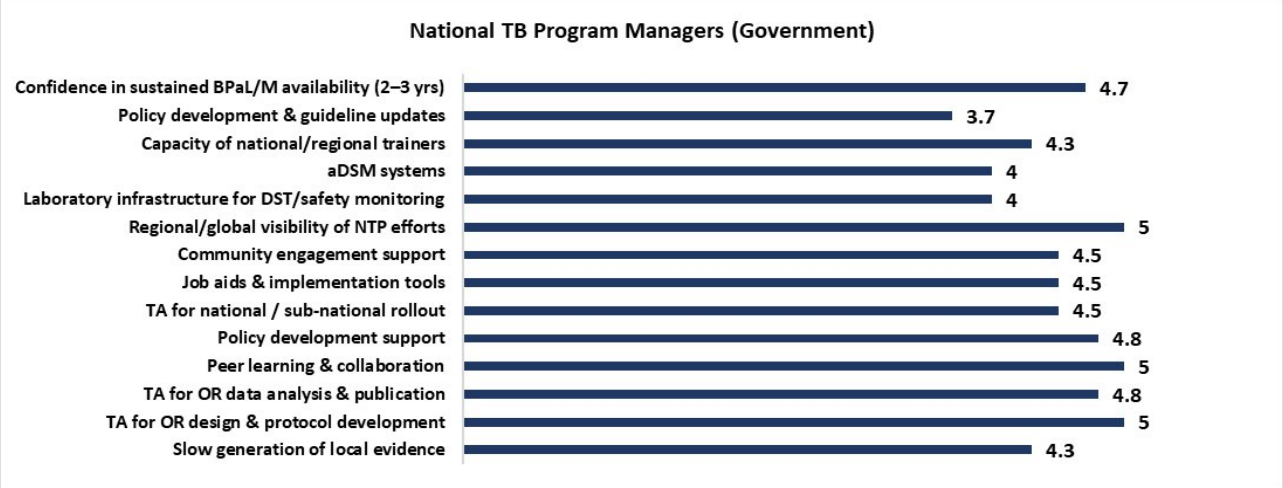
Connectedness – Key Takeaways

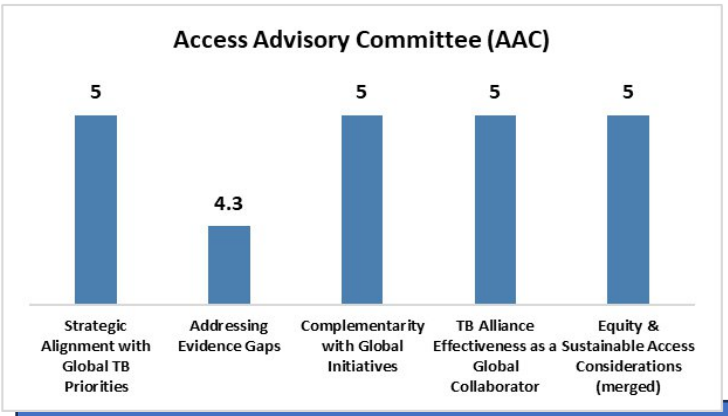
- **Strong multi-agency coordination:** TB Alliance successfully brought together global and national stakeholders, ensuring alignment and smooth implementation.
- **Cross-country collaboration via PeerLINC:** Enabled real-time sharing of tools, practices, and solutions, creating a community of practice and accelerating rollout.
- **Community integration:** Linking NTPs with TB survivor networks and community-based organizations improved adherence, reduced stigma, and ensured patient-centered care.
- **Seamless transition strategies:** Built-in planning connected operational research to scale-up, with policy updates, training, and lab capacity integrated early to avoid gaps post-project.

3.8 Stakeholder Rating of Project Performance









KOICA Feedback Scorecard	
Theme	**Rating**
Importance of Project Deliverables	4.4
Performance of Project Deliverables	4.4
Effectiveness / Achievement of Goals	4.7
Efficiency	5
Sustainability	5

Note: These charts present mean ratings from stakeholders who voluntarily responded to the scoring questions. Because participation was consent-based, several respondents chose not to provide numeric ratings, resulting in different numbers of raters across parameters.

Scores should therefore be interpreted as perception-based insights, not statistical findings. They indicate general trends in how stakeholders experienced LIFT-TB's support, while the qualitative data provides fuller context where ratings were not given.

The figure above presents consolidated feedback from key stakeholder groups involved in the LIFT-TB project, including technical partners, OR principal investigators, national TB programme managers, the Access Advisory Committee, and KOICA. Together, these perspectives provide a multi-dimensional view of how different components of the project were perceived across technical support, coordination, research relevance, implementation processes, and sustainability considerations.

Across stakeholder groups, ratings are generally concentrated in the upper range of the scale, approximately 4.0 to 5.0, indicating broad convergence in perceptions of the project's design and delivery. Stronger assessments are consistently associated with functions related to coordination, technical responsiveness, strategic alignment, and evidence generation, while relatively lower but still positive ratings tend to appear in domains that require longer-term institutional embedding, policy uptake, or system-level maturation. This pattern suggests that stakeholders distinguish between areas where outcomes are more immediately observable and those that evolve over extended implementation horizons.

Among technical partners, feedback reflects a clear differentiation between higher-order technical and coordination functions and more foundational or resource-intensive activities. Areas such as OR design and setup, aDSM and safety monitoring systems, and overall coordination and responsiveness are rated more strongly, approximately 4.6 to 4.7, than needs assessment, drug supply and logistics support, and laboratory capacity building, which were rated 4.1 to 4.3. This distribution indicates that stakeholders perceived greater consistency and clarity in the project's advanced technical and coordination roles, while recognising the constraints inherent to activities that depend heavily on baseline infrastructure and country-specific system capacity.

Feedback from OR principal investigators place particular emphasis on the relevance and timeliness of the research agenda, which receives the highest relative rating within this group at approximately 4.9. Assessments of effectiveness and efficiency remain positive but comparatively lower, around 4.1 to 4.4, while sustainability is rated lowest at approximately 3.8. This pattern reflects a commonly observed distinction between the immediate value of OR outputs in informing programmatic decision-making and the longer timeframes required for their routine integration into national systems.

Perspectives from national TB programme managers show a wider spread across domains, reflecting their engagement across policy, implementation, and service delivery levels. Strong ratings are concentrated around technical assistance for OR design and protocol development, peer learning and collaboration, data analysis and publication support, and regional or global visibility of national TB programme efforts, with several domains rated at or near 5.0. In contrast, comparatively moderate assessments are observed for policy development and guideline updates at approximately 3.7, and laboratory infrastructure for DST and safety monitoring at around 4.0. These differences point to domains where progress is more incremental and contingent on domestic policy cycles, regulatory processes, and financing decisions, rather than the scope of project-level technical assistance alone.

Feedback from the Access Advisory Committee is notably uniform at the upper end of the scale. Dimensions related to strategic alignment with global TB priorities, complementarity with other global initiatives, TB Alliance effectiveness as a global collaborator, and equity and sustainable access considerations are all rated at 5.0. The comparatively lower, though still positive, assessment for addressing evidence gaps at approximately 4.3 highlights the inherent challenge of fully closing knowledge gaps within finite project timelines, even when strategic intent, collaboration, and technical rigour are strong.

Finally, KOICA's feedback scorecard reflects balanced and consistently positive assessments across themes. The importance and performance of project deliverables are both rated at 4.4, while effectiveness, efficiency, and sustainability are rated between 4.7 and 5.0. The narrow variation across these dimensions suggests alignment between project objectives, delivery processes, and donor expectations, without indicating disproportionate strengths or weaknesses in any single area.

Taken together, the figure indicates that stakeholders broadly recognised the strategic coherence, coordination mechanisms, and technical contributions of the LIFT-TB project in supporting the accelerated introduction and implementation of BPaL-based regimens. At the same time, the distribution of ratings reflects meaningful variation linked to the nature, scope, and time horizon of different project components. Rather than signalling divergence in stakeholder confidence, these patterns underscore the complexity of implementing and sustaining multi-country TB interventions that span research, policy, and health system strengthening within diverse national contexts.

KEY ENABLERS AND DISABLERS AND LESSONS LEARNED

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4. KEY ENABLERS AND DISABLERS AND LESSONS LEARNED

This section lists the key enablers that have been instrumental in the success of the LIFT-TB project. Among the success/enabling factors included the factors that enabled achievement of the project outcomes as well as the good practices/best practices followed in project implementation. Given the on-going political crises in the countries of implementation and the capacity building and lab infrastructure that were created under the project, it was a challenging exercise to complete the project. This section also lists the challenges/disablers that have been the hurdles in implementation of the project and the measures adopted or taken to overcome them to complete the project successfully. The lessons learned in the process of the execution of the project, for future projects and the larger health sector nationally and globally are also discussed in this section.

4.1 The Enablers

The enablers of the project included the success factors or the good practices and best practices that have enabled the successful achievement of the project outcomes. The enablers that were identified in discussion with the different stakeholders in terms of effectiveness and efficiency of the project are listed below.

- *Alignment with WHO guidelines and best practices:* LIFT-TB operationalized WHO's call to implement 6-month BPaL under research conditions, placing countries at the forefront of safe, evidence-backed adoption.
- *Sustained financing:* Reliable and timely project funding from a combination of KOICA and TB Alliance was essential in enabling rapid start-up, uninterrupted implementation, and country-level scale-up of LIFT-TB activities.
- *TB Alliance's non-profit status and central leadership:* The non-profit status of TBA strengthened its legitimacy to convene and coordinate multiple actors, driven by a clear mission to ensure the products reached people with DR-TB. TBA's strong central leadership, unlike most innovators, unified stakeholders and enabled coordinated action, becoming a pivotal driver of LIFT-TB's overall success.
- *Holistic approach in program design:* LIFT-TB's comprehensive design, spanning needs assessment, OR, implementation planning, health economics, scale-up support, sub-national capacity building, diagnostics, community engagement, and experience sharing, ensured no critical element was left unaddressed.
- *Addressing urgent patient needs:* Transitioning from ~2 years with injectables (high toxicity, pill burden, intolerability) to 6 months all-oral directly responded to patient and clinician demands, thereby boosting adherence, acceptance, and cure potential.
- *National ownership and right-time launch:* Early engagement of NTP managers, protocol customization, and local language training fostered ownership. The project leveraged momentum from bedaquiline scale-up (2019–2020) to avoid delays and accelerate BPaL/BPaLM mainstreaming.
- *Filling evidence gaps in implementation:* Rather than replicating trials, LIFT-TB focused on how to integrate regimens into diverse systems - patient selection, provider training, monitoring, supply chain, and community engagement, which made the findings immediately usable for policy and practice.
- *Community centered model:* Recognizing TB survivor networks as partners, apart from just the implementers, embedded patient perspectives into design and delivery, improving acceptability

- *Targeting underprioritized, high burden settings:* Strategic focus on countries like Kyrgyzstan and Uzbekistan enabled the project to reach populations with the most urgent need and ensure the project resources and technical support were directed where they could have the greatest impact.
- *Access and affordability pathways:* Generating evidence that informed national procurement decisions and supported discussions with manufacturers on supply and pricing (e.g., pretomanid), helped reduce barriers and accelerate national scaleup.
- *Shared learning through strong cross-country learning platforms*: By continuously capturing implementation lessons and freely sharing them across countries, the project accelerated uptake, improved efficiency, and amplified impact beyond initial sites. Regional and global conferences, country data presentations, and LIFT-TB–funded trainings and experience-sharing in other countries further strengthened cross-country learning and facilitated broader adoption. Mechanisms like Upskill TB Digital platform within the project enabled real-time exchange of best practices within the project and providing evidence to external global platforms like the PeerLINC were cited as a force multiplier that enhanced both implementation quality and speed.
- *Operational resilience:* Clinical procedures were embedded within national TB programme systems and implemented with flexible, decentralized delivery models and simplified tools, enabling continuity of care and policy momentum during periods of conflict, political instability, and system shocks.
- *Responsive and adaptive project management:* LIFT-TB quickly adapted to context-specific challenges-virtual trainings during COVID, reallocated funding amid procurement delays etc.
- *Technical support and lab capacity building:* Investments in diagnostic systems, such as phenotypic DST for pretomanid and aDSM protocols, enhanced country readiness and system resilience, specifically highlighted by respondents from Indonesia and Kyrgyzstan.

4.2 The Disablers

The project was implemented across seven countries in diverse settings, varied internal political settings and instability due to COVID followed by delays in regulatory approvals have been bottlenecks to the achievement of the target outcomes in different countries. Coupled with this were other factors like the health system gaps, supply chain disruptions, financial constraints and community barriers.

- *Policy and regulatory delays:* Updating national TB treatment guidelines to include BPaL regimens required lengthy reviews by national ministries and committees. These diverse procedural timelines across countries stalled programmatic adoption, even after WHO issued recommendations.
- *Health system capacity gaps:* Many participating countries lacked sufficient trained healthcare workers, and peripheral clinics were often missing diagnostic equipment like GeneXpert and culture labs. Ongoing technical training and lab strengthening were essential but resource-intensive and time-consuming. Laboratories in several countries lacked standardized drug susceptibility testing (DST) for BPaL components, requiring investments in equipment, reagents, and technician training. This limitation delayed patient selection, safety monitoring, and rollout of the new regimen.
- *Supply chain disruptions:* Procurement processes across the seven countries were dependent on international pooled procurement systems, which led to delays in drug and diagnostics delivery, especially in early months of scale up. In remote or conflict-affected regions, logistical hurdles further compounded stock-outs and hindered treatment continuity
- *Financial constraints:* Implementation relied heavily on donor contributions (TB Alliance, KOICA, Global Fund), with limited government co-funding. This donor dependence created funding uncertainties that impeded scale-up and domestic ownership of TB programs. Most of the LIFT-TB countries, except for partial of Indonesia, still rely heavily on donor funding for their DR-TB programs and therefore sustainability of the program will be affected if donor funding ceases.

- *Sociopolitical instability* In Ukraine, ongoing conflict disrupted TB services and patient follow-up; similar disruptions, though less extreme, were experienced in Myanmar and parts of Indonesia. Political unrest in these regions also discouraged healthcare staff retention and constrained operational oversight.
- *Community barriers:* Low awareness of the new regimen limited community demand and necessitated extensive patient education efforts. Continued stigma around drug-resistant TB and fear of isolation discouraged some patients from enrolling or completing BPaL treatment.
- *Weak interoperability of data systems:* Fragmented reporting systems complicated OR data consolidation and national monitoring. Although tools like REDCap were widely used, lack of integration with NTP databases posed challenges to long-term data ownership and transition.

4.3 Key Stakeholder Voices

4.4 Lessons Learned

Early multi-stakeholder engagement: One of the strongest lessons from LIFT-TB was that early involvement of all key actors - government agencies, technical partners, and community representatives, significantly accelerates policy adoption. When stakeholders are engaged from the start, resistance is minimized, ownership is strengthened, and guideline revisions become smoother and more inclusive.

Local evidence drives policy change: OR within each country provided context-specific data that policymakers trusted more than global evidence alone. This localized evidence helped demonstrate feasibility and safety of regimens like BPaL, enabling quicker approvals and reducing hesitation around adopting international recommendations.

Decentralized, patient-centered models work: The project showed that community-based care models improve accessibility and equity compared to centralized hospital-based approaches. Demonstrating success in decentralized delivery influenced policies to integrate TB services into primary health care, making treatment more patient-friendly and reducing barriers to care.

Integration and sustainability are key: Embedding TB services into routine health systems and financing frameworks emerged as a critical sustainability strategy. Countries learned that vertical, donor-driven programs are vulnerable to funding fluctuations, while integrated models ensure continuity and long-term resilience.

Early implementation such as OR or pilots can fast-track decisions when co-owned: LIFT-TB demonstrated that when OR is co-developed and embedded within national TB programs, it garners higher policy trust and accelerates evidence-based decisions. Countries like Ukraine and the Philippines used LIFT-TB data to directly inform policy updates.

Lab and clinical systems must advance together: Project experience confirmed that clinical scale-up requires parallel strengthening of laboratory capacity, pharmacovigilance, and diagnostic infrastructure. Delays in DST setup for pretomanid hindered implementation in some settings, reinforcing the importance of simultaneous investment.

Flexibility ensures resilience: From pandemic disruptions to conflict zones, the project's ability to flex training modes, reassign resources, and decentralize mentorship was vital to sustaining momentum. Flexibility should be embedded in future project frameworks.

Community partners must be formalized, not just consulted: Where CSOs and TB survivor groups were systematically engaged, as in the Philippines, adherence, demand generation, and accountability were stronger. Future models should structurally include community roles, budgets, and M&E metrics.

CONCLUSIONS AND WAY FORWARD RECOMMENDATIONS

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5. CONCLUSIONS AND RECOMMENDATIONS

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6.1 Conclusions

The LIFT-TB project successfully achieved its purpose of accelerating the adoption and implementation of BPaL/BPaLM regimens across seven high-burden and high-priority countries (Indonesia, Myanmar, the Philippines, Vietnam, Kyrgyzstan, Ukraine, and Uzbekistan) despite political instability, conflict and COVID-19 disruptions. The assessment shows that the project remained deeply relevant to national priorities and global strategies, particularly WHO guidelines and the End TB Strategy, as repeatedly emphasized by National TB Programs, technical partners, and global stakeholders in interviews.

OR was the most critical driver of influence. Countries uniformly reported that evidence generated locally on feasibility, safety, treatment outcomes and operational barriers, directly shaped national decision-making. Stakeholders described this evidence as "exactly what WHO was concerned about" and fundamental for rapid policy incorporation of BPaL/BPaLM. In Kyrgyzstan, for instance, the NTP highlighted that presenting comparative outcomes (86 percent in the study versus just above 60 percent previously) enabled the Ministry of Health to make confident decisions. This demonstrates clear evidence-to-policy translation across multiple contexts.

Effectiveness is strongly supported by the achievement of most target indicators (Tables 4 and 5). Countries reached or exceeded targets in regulatory submissions, training coverage, activation of treatment sites, and progression from OR pilots to national scale-up. All seven countries completed regulatory submissions, secured pretomanid approval (or were in final stages), conducted national-level and sub-national level (for some countries) clinical and data management and TB laboratory management trainings, and initiated programmatic treatment. In addition, patient recruitment under OR reached 90 percent of the 638-patient target and a 90 percent treatment success rate among the recruited OR participants, contributed substantially to the evidence base that catalyzed rapid adoption.

Efficiency was a standout strength. Stakeholders consistently rated the responsiveness, coordination, and technical support of TB Alliance and partners highly. The structured implementation model - TB Alliance (global lead), ITRC (laboratory and diagnostics support), KNCV (country technical assistance), and national partners, functioned cohesively even during periods of severe operational disruption. Interviewees emphasized that the project proceeded at pace despite the pandemic and conflict-related constraints due to adaptable planning and strong partner coordination.

In terms of sustainability, the assessment finds significant progress but uneven readiness. All countries have updated clinical guidelines and institutionalized project tools, such as SOPs, training modules, and aDSM systems. National ownership is visible in the incorporation of BPaL/BPaLM into NTP protocols, inclusion in national trainings, and initiation of government-led procurement processes. However, long-term sustainability will depend on continued strengthening of DST capacity, reliable supply chains for pretomanid, and domestic budget allocation to replace donor-dependent procurement.

Impact was visible at several levels. At the health system level, LIFT-TB built laboratory capacity for DST, standardized aDSM procedures, and strengthened multidisciplinary clinical decision-making. At the patient level, shorter oral regimens improved adherence, reduced the burden of injections and pill volume, and enhanced patient satisfaction, all of which were highlighted in both clinicians' reflections and comparative OR results. At the global level, OR findings from LIFT-TB countries informed WHO deliberations and supported updates to global guidelines, as acknowledged by global advisory stakeholders.

Overall, the LIFT-TB project delivered a comprehensive package of evidence generation, technical assistance, and system strengthening that collectively enabled seven countries to progress from early-stage introduction to programmatic scale-up of BPaL/M. It successfully met almost all targets, accelerated adoption timelines by several years, and established durable system capacities that prepare countries for future DR-TB treatment innovations.

6.2 Way Forward and Recommendations

The findings of the assessment point to a clear set of priorities that can sustain and extend the gains achieved under LIFT-TB. These recommendations are based on the strengths demonstrated of the LIFT-TB project and its supportive role in implementation, as well as lessons learned for future initiatives:

Recommendations for the LIFT-TB Project

- **Strengthen TA and implementation support:** LIFT-TB consciously engaged local TA providers resulting in faster progress, informed decision making due to partners' proximity to NTPs, and obvious cost-effectiveness. LIFT-TB serves as a practical demonstration of the benefits of local TA. TB Alliance and other stakeholders are encouraged to rely even more on local TA providers when introducing future innovations. Post LIFT-TB, TB Alliance should institutionalize a structured "implementation playbook"- a stepwise guide from policy adoption to district-level rollout and embedding mentorship roles permanently within sub-national health teams to ensure continuity.
- **Knowledge sharing:** Several tools, protocols, and solutions were developed in LIFT-TB which have been made publicly available by TB Alliance. TB Alliance should maintaining an open, continuously updated repository of tools (SOPs, job aids, M&E templates, forecasting and health economics tools, training curricula), establishing routine cross-country learning cycles using digital platforms (e.g., Upskill TB) and documenting and publishing case studies are recommended. TA providers shall consider using or adapting from them ready to use templates for future projects decreasing the materials development time.
- **Decentralization and sub-national capacity building:** LIFT-TB demonstrated that it is possible to rapidly and cost-effectively decentralize DR-TB treatment in high burden countries. We recommend (a) TB Alliance continue to do so even after LIFT-TB and consider including, in a targeted manner, the neglected populations such as people in to prisons and remote communities, (b) TB Alliance and stakeholders consider decentralization and sub-national capacity building part of a comprehensive approach upfront when introducing innovations as cost-effective approaches as demonstrated by LIFT-TB project are possible.
- **Supply chain and forecasting:** While LIFT-TB supported inclusion of BPaL components in national procurement lists, delays in product availability were reported by almost all countries. This highlights the need for countries to adopt multi-channel procurement options and implement rolling forecasts with buffer-stock plans. In parallel, TB drug developers and suppliers may benefit from proactively assessing supply chain delays and risks, particularly in the context of declining Global Fund financing and the potential reduction in GDF-based procurement. Government partners could focus on improving last-mile distribution to peripheral facilities, including exploring cold-chain alternatives where needed and enhancing logistics support in conflict-affected or remote settings.
- **Laboratory data collection and cross-border sharing:** While LIFT-TB project supported building lab capacity and infrastructure, the development of the drug susceptibility testing guidance by WHO was finalized around the midpoint of the project, due, among other reasons, to the delay in sharing data from ORs by some countries. In case of LIFT-TB, TB Alliance did not have data sharing agreements with countries. We recommend TB Alliance and other stakeholders to anticipate such

data requirements and ensure data sharing agreements are in place directly between countries and sponsors of OR.

- **Ensure diagnostics and DST readiness for new regimens:**
  - Drug developers like TB Alliance shall ideally ensure development of companion diagnostics and simple scalable solutions for drug susceptibility testing during or soon after their drug development by clarifying required platforms, EQA procedures, reagent needs, and SRL support. NTPs can ensure investing early in phenotypic DST and aDSM-linked laboratory workflows, ensuring they are operational before launching programmatic treatment would be ideal.
  - While LIFT-TB project collaborated with the National TB Reference laboratories for capacity building and infrastructure development, a close coordination with Supernational Laboratories facilitated by the NTPs would allow broader integration of the drug susceptibility testing to the existing country specific lab development plans, as well as External Quality Assurance of the lab services.
- **Improve policy adoption, regulatory alignment and cross-sectoral coordination:**
  - While LIFT-TB provided field evidence which helped speed up country level integration of BPaL/M in national guidelines, this happened 2-4 years after initial US FDA approval and WHO guidelines. Rather, PDPs, innovators, and even countries themselves shall consider funding clinical trials in high burden countries for future products instead of relying on ORs.
  - National ministries can establish cross-sectoral coordination by linking TB services with general health systems to enable early identification and referral of DR-TB patients. Formal coordination between TB, HIV, and NCD departments, ensuring integrated screening and care pathways for DR-TB patients through joint protocols could be established.
  - NTPs may consider gradually aligning OR/data management roles within existing government structures, where feasible, to support continuity beyond project timelines.
- **Financing and Sustainability:**
  - *Funding PDPs*- LIFT-TB created outsized impact, much greater than its funding envelope. We recommend donors consider funding PDPs for access work along with R&D efforts. PDPs have intimate insights into their innovation and hence can design the most cost-effective solutions for their success.
  - *Use of cost-effectiveness models:* TB Alliance is recommended to continue to support NTPs and promote the use of health economics and forecasting tools (SLASH-TB) developed by LIFT-TB and used by NTPs to inform budget negotiations, Global Fund concept notes, and multi-year procurement plans. TB Alliance should make this tool available to countries early on for future products.
- **Maintain Active Drug Safety Monitoring (aDSM):**
  - *Maintain national aDSM registries:* NTPs can maintain national aDSM registries linked to EMRs and laboratory systems, ensuring dose modifications and AE reporting are systematically documented. Building on lessons from the LIFT-TB evaluation, TB Alliance can continue to play a facilitating role by supporting harmonized aDSM approaches, sharing tools and guidance, and enabling cross-country learning on safety monitoring
  - NTPs and regulatory authorities can plan quarterly safety signal reviews involving clinicians, labs, and regulators to maintain confidence in regimen safety.
- **Invest in training, capacity building and evaluation:**
  - TB Alliance and training institutions can collaborate for broader implementation of innovative solutions for capacity building and knowledge sharing as Knowledge Hub and digital learning platform to share lessons learned during the LIFT-TB project and create a sustainable learning community for the future projects.

  - Health ministries and NTPs can fund periodic independent evaluations to assess long-term program impact, resistance trends, diagnostics readiness, and supply performance.

- **Strengthen community engagement & patient support:**
  - Community involvement remains central to treatment success. TB Alliance should include community engagement in a larger number of countries to the extent possible for future products and projects. NTPs and CSOs should engage in standardizing and implementing treatment literacy and counseling packages from the start of scale up to improve adherence, reduce stigma, and manage patient expectations. Cost effective digital solutions and social media should be leveraged for broad coverage and rapid knowledge dissemination.
  - Civil society and donors should support structured involvement of TB survivor networks, including peer navigators and community monitoring roles.
  - NTPs and donors should encourage community lead campaigns to be integrated across all project countries to increase the role of civil society organizations and TB survivor networks in the formal decision-making process and shaping patient-centered policies.

Key Learnings for other Global Treatment Innovation Projects

- Embed innovations into national systems from start, rather than implementing them as parallel stand-alone pilots, to ensure early ownership by national programs, smoother policy adoption, and faster transition to sustainable, programmatic scale-up.
- Bundle regimens with diagnostics, aDSM, and supply-chain readiness to avoid rollout delays caused by partial system preparedness.
- Ensure country ownership by co-designing OR and implementation plans with NTPs, communities, and labs.
- Use multi-country learning mechanisms to accelerate replication and adaptation.
- De-risk supply chains early by building multi-supplier markets, pooled forecasts, and buffer stock frameworks.
- Conduct independent mid-term and endline evaluations to inform global policy decisions and future investments.

Key Learnings for the Donors/Funders of Future Projects

- Finance access and systems-readiness work and are equally important, apart from commodities or clinical research. Bundling up funding to readiness indicators such as DST capacity, aDSM functionality, sub-national coverage, and equity outreach are essentially required.
- Supporting more local technical assistance markets, which provide cost-effective and context-specific support.
- Continue to support decentralized service provision through appropriate sub-national level training and support which holds immense promise.
- Funding cross-country learning platforms, open tool repositories, and digital training hubs are crucial for replication and accelerated adaptation.
- Supporting to enable multi-supplier market shaping to secure pricing and reduce lead-time uncertainty.
- Require sustainability plans with domestic financing trajectories, institutionalized roles, and EMR integration.

Annexure – Impact Assessment Team

Impact Assessment Team and Allocation of Team Roles